VIA ELECTRONIC MAIL –

January 19, 2021

Jake Janicek
EH&S Specialist
Environmental Health and Safety
Caerus Oil and Gas LLC
143 Diamond Ave.
Parachute, CO 81635

Subject: **Report of Work Completed**
Cuttings Sampling
E34-496 (Remediation Number 15878, Facility ID:335928)
Caerus Oil and Gas LLC
Garfield County, Colorado

Dear Mr. Janicek:

WSP USA Inc. (WSP), formerly LT Environmental, Inc. (LTE), was contracted by Caerus Oil and Gas LLC (Caerus) to conduct cuttings soil sampling of the landfarmed cuttings at the E34-496 pad location (Site) (Facility ID: 335928). This large volume of cuttings was generated as the byproduct of drill cuttings produced during the drilling of natural gas wells from 11/18/2018 through 5/10/2019 located at the Site. All cuttings soil sampling activities prior to August 25, 2020 can be referenced in the Colorado Oil and Gas Conservation Commission (COGCC) Initial Form 27 Document Number 402433873 (Remediation Number 15878). The Site is in the Caerus North Parachute Ranch (NPR) area of operation located in Garfield County, Colorado (Figure 1).

COUNTINOUS CUTTINGS SAMPLING

On September 1, 2020, WSP personnel completed cuttings soil sampling per the approved Initial Form 27 Document Number 402433873. Per the above referenced Initial Form 27, all cuttings soil samples were collected to include a minimum rate of one 5-point composite sample per 1,000 cubic yards of cuttings. During this sampling event a total of 11 5-point composite cuttings soil samples were collected. Using a spade shovel, each composite sample aliquot was collected at a depth approximately halfway into cuttings pile. The cuttings soil sampling activities were conducted by a WSP geologist who inspected the soil samples for the presence or absence of petroleum hydrocarbons odor and/or staining. The cuttings soil was characterized by visual and olfactory inspection for the presence and or absence of volatile organic vapors. All cuttings soil samples were submitted to Pace Analytical (Pace) of Mt. Juliet, Tennessee under a COGCC approved reduced analyte suite for laboratory analysis of total petroleum hydrocarbons (TPH)-gasoline range organics (GRO), TPH-diesel range organics (DRO), and benzene. The cuttings soil sampling cells, aliquot locations, sample volumes, and cuttings remediation areas are depicted on the enclosed Figure 2. Soil samples locations 20200730-E34-496 (CUT05) and 20200803-E34-496 (CUT06) depicted on the map are representative cuttings cells which comply with the COGCC Table 910-1 Concentration Levels which can be referenced in the approved Initial Form 27 Document Number 402433873 (Figure 2).

On September 17, 2020, Moody Construction (Moody) was onsite per the request of Caerus to remediate nine of the 11 cuttings areas within the cuttings vault by agitating the soil. Using a trac-hoe, Moody turned and agitated cuttings areas CUT01, CUT02, CUT03, CUT05, CUT06, CUT07, CUT09, CUT10, and CUT11 to volatilize the hydrocarbons entrained within the soil. The above-mentioned cuttings areas are depicted on the enclosed Figure 2.

On September 24, 2020, WSP personnel returned to the Site to collect remediation confirmation soil samples of the nine cuttings areas which exceeded the COGCC Table 910-1 Concentration Levels from the September 1, 2020

sampling event. During this sampling event a total of nine 5-point composite cuttings soil samples were collected. Samples were collected as per the above-mentioned Initial Form 27. The cuttings soil sampling activities were conducted by a WSP geologist who inspected the cuttings soil samples for the presence or absence of petroleum hydrocarbons odor and/or staining. The cuttings soil was characterized by visual and olfactory inspection for the presence and or absence of volatile organic vapors. All cuttings soil samples were soil samples were submitted to Pace of Mt. Juliet, Tennessee under a COGCC approved reduced analyte suite for laboratory analysis of TPH-GRO, TPH-DRO, and benzene. The cuttings soil sampling cells, aliquot locations, sample volumes, and cuttings remediation areas are depicted on the enclosed Figure 3.

On October 6, 2020, Moody returned to the Site at the request of Caerus to remediate four of the 11 cuttings areas within the cuttings vault. Moody remediated cuttings areas CUT02, CUT05, CUT06, and CUT07 as previously described. The cuttings areas are depicted on the enclosed Figure 3.

On October 7, 2020, WSP personnel returned to the Site to collect additional remediation confirmation soil samples of the four cuttings areas which exceeded the COGCC Table 910-1 Concentration Levels from the September 24, 2020 sampling event. During this sampling event a total of four 5-point composite cuttings soil samples were collected from locations CUT02, CUT05, CUT06, and CUT07. Samples were collected as per the above-mentioned Initial Form 27. The cuttings soil sampling activities were conducted by a WSP geologist who inspected the cuttings soil samples for the presence or absence of petroleum hydrocarbons odor and/or staining. The cuttings soil was characterized by visual and olfactory inspection for the presence and or absence of volatile organic vapors. The four cuttings soil samples were submitted to Pace of Mt. Juliet, Tennessee under a COGCC approved reduced analyte suite for laboratory analysis of TPH-GRO, TPH-DRO, and benzene. The cuttings cells, aliquot locations, sample volumes, and cuttings remediation areas are depicted on the enclosed Figure 4.

On October 16, 2020, Moody returned to the Site at the request of Caerus to remediate four of the 11 cuttings areas within the cuttings vault. Moody remediated cuttings areas CUT02, CUT05, CUT06, and CUT07 as previously described. The cuttings areas are depicted on the enclosed Figure 4.

On October 21, 2020, WSP personnel returned to the Site collect remediation confirmation soil samples from the four cuttings areas which exceeded the COGCC Table 910-1 Concentration Levels from the October 7, 2020 sampling event. During this sampling event a total of four 5-point composite cuttings soil samples were collected from locations CUT02, CUT05, CUT06, and CUT07. Samples were collected as per the above-mentioned Initial Form 27. The cuttings soil sampling activities were conducted by a WSP geologist who inspected the cuttings soil samples for the presence or absence of petroleum hydrocarbons odor and/or staining. The cuttings soil was characterized by visual and olfactory inspection for the presence and or absence of volatile organic vapors. The four cuttings soil samples were submitted to Pace of Mt. Juliet, Tennessee under a COGCC approved reduced analyte suite for laboratory analysis of TPH-GRO, TPH-DRO, and benzene. The cuttings cells, aliquot locations, sample volumes, and cuttings remediation areas are depicted on the enclosed Figure 5.

