ANALYTICAL REPORT

April 19, 2018

Caerus Oil and Gas

Sample Delivery Group:	L985808
Samples Received:	04/14/2018
Project Number:	N1704
Description:	N1704 Tank
Site:	N1704
Report To:	Brett Middleton 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By:

Jason Romer
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

20180413-N1704 NORTH 18" L985808-01 Solid

Collected by: Matt Kasten | Collected date/time: 04/13/18 10:00 | Received date/time: 04/14/18 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1098947	1	04/18/18 08:33	04/19/18 10:47	CCE
Calculated Results	WG1098540	1	04/15/18 18:20	04/16/18 15:58	ST
Wet Chemistry by Method 3060A/7196A	WG1098587	1	04/16/18 11:10	04/16/18 15:58	GB
Wet Chemistry by Method 9050AMod	WG1098505	1	04/15/18 14:14	04/15/18 15:05	TH
Mercury by Method 7471A	WG1098536	1	04/15/18 22:55	04/16/18 10:27	ABL
Metals (ICP) by Method 6010B	WG1098540	1	04/15/18 18:20	04/16/18 15:47	ST
Volatile Organic Compounds (GC) by Method 8015/8021	WG1098721	1	04/14/18 16:44	04/16/18 13:23	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1098400	1	04/14/18 18:49	04/15/18 11:42	AAT
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1098614	1	04/15/18 16:20	04/17/18 11:49	DMG

20180413-N1704 S 20" L985808-02 Solid

Collected by: Matt Kasten | Collected date/time: 04/13/18 10:05 | Received date/time: 04/14/18 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1098947	1	04/18/18 08:33	04/19/18 10:50	CCE
Calculated Results	WG1098540	1	04/15/18 18:20	04/16/18 15:59	ST
Wet Chemistry by Method 3060A/7196A	WG1098587	1	04/16/18 11:10	04/16/18 15:59	GB
Wet Chemistry by Method 9050AMod	WG1098505	1	04/15/18 14:14	04/15/18 15:05	TH
Mercury by Method 7471A	WG1098536	1	04/15/18 22:55	04/16/18 10:30	ABL
Metals (ICP) by Method 6010B	WG1098540	1	04/15/18 18:20	04/16/18 15:50	ST
Volatile Organic Compounds (GC) by Method 8015/8021	WG1098721	1	04/14/18 16:44	04/16/18 13:44	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1098400	1	04/14/18 18:49	04/15/18 11:20	AAT
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1098614	1	04/15/18 16:20	04/17/18 12:10	DMG

20180413-N1704 SE 20" L985808-03 Solid

Collected by: Matt Kasten | Collected date/time: 04/13/18 10:10 | Received date/time: 04/14/18 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1098947	1	04/18/18 08:33	04/19/18 10:54	CCE
Calculated Results	WG1098540	1	04/15/18 18:20	04/16/18 15:59	ST
Wet Chemistry by Method 3060A/7196A	WG1098587	1	04/16/18 11:10	04/16/18 15:59	GB
Wet Chemistry by Method 9050AMod	WG1098505	1	04/15/18 14:14	04/15/18 15:05	TH
Mercury by Method 7471A	WG1098536	1	04/15/18 22:55	04/16/18 10:33	ABL
Metals (ICP) by Method 6010B	WG1098540	1	04/15/18 18:20	04/16/18 15:53	ST
Volatile Organic Compounds (GC) by Method 8015/8021	WG1098721	1	04/14/18 16:44	04/16/18 14:05	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1098400	1	04/14/18 18:49	04/15/18 11:31	AAT
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1098614	1	04/15/18 16:20	04/17/18 12:31	DMG

20180413-N1704 EAST 20" L985808-04 Solid

Collected by: Matt Kasten | Collected date/time: 04/13/18 10:20 | Received date/time: 04/14/18 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1098947	1	04/18/18 08:33	04/19/18 10:57	CCE
Calculated Results	WG1098540	1	04/15/18 18:20	04/16/18 16:01	ST
Wet Chemistry by Method 3060A/7196A	WG1098587	1	04/16/18 11:10	04/16/18 16:01	GB
Wet Chemistry by Method 9050AMod	WG1098505	1	04/15/18 14:14	04/15/18 15:05	TH
Mercury by Method 7471A	WG1098536	1	04/15/18 22:55	04/16/18 10:35	ABL
Metals (ICP) by Method 6010B	WG1098540	1	04/15/18 18:20	04/16/18 16:01	ST
Volatile Organic Compounds (GC) by Method 8015/8021	WG1098721	1	04/14/18 16:44	04/16/18 14:26	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1098400	1	04/14/18 18:49	04/15/18 12:14	AAT
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1098614	1	04/15/18 16:20	04/17/18 12:51	DMG