On November 6, 2020, Moody returned to the Site at the request of Caerus to remediate the two remaining cuttings areas within the cuttings vault which failed from the previous sampling event. Using a trac-hoe, Moody remediated the cuttings areas CUT02 and CUT05 as previously described. The above-mentioned cuttings areas are depicted on the enclosed Figure 5.

On November 9, 2020, WSP personnel returned to the Site to collect additional remediation confirmation soil samples from the four cuttings areas which exceeded the COGCC Table 910-1 Concentration Levels from the October 21, 2020 sampling event. During this sampling event a total of four 5-point composite cuttings soil samples were collected from locations CUT02, CUT05, CUT06, and CUT07. Samples were collected as per the above-mentioned Initial Form 27. The cuttings soil sampling activities were conducted by a WSP geologist who inspected the cuttings soil samples for the presence or absence of petroleum hydrocarbons odor and/or staining. The cuttings soil was characterized by visual and olfactory inspection for the presence and or absence of volatile organic vapors. The four cuttings soil samples were submitted to Pace of Mt. Juliet, Tennessee under a COGCC approved reduced analyte suite for laboratory analysis of TPH-GRO, TPH-DRO, and benzene. The cuttings cells, aliquot locations, sample volumes, and cuttings remediation areas are depicted on the enclosed Figure 6.

On December 10, 2020, Moody returned to the Site at the request of Caerus to remediate two of the 11 cuttings areas within the cuttings vault. Moody remediated cuttings areas CUT02 and CUT05 as previously described. The cuttings areas are depicted on the enclosed Figure 6.

On December 15, 2020, WSP personnel returned to the Site to collected additional remediation confirmation soil samples from the two areas which failed from the November 9, 2020 sampling event. During this sampling event a total of two 5-point composite cuttings soil samples were collected from locations CUT02 and CUT05. Samples were collected as per the above-mentioned Initial Form 27. The cuttings soil sampling activities were conducted by a WSP geologist who inspected the cuttings soil samples for the presence or absence of petroleum hydrocarbons odor and/or staining. The cuttings soil was characterized by visual and olfactory inspection for the presence and or absence of volatile organic vapors. The two cuttings soil samples were soil samples were submitted to Pace of Mt. Juliet, Tennessee under a COGCC approved reduced analyte suite for laboratory analysis of TPH-GRO, TPH-DRO, and benzene. The cuttings cells, aliquot locations, sample volumes, and cuttings remediation areas are depicted on the enclosed Figure 7.

ANALYTICAL RESULTS

From the initial cuttings soil sampling completed on September 1, 2020, under the approved Initial Form 27 Document Number 402433873, nine of the 11 cutting samples collected exceeded the COGCC Table 910-1 Concentration Level for benzene. Cuttings soil samples 20200901 – E34-496 (CUT04) and 20200901 – E34-496 (CUT08) were compliant with all COGCC Table 910-1 Concentration Levels. All cuttings soil samples were within the COGCC Table 910-1 Concentration Levels for TPH-GRO and TPH-DRO except for cuttings soil sample 20200901 – E34-496 (CUT05) with a concentration of 853.415 milligrams per kilogram (mg/kg). Laboratory analytical results are included as Enclosure A and summarized in Table 1.

Through continued remediation and cuttings soil sampling as described above, all cuttings soil sampling areas are compliant with the COGCC Table 910-1 Concentration Level for benzene except for cuttings soil samples 20201215 – E34-496 (CUT02) and 20201215 – E34-496 (CUT05) with concentrations of 0.237 mg/kg and 0.380 mg/kg, respectively. All cutting soil samples are complaint with the COGCC Table 910-1 Concentration Levels for TPH-GRO and TPH-DRO. Laboratory analytical results are included as Enclosure A and summarized in Table 1.

Please call us at (970) 618-4514 or (720)-490-6758 if you have any questions regarding this report or require additional information.

Kind regards,

Dustin Held
Consultant, Environmental Geologist

Chris McKisson
Senior Consultant, Environmental Scientist

Encl.

FIGURES

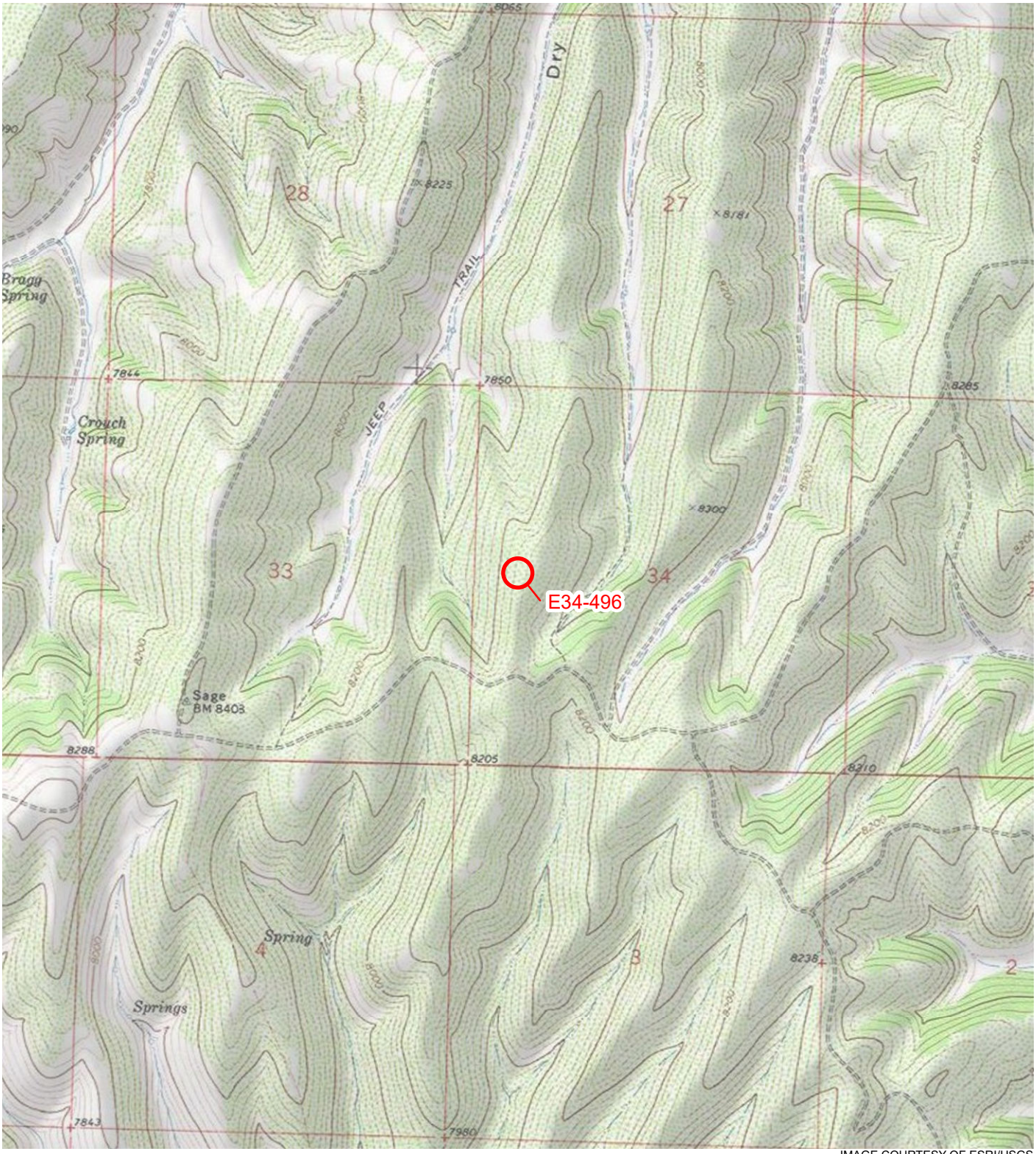

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

COLORADO

FIGURE 1
SITE LOCATION MAP
E34-496
SWNW SEC 34-T4S-R96W
GARFIELD COUNTY, COLORADO
CAERUS OIL AND GAS LLC

wsp

P:\Caerus Oil & Gas\GIS\MXD\050820011_E34-496\050820011_FIG01_SL.mxd

IMAGE COURTESY OF CAERUS DRONE SURVEY 2020

LEGEND

- COMPOSITE SOIL SAMPLE
- COMPOSITE SOIL SAMPLE IN COMPLIANCE WITH COGCC TABLE 910-1 STANDARDS
- CUTTINGS PILE COMPOISTE SOIL SAMPLE AREA REPRESENTATIVE OF <1,000 CUBIC YARDS

0 100 200
Feet

N

NOTE: LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

FIGURE 2
CUTTINGS LOCATION MAP (09/01/2020)
E34-496
SWNW SEC 34-T4S-R96W
GARFIELD COUNTY, COLORADO
CAERUS OIL AND GAS LLC

wsp

P:\Caerus Oil & Gas\GIS\MXD\050820011_E34-496\050820011_FIG02_CUTTINGS_SEPT_01_2020.mxd

IMAGE COURTESY OF CAERUS DRONE SURVEY 2020

LEGEND

- COMPOSITE SOIL SAMPLE
- COMPOSITE SOIL SAMPLE IN COMPLIANCE WITH COGCC TABLE 910-1 STANDARDS
- CUTTINGS PILE COMPOISTE SOIL SAMPLE AREA REPRESENTATIVE OF <1,000 CUBIC YARDS

0 100 200
Feet

N

NOTE: LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

FIGURE 3
CUTTINGS LOCATION MAP (09/24/2020)
E34-496
SWNW SEC 34-T4S-R96W
GARFIELD COUNTY, COLORADO
CAERUS OIL AND GAS LLC

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P:\Caerus Oil & Gas\GIS\MXD\050820011_E34-496\050820011_FIG03_CUTTINGS_SEPT_24_2020.mxd