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jason Romer
Technical Service Representative

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	10.8		1	04/19/2018 10:47	WG1098947

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	9.06		1.00	1	04/16/2018 15:58	WG1098540

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	04/16/2018 15:58	WG1098587

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	426		10.0	1	04/15/2018 15:05	WG1098505

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	04/16/2018 10:27	WG1098536

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.27		2.00	1	04/16/2018 15:47	WG1098540
Barium	346		0.500	1	04/16/2018 15:47	WG1098540
Cadmium	ND		0.500	1	04/16/2018 15:47	WG1098540
Chromium	9.06		1.00	1	04/16/2018 15:47	WG1098540
Copper	10.4		2.00	1	04/16/2018 15:47	WG1098540
Lead	5.09		0.500	1	04/16/2018 15:47	WG1098540
Nickel	10.8		2.00	1	04/16/2018 15:47	WG1098540
Selenium	ND		2.00	1	04/16/2018 15:47	WG1098540
Silver	ND		1.00	1	04/16/2018 15:47	WG1098540
Zinc	38.0		5.00	1	04/16/2018 15:47	WG1098540

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	04/16/2018 13:23	WG1098721
Toluene	ND		0.00500	1	04/16/2018 13:23	WG1098721
Ethylbenzene	ND		0.000500	1	04/16/2018 13:23	WG1098721
Total Xylene	ND		0.00150	1	04/16/2018 13:23	WG1098721
TPH (GC/FID) Low Fraction	ND		0.100	1	04/16/2018 13:23	WG1098721
(S) a,a,a-Trifluorotoluene(FID)	*97.5*		*77.0-120*		*04/16/2018 13:23*	WG1098721
(S) a,a,a-Trifluorotoluene(PID)	*104*		*75.0-128*		*04/16/2018 13:23*	WG1098721

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	9.63	J3	4.00	1	04/15/2018 11:42	WG1098400
(S) o-Terphenyl	*77.1*		*18.0-148*		*04/15/2018 11:42*	WG1098400

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Acenaphthene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Acenaphthylene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Benzo(a)anthracene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Benzo(a)pyrene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Benzo(b)fluoranthene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Benzo(g,h,i)perylene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Benzo(k)fluoranthene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Chrysene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Dibenz(a,h)anthracene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Fluoranthene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Fluorene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Naphthalene	ND		0.0200	1	04/17/2018 11:49	WG1098614
Phenanthrene	ND		0.00600	1	04/17/2018 11:49	WG1098614
Pyrene	ND		0.00600	1	04/17/2018 11:49	WG1098614
1-Methylnaphthalene	ND		0.0200	1	04/17/2018 11:49	WG1098614
2-Methylnaphthalene	ND		0.0200	1	04/17/2018 11:49	WG1098614
2-Chloronaphthalene	ND		0.0200	1	04/17/2018 11:49	WG1098614
(S) p-Terphenyl-d14	*69.5*		*23.0-120*		*04/17/2018 11:49*	WG1098614
(S) Nitrobenzene-d5	*75.2*		*14.0-149*		*04/17/2018 11:49*	WG1098614
(S) 2-Fluorobiphenyl	*75.7*		*34.0-125*		*04/17/2018 11:49*	WG1098614

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	21.3		1	04/19/2018 10:50	WG1098947

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	10.3		1.00	1	04/16/2018 15:59	WG1098540

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	04/16/2018 15:59	WG1098587

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	247		10.0	1	04/15/2018 15:05	WG1098505

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	04/16/2018 10:30	WG1098536

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	8.56		2.00	1	04/16/2018 15:50	WG1098540
Barium	314		0.500	1	04/16/2018 15:50	WG1098540
Cadmium	ND		0.500	1	04/16/2018 15:50	WG1098540
Chromium	10.3		1.00	1	04/16/2018 15:50	WG1098540
Copper	8.61		2.00	1	04/16/2018 15:50	WG1098540
Lead	5.68		0.500	1	04/16/2018 15:50	WG1098540
Nickel	15.3		2.00	1	04/16/2018 15:50	WG1098540
Selenium	ND		2.00	1	04/16/2018 15:50	WG1098540
Silver	ND		1.00	1	04/16/2018 15:50	WG1098540
Zinc	21.4		5.00	1	04/16/2018 15:50	WG1098540