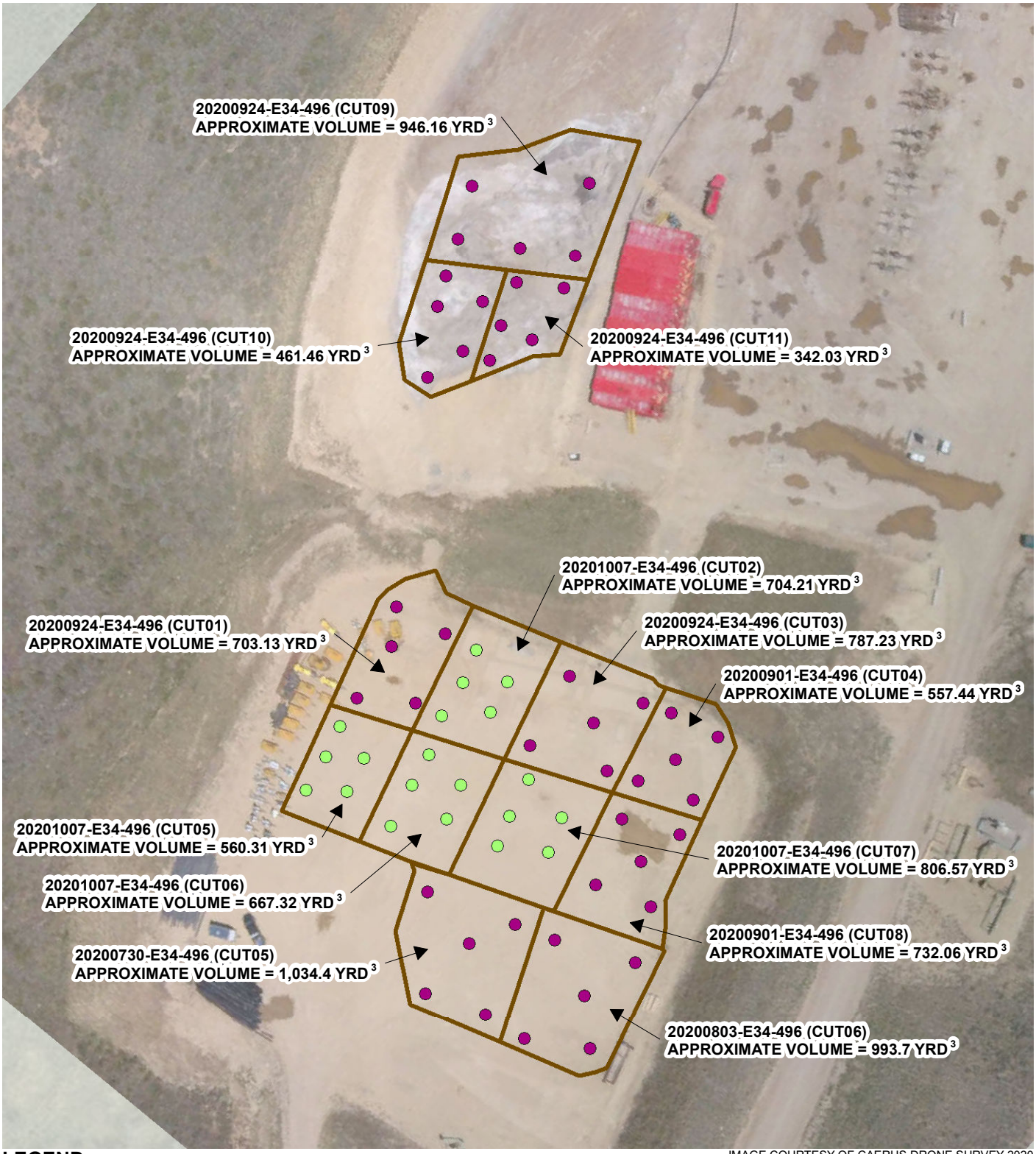

IMAGE COURTESY OF CAERUS DRONE SURVEY 2020

LEGEND

- COMPOSITE SOIL SAMPLE
- COMPOSITE SOIL SAMPLE IN COMPLIANCE WITH COGCC TABLE 910-1 STANDARDS
- CUTTINGS PILE COMPOISTE SOIL SAMPLE AREA REPRESENTATIVE OF <1,000 CUBIC YARDS

0 100 200
Feet

N

NOTE: LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

FIGURE 4
CUTTINGS LOCATION MAP (10/07/2020)
E34-496
SWNW SEC 34-T4S-R96W
GARFIELD COUNTY, COLORADO
CAERUS OIL AND GAS LLC

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P:\Caerus Oil & Gas\GIS\MXD\050820011_E34-496\050820011_FIG04_CUTTINGS_OCT_07_2020.mxd

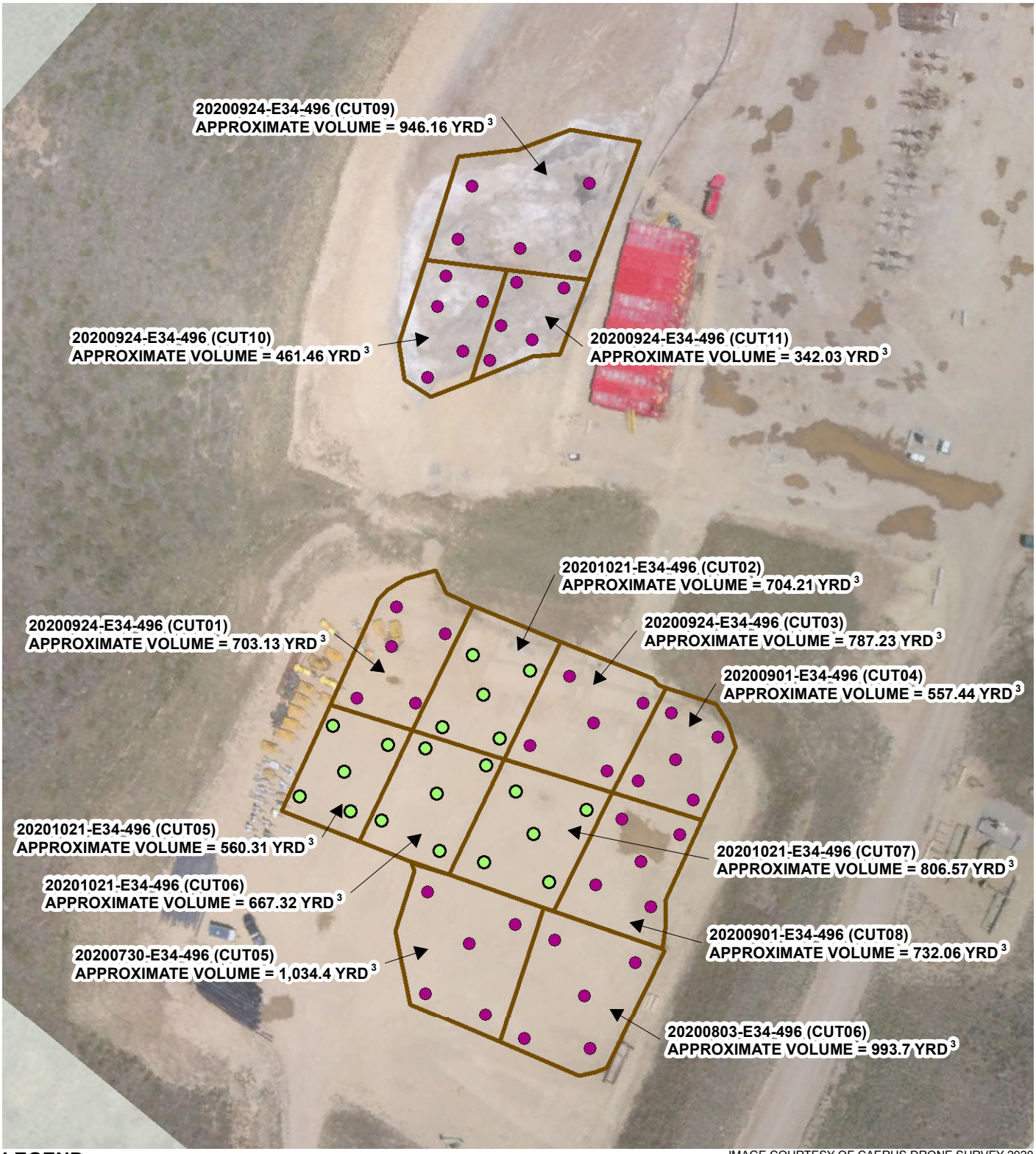

IMAGE COURTESY OF CAERUS DRONE SURVEY 2020

LEGEND

- COMPOSITE SOIL SAMPLE
- COMPOSITE SOIL SAMPLE IN COMPLIANCE WITH COGCC TABLE 910-1 STANDARDS
- CUTTINGS PILE COMPOISTE SOIL SAMPLE AREA REPRESENTATIVE OF <1,000 CUBIC YARDS

0 100 200
Feet

N

NOTE: LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

FIGURE 5
CUTTINGS LOCATION MAP (10/21/2020)
E34-496
SWNW SEC 34-T4S-R96W
GARFIELD COUNTY, COLORADO
CAERUS OIL AND GAS LLC

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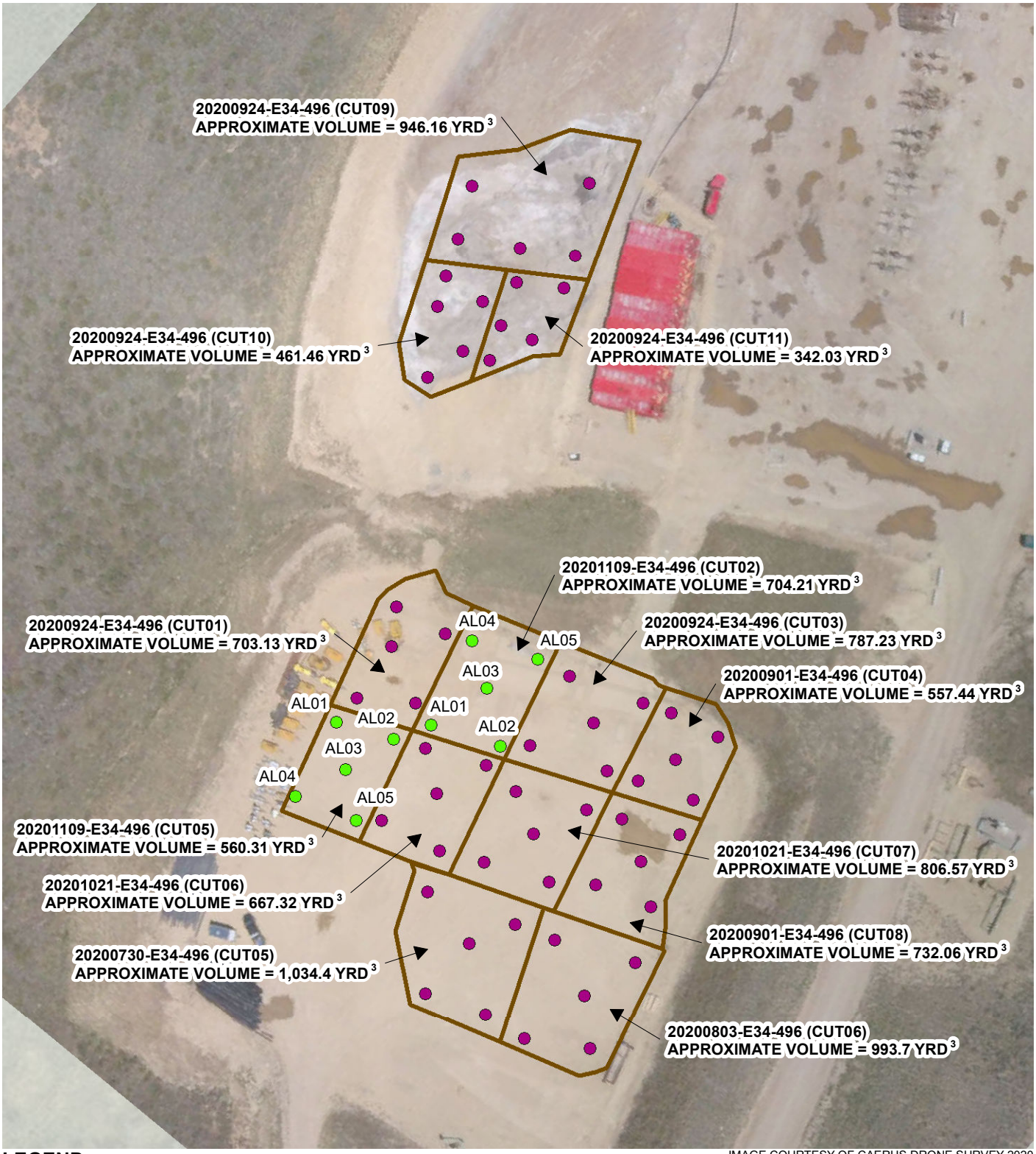

IMAGE COURTESY OF CAERUS DRONE SURVEY 2020

LEGEND

- COMPOSITE SOIL SAMPLE
- COMPOSITE SOIL SAMPLE IN COMPLIANCE WITH COGCC TABLE 910-1 STANDARDS
- CUTTINGS PILE COMPOISTE SOIL SAMPLE AREA REPRESENTATIVE OF <1,000 CUBIC YARDS

0 100 200
Feet

N

NOTE: LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

FIGURE 6
CUTTINGS LOCATION MAP (11/09/2020)
E34-496
SWNW SEC 34-T4S-R96W
GARFIELD COUNTY, COLORADO
CAERUS OIL AND GAS LLC