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	04/16/2018 13:44	WG1098721
Toluene	ND		0.00500	1	04/16/2018 13:44	WG1098721
Ethylbenzene	ND		0.000500	1	04/16/2018 13:44	WG1098721
Total Xylene	ND		0.00150	1	04/16/2018 13:44	WG1098721
TPH (GC/FID) Low Fraction	ND		0.100	1	04/16/2018 13:44	WG1098721
(S) a,a,a-Trifluorotoluene(FID)	*98.1*		*77.0-120*		*04/16/2018 13:44*	WG1098721
(S) a,a,a-Trifluorotoluene(PID)	*102*		*75.0-128*		*04/16/2018 13:44*	WG1098721

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	04/15/2018 11:20	WG1098400
(S) o-Terphenyl	*52.3*		*18.0-148*		*04/15/2018 11:20*	WG1098400

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Acenaphthene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Acenaphthylene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Benzo(a)anthracene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Benzo(a)pyrene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Benzo(b)fluoranthene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Benzo(g,h,i)perylene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Benzo(k)fluoranthene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Chrysene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Dibenz(a,h)anthracene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Fluoranthene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Fluorene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Naphthalene	ND		0.0200	1	04/17/2018 12:10	WG1098614
Phenanthrene	ND		0.00600	1	04/17/2018 12:10	WG1098614
Pyrene	ND		0.00600	1	04/17/2018 12:10	WG1098614
1-Methylnaphthalene	ND		0.0200	1	04/17/2018 12:10	WG1098614
2-Methylnaphthalene	ND		0.0200	1	04/17/2018 12:10	WG1098614
2-Chloronaphthalene	ND		0.0200	1	04/17/2018 12:10	WG1098614
(S) p-Terphenyl-d14	*54.8*		*23.0-120*		*04/17/2018 12:10*	WG1098614
(S) Nitrobenzene-d5	*71.9*		*14.0-149*		*04/17/2018 12:10*	WG1098614
(S) 2-Fluorobiphenyl	*48.7*		*34.0-125*		*04/17/2018 12:10*	WG1098614

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	14.2		1	04/19/2018 10:54	WG1098947

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	9.90		1.00	1	04/16/2018 15:59	WG1098540

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	J5	2.00	1	04/16/2018 15:59	WG1098587

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	459		10.0	1	04/15/2018 15:05	WG1098505

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	04/16/2018 10:33	WG1098536

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.86		2.00	1	04/16/2018 15:53	WG1098540
Barium	184		0.500	1	04/16/2018 15:53	WG1098540
Cadmium	ND		0.500	1	04/16/2018 15:53	WG1098540
Chromium	9.90		1.00	1	04/16/2018 15:53	WG1098540
Copper	8.02		2.00	1	04/16/2018 15:53	WG1098540
Lead	6.17		0.500	1	04/16/2018 15:53	WG1098540
Nickel	10.9		2.00	1	04/16/2018 15:53	WG1098540
Selenium	ND		2.00	1	04/16/2018 15:53	WG1098540
Silver	ND		1.00	1	04/16/2018 15:53	WG1098540
Zinc	20.9		5.00	1	04/16/2018 15:53	WG1098540

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	04/16/2018 14:05	WG1098721
Toluene	ND		0.00500	1	04/16/2018 14:05	WG1098721
Ethylbenzene	ND		0.000500	1	04/16/2018 14:05	WG1098721
Total Xylene	ND		0.00150	1	04/16/2018 14:05	WG1098721
TPH (GC/FID) Low Fraction	ND		0.100	1	04/16/2018 14:05	WG1098721
(S) a,a,a-Trifluorotoluene(FID)	*97.6*		*77.0-120*		*04/16/2018 14:05*	WG1098721
(S) a,a,a-Trifluorotoluene(PID)	*104*		*75.0-128*		*04/16/2018 14:05*	WG1098721

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	04/15/2018 11:31	WG1098400
(S) o-Terphenyl	*58.9*		*18.0-148*		*04/15/2018 11:31*	WG1098400