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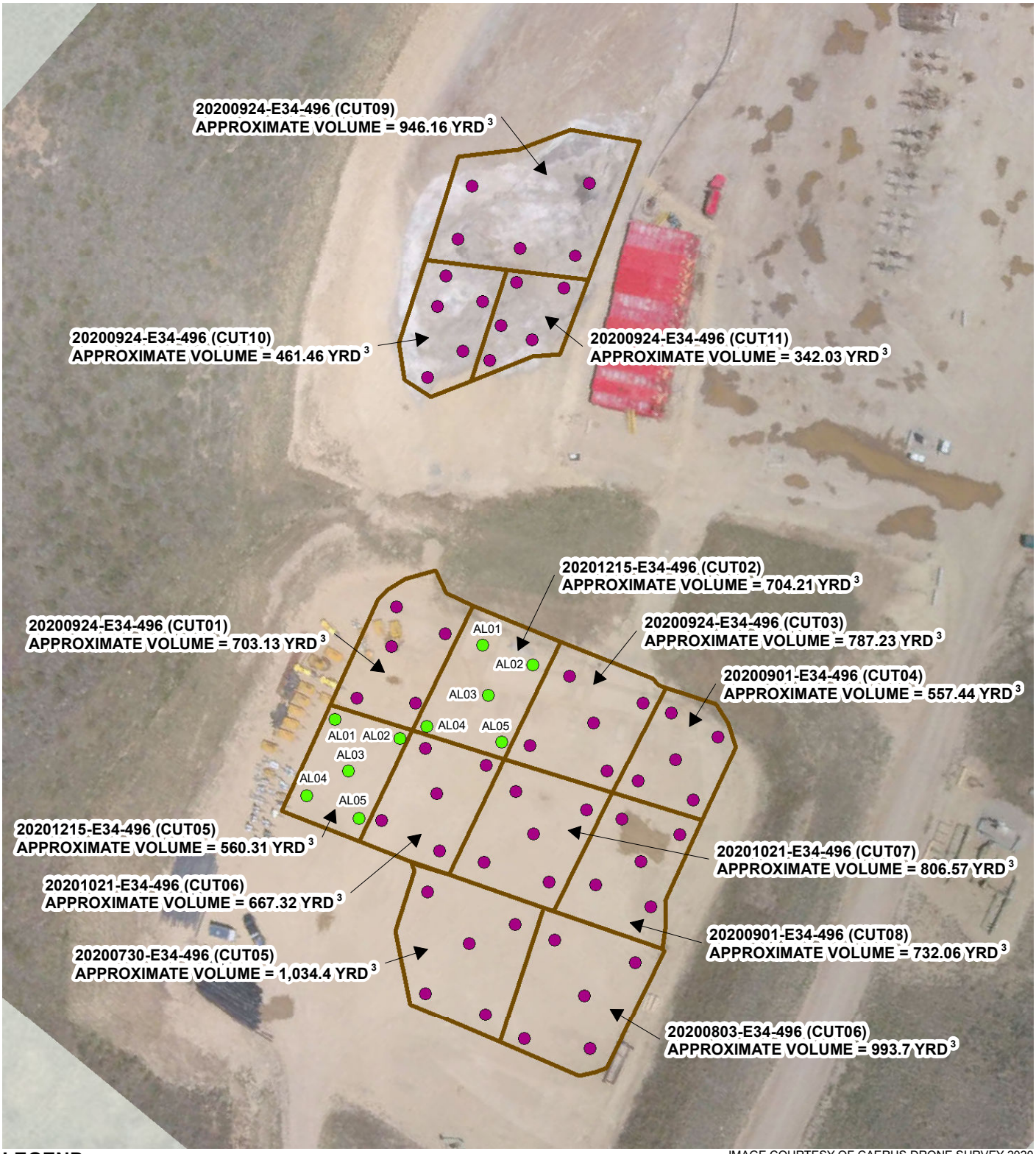

IMAGE COURTESY OF CAERUS DRONE SURVEY 2020

LEGEND

- COMPOSITE SOIL SAMPLE
- COMPOSITE SOIL SAMPLE IN COMPLIANCE WITH COGCC TABLE 910-1 STANDARDS
- CUTTINGS PILE COMPOISTE SOIL SAMPLE AREA REPRESENTATIVE OF <1,000 CUBIC YARDS

0 100 200
Feet

N

NOTE: LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

FIGURE 7
CUTTINGS LOCATION MAP (12/15/2020)
E34-496
SWNW SEC 34-T4S-R96W
GARFIELD COUNTY, COLORADO
CAERUS OIL AND GAS LLC

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TABLE

TABLE 1

SOIL ANALYTICAL RESULTS
E34-496
CAERUS OIL AND GAS LLC
PICEANCE BASIN, COLORADO

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	CONFIRMATION SOIL SAMPLES							
			20200901-E34-496 (CUT01)	20200924-E34-496 (CUT01)	20200901-E34-496 (CUT02)	20200924-E34-496 (CUT02)	20201007-E34-496 (CUT02)	20201021-E34-496 (CUT02)	20201109-34-496 (CUT02)	20201215-34-496 (CUT02)
Sample Date			9/1/2020	9/24/2020	9/1/2020	9/24/2020	10/7/2020	10/21/2020	11/9/2020	12/15/2020
Sample Matix			Cuttings	Cuttings	Cuttings	Cuttings	Cuttings	Cuttings	Cuttings	Cuttings
Arsenic	0.39	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Barium	15,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	70	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (III)	120,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	23	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Copper	3,100	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Lead	400	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	23	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	1,600	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	390	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Silver	390	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	23,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
EC	4 or 2x background	mmhos/cm	NA	NA	NA	NA	NA	NA	NA	NA
pH	6-9	SU	NA	NA	NA	NA	NA	NA	NA	NA
SAR	12	unitless	NA	NA	NA	NA	NA	NA	NA	NA
TPH-DRO			308	432	309	461	284	225	142	116
TPH-GRO			0.210	0.310	0.188	0.739	18.7	0.228	18.1	17.0
TPH	500	mg/kg	308.210	432.310	309.188	461.739	302.7	225.228	160.1	133.0
Benzene	0.17	mg/kg	0.299	0.0777	0.507	0.185	0.761	0.200	0.715	0.237
Toluene	85	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	175	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	0.22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	2.2	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.022	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.022	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3,c,d)pyrene	0.22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	23	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ND - less than the stated reporting limit
Higlight- indicates result exceeds the COGCC concentration level
COGCC - Colorado Oil and Gas Conservation Commission
EC - electrical conductivity
mg/kg - milligrams per kilogram
mmhos/cm - millimhos per centimeter
ND - non detect
NA - not analyzed
SAR - sodium adsorption ratio
SU - standard unit
TPH-GRO - total petroleum hydrocarbons-gasoline range organics
TPH-DRO - total petroleum hydrocarbons-diesel range organics
TPH - combination of TPH-GRO and TPH-DRO

TABLE 1

SOIL ANALYTICAL RESULTS
E34-496
CAERUS OIL AND GAS LLC
PICEANCE BASIN, COLORADO

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	CONFIRMATION SOIL SAMPLES							
			20200901-E34-496 (CUT03)	20200924-E34-496 (CUT03)	20200901-E34-496 (CUT04)	20200901-E34-496 (CUT05)	20200924-E34-496 (CUT05)	20201007-E34-496 (CUT05)	20201021-E34-496 (CUT05)	20201109-E34-496 (CUT05)
Sample Date			9/1/2020	9/24/2020	9/1/2020	9/1/2020	9/24/2020	10/7/2020	10/21/2020	11/9/2020
Sample Matix			Cuttings	Cuttings	Cuttings	Cuttings	Cuttings	Cuttings	Cuttings	Cuttings
Arsenic	0.39	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Barium	15,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	70	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (III)	120,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	23	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Copper	3,100	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Lead	400	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	23	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	1,600	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	390	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Silver	390	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	23,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
EC	4 or 2x background	mmhos/cm	NA	NA	NA	NA	NA	NA	NA	NA
pH	6-9	SU	NA	NA	NA	NA	NA	NA	NA	NA
SAR	12	unitless	NA	NA	NA	NA	NA	NA	NA	NA
TPH-DRO			473	335	306	853	346	283	166	366
TPH-GRO			0.349	0.437	0.165	0.415	0.435	22.2	0.274	27.8
TPH	500	mg/kg	473.349	335.437	306.165	853.415	346.435	305.2	166.274	393.8
Benzene	0.17	mg/kg	0.221	0.0384	0.167	0.200	0.213	0.849	0.177	1.37
Toluene	85	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	175	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	0.22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	2.2	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.022	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.022	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3,c,d)pyrene	0.22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	23	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ND - less than the stated reporting limit
Higlight- indicates result exceeds the COGCC concentration level
COGCC - Colorado Oil and Gas Conservation Commission
EC - electrical conductivity
mg/kg - milligrams per kilogram
mmhos/cm - millimhos per centimeter
ND - non detect
NA - not analyzed
SAR - sodium adsorption ratio
SU - standard unit
TPH-GRO - total petroleum hydrocarbons-gasoline range organics
TPH-DRO - total petroleum hydrocarbons-diesel range organics
TPH - combination of TPH-GRO and TPH-DRO

TABLE 1

SOIL ANALYTICAL RESULTS
E34-496
CAERUS OIL AND GAS LLC
PICEANCE BASIN, COLORADO

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	CONFIRMATION SOIL SAMPLES							
			20201215-E34-496 (CUT05)	20200901-E34-496 (CUT06)	20200924-E34-496 (CUT06)	20201007-E34-496 (CUT06)	20201021-E34-496 (CUT06)	20200901-E34-496 (CUT07)	20200924-E34-496 (CUT07)	20201007-E34-496 (CUT07)
Sample Date			12/15/2020	9/1/2020	9/24/2020	10/7/2020	10/21/2020	9/1/2020	9/24/2020	10/7/2020
Sample Matix			Cuttings	Cuttings	Cuttings	Cuttings	Cuttings	Cuttings	Cuttings	Cuttings
Arsenic	0.39	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Barium	15,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	70	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (III)	120,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	23	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Copper	3,100	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Lead	400	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	23	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	1,600	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	390	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Silver	390	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	23,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
EC	4 or 2x background	mmhos/cm	NA	NA	NA	NA	NA	NA	NA	NA
pH	6-9	SU	NA	NA	NA	NA	NA	NA	NA	NA
SAR	12	unitless	NA	NA	NA	NA	NA	NA	NA	NA
TPH-DRO			108	325	539	249	236	372	708	216
TPH-GRO			17.7	0.235	0.336	20.1	0.314	0.205	0.430	19.2
TPH	500	mg/kg	125.7	325.235	539.336	269.1	236.314	372.205	708.430	235.2
Benzene	0.17	mg/kg	0.380	0.541	0.119	0.748	0.0967	0.543	0.0919	0.809
Toluene	85	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	175	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	0.22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	2.2	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.022	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.022	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3,c,d)pyrene	0.22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	23	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ND - less than the stated reporting limit
Higlight- indicates result exceeds the COGCC concentration level
COGCC - Colorado Oil and Gas Conservation Commission
EC - electrical conductivity
mg/kg - milligrams per kilogram
mmhos/cm - millimhos per centimeter
ND - non detect
NA - not analyzed
SAR - sodium adsorption ratio
SU - standard unit
TPH-GRO - total petroleum hydrocarbons-gasoline range organics
TPH-DRO - total petroleum hydrocarbons-diesel range organics
TPH - combination of TPH-GRO and TPH-DRO