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Acenaphthene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Acenaphthylene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Benzo(a)anthracene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Benzo(a)pyrene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Benzo(b)fluoranthene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Benzo(g,h,i)perylene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Benzo(k)fluoranthene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Chrysene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Dibenz(a,h)anthracene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Fluoranthene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Fluorene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Naphthalene	ND		0.0200	1	04/17/2018 12:31	WG1098614
Phenanthrene	ND		0.00600	1	04/17/2018 12:31	WG1098614
Pyrene	ND		0.00600	1	04/17/2018 12:31	WG1098614
1-Methylnaphthalene	ND		0.0200	1	04/17/2018 12:31	WG1098614
2-Methylnaphthalene	ND		0.0200	1	04/17/2018 12:31	WG1098614
2-Chloronaphthalene	ND		0.0200	1	04/17/2018 12:31	WG1098614
(S) p-Terphenyl-d14	*66.2*		*23.0-120*		*04/17/2018 12:31*	WG1098614
(S) Nitrobenzene-d5	*72.8*		*14.0-149*		*04/17/2018 12:31*	WG1098614
(S) 2-Fluorobiphenyl	*71.6*		*34.0-125*		*04/17/2018 12:31*	WG1098614

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	5.63		1	04/19/2018 10:57	WG1098947

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	10.9		1.00	1	04/16/2018 16:01	WG1098540

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	04/16/2018 16:01	WG1098587

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	150		10.0	1	04/15/2018 15:05	WG1098505

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0202		0.0200	1	04/16/2018 10:35	WG1098536

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.49		2.00	1	04/16/2018 16:01	WG1098540
Barium	218		0.500	1	04/16/2018 16:01	WG1098540
Cadmium	ND		0.500	1	04/16/2018 16:01	WG1098540
Chromium	10.9		1.00	1	04/16/2018 16:01	WG1098540
Copper	9.05		2.00	1	04/16/2018 16:01	WG1098540
Lead	6.00		0.500	1	04/16/2018 16:01	WG1098540
Nickel	12.2		2.00	1	04/16/2018 16:01	WG1098540
Selenium	ND		2.00	1	04/16/2018 16:01	WG1098540
Silver	ND		1.00	1	04/16/2018 16:01	WG1098540
Zinc	23.3		5.00	1	04/16/2018 16:01	WG1098540

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	04/16/2018 14:26	WG1098721
Toluene	ND		0.00500	1	04/16/2018 14:26	WG1098721
Ethylbenzene	ND		0.000500	1	04/16/2018 14:26	WG1098721
Total Xylene	ND		0.00150	1	04/16/2018 14:26	WG1098721
TPH (GC/FID) Low Fraction	ND		0.100	1	04/16/2018 14:26	WG1098721
(S) a,a,a-Trifluorotoluene(FID)	*98.2*		*77.0-120*		*04/16/2018 14:26*	WG1098721
(S) a,a,a-Trifluorotoluene(PID)	*103*		*75.0-128*		*04/16/2018 14:26*	WG1098721

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	4.66		4.00	1	04/15/2018 12:14	WG1098400
(S) o-Terphenyl	*34.3*		*18.0-148*		*04/15/2018 12:14*	WG1098400

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Acenaphthene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Acenaphthylene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Benzo(a)anthracene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Benzo(a)pyrene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Benzo(b)fluoranthene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Benzo(g,h,i)perylene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Benzo(k)fluoranthene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Chrysene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Dibenz(a,h)anthracene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Fluoranthene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Fluorene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Naphthalene	ND		0.0200	1	04/17/2018 12:51	WG1098614
Phenanthrene	ND		0.00600	1	04/17/2018 12:51	WG1098614
Pyrene	ND		0.00600	1	04/17/2018 12:51	WG1098614
1-Methylnaphthalene	ND		0.0200	1	04/17/2018 12:51	WG1098614
2-Methylnaphthalene	ND		0.0200	1	04/17/2018 12:51	WG1098614
2-Chloronaphthalene	ND		0.0200	1	04/17/2018 12:51	WG1098614
(S) p-Terphenyl-d14	*49.7*		*23.0-120*		*04/17/2018 12:51*	WG1098614
(S) Nitrobenzene-d5	*68.9*		*14.0-149*		*04/17/2018 12:51*	WG1098614
(S) 2-Fluorobiphenyl	*46.0*		*34.0-125*		*04/17/2018 12:51*	WG1098614

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

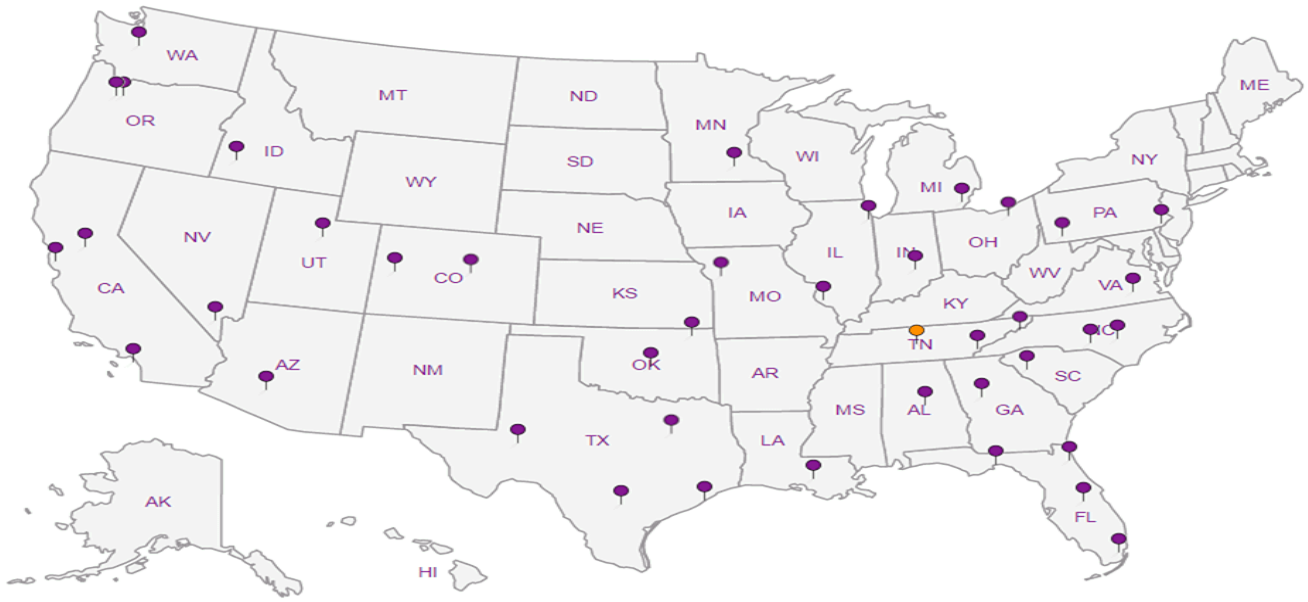
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



Chain of Custody Page 1 of 1

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L985800

Ta E132

Acctnum:
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Company Name/Address:
Caerus
143 Diamond Avenue
Parachute, CO 81635

Billing Information:
Brett Middleton

Email To:
Bmiddleton@caerusoilandgas.com

Report to:
Brett Middleton

Project Description: N17OU TANK
City/State Collected: Debeque, Co.

Phone:
Fax:
Client Project # N17OU
Lab Project #

Collected by (print): Matt Kusta
Site/Facility ID # N17OU
P.O. #

Collected by (signature):
Immediately Packed on Ice N___ Y✓
Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
✓ Three Day 25%
Date Results Needed
Email? ___No ✓Yes
FAX? ✓No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEXGRO/DRO - 8021/8015	SV8270PAHSIM - 8270SIM	SPCON - 9050AMod	SAR - Calc.	RCRA8 Metals + Cu, Ni, and Zn - 6010/7470	CR6SS - 3060A/7196	CR3 - Calc.	Rem./Contaminant	Sample # (lab only)
20180413-N17OU North 18"	Grab	SS	18"	4/13/18	1000	3	X	X	X	X	X	X	X		-01
20180413-N17OU S 20"			20"		1005	3	X	X	X	X	X	X	X		02
20180413-N17OU SE 20"			20"		1010	3	X	X	X	X	X	X	X		03
20180413-N17OU East 20"			20"		1020	3	X	X	X	X	X	X	X		04

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

pH ____ Temp ____
Flow ____ Other ____

Remarks:

4014 8300 0811

Hold #

Condition: (lab use only) OK

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	4/14/18	1800	
Relinquished by : (Signature)	Date: 4/13/18	Time: 1500	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ ____
Temp: 0.3 °C Bottles Received: 12
Date: 4/14/18 Time: 900

COC Seal Intact: ___Y ___N ___NA
pH Checked: NCF:

ESC LAB SCIENCES
Cooler Receipt Form

Client:	CAERUSPCO	SDG#	L985808
Cooler Received/Opened On: 4/14/18		Temperature:	0.3
Received By: Christian Kacar			
Signature:			

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			