TABLE 1

SOIL ANALYTICAL RESULTS
E34-496
CAERUS OIL AND GAS LLC
PICEANCE BASIN, COLORADO

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	CONFIRMATION SOIL SAMPLES							
			20201021-E34-496 (CUT07)	20200901-E34-496 (CUT08)	20200901-E34-496 (CUT09)	20200924-E34-496 (CUT09)	20200901-E34-496 (CUT10)	20200924-E34-496 (CUT10)	20200901-E34-496 (CUT11)	20200924-E34-496 (CUT11)
Sample Date			10/21/2020	9/1/2020	9/1/2020	9/24/2020	9/1/2020	9/24/2020	9/1/2020	9/24/2020
Sample Matix			Cuttings	Cuttings	Cuttings	Cuttings	Cuttings	Cuttings	Cuttings	Cuttings
Arsenic	0.39	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Barium	15,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	70	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (III)	120,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	23	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Copper	3,100	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Lead	400	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	23	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	1,600	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	390	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Silver	390	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	23,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
EC	4 or 2x background	mmhos/cm	NA	NA	NA	NA	NA	NA	NA	NA
pH	6-9	SU	NA	NA	NA	NA	NA	NA	NA	NA
SAR	12	unitless	NA	NA	NA	NA	NA	NA	NA	NA
TPH-DRO			193	181	331	385	273	321	270	294
TPH-GRO			0.295	0.250	0.257	0.307	0.302	0.225	0.182	0.489
TPH	500	mg/kg	193.295	181.250	331.257	385.307	273.302	321.225	270.182	294.489
Benzene	0.17	mg/kg	0.0272	0.103	0.353	0.0780	0.286	0.125	0.201	0.0966
Toluene	85	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	175	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	0.22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	2.2	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.022	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.022	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3,c,d)pyrene	0.22	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	23	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,000	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ND - less than the stated reporting limit
Higlight- indicates result exceeds the COGCC concentration level
COGCC - Colorado Oil and Gas Conservation Commission
EC - electrical conductivity
mg/kg - milligrams per kilogram
mmhos/cm - millimhos per centimeter
ND - non detect
NA - not analyzed
SAR - sodium adsorption ratio
SU - standard unit
TPH-GRO - total petroleum hydrocarbons-gasoline range organics
TPH-DRO - total petroleum hydrocarbons-diesel range organics
TPH - combination of TPH-GRO and TPH-DRO

ENCLOSURE A – LABORATORY ANALYTICAL RESULTS

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 08, 2020

Caerus Oil and Gas

Sample Delivery Group:	L1257889
Samples Received:	09/03/2020
Project Number:	E34-496
Description:	E34-496
Site:	E34-496
Report To:	Jake Janicek 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

TABLE OF CONTENTS

20200901-E34-496 (CUT01) L1257889-01 Solid

Collected by: Evan Mason | Collected date/time: 09/01/20 11:45 | Received date/time: 09/03/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1538209	1	09/03/20 22:54	09/04/20 18:01	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1538268	1	09/03/20 22:54	09/04/20 12:55	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1539085	1	09/07/20 02:07	09/07/20 14:10	JN	Mt. Juliet, TN

20200901-E34-496 (CUT02) L1257889-02 Solid

Collected by: Evan Mason | Collected date/time: 09/01/20 12:00 | Received date/time: 09/03/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1538209	1	09/03/20 22:54	09/04/20 18:22	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1538268	1.17	09/03/20 22:54	09/04/20 13:15	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1539085	5	09/07/20 02:07	09/07/20 14:48	JN	Mt. Juliet, TN

20200901-E34-496 (CUT03) L1257889-03 Solid

Collected by: Evan Mason | Collected date/time: 09/01/20 12:15 | Received date/time: 09/03/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1538209	1	09/03/20 22:54	09/04/20 18:43	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1538268	1	09/03/20 22:54	09/04/20 13:36	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1539085	5	09/07/20 02:07	09/07/20 15:01	JN	Mt. Juliet, TN

20200901-E34-496 (CUT04) L1257889-04 Solid

Collected by: Evan Mason | Collected date/time: 09/01/20 12:30 | Received date/time: 09/03/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1538209	1	09/03/20 22:54	09/04/20 19:03	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1538268	1	09/03/20 22:54	09/04/20 13:57	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1539085	10	09/07/20 02:07	09/07/20 15:52	JN	Mt. Juliet, TN

20200901-E34-496 (CUT05) L1257889-05 Solid

Collected by: Evan Mason | Collected date/time: 09/01/20 12:45 | Received date/time: 09/03/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1538209	1	09/03/20 22:54	09/04/20 19:24	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1538268	1	09/03/20 22:54	09/04/20 14:17	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1539085	100	09/07/20 02:07	09/07/20 16:30	JN	Mt. Juliet, TN

20200901-E34-496 (CUT06) L1257889-06 Solid

Collected by: Evan Mason | Collected date/time: 09/01/20 13:00 | Received date/time: 09/03/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1538209	1	09/03/20 22:54	09/04/20 19:44	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1538268	1	09/03/20 22:54	09/04/20 14:38	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1539085	5	09/07/20 02:07	09/07/20 15:14	JN	Mt. Juliet, TN

20200901-E34-496 (CUT07) L1257889-07 Solid

Collected by: Evan Mason | Collected date/time: 09/01/20 13:15 | Received date/time: 09/03/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1538209	1	09/03/20 22:54	09/04/20 20:05	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1538268	1	09/03/20 22:54	09/04/20 14:59	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1539085	10	09/07/20 02:07	09/07/20 16:05	JN	Mt. Juliet, TN

20200901-E34-496 (CUT08) L1257889-08 Solid

Collected by: Evan Mason | Collected date/time: 09/01/20 13:30 | Received date/time: 09/03/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1538209	1	09/03/20 22:54	09/04/20 20:25	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1538268	1	09/03/20 22:54	09/04/20 15:19	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1539085	20	09/07/20 02:07	09/07/20 16:18	JN	Mt. Juliet, TN

20200901-E34-496 (CUT09) L1257889-09 Solid

Collected by: Evan Mason | Collected date/time: 09/01/20 13:45 | Received date/time: 09/03/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1538209	1	09/03/20 22:54	09/04/20 20:46	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1538268	1	09/03/20 22:54	09/04/20 15:40	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1539085	20	09/07/20 02:07	09/08/20 10:32	DMG	Mt. Juliet, TN

20200901-E34-496 (CUT10) L1257889-10 Solid

Collected by: Evan Mason | Collected date/time: 09/01/20 14:00 | Received date/time: 09/03/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1538209	1	09/03/20 22:54	09/04/20 21:07	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1538268	1	09/03/20 22:54	09/04/20 16:01	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1539086	5	09/07/20 02:10	09/07/20 14:58	DMG	Mt. Juliet, TN

20200901-E34-496 (CUT11) L1257889-11 Solid

Collected by: Evan Mason | Collected date/time: 09/01/20 14:15 | Received date/time: 09/03/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1538209	1	09/03/20 22:54	09/04/20 21:28	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1538268	1.01	09/03/20 22:54	09/04/20 16:21	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1539086	5	09/07/20 02:10	09/07/20 15:51	DMG	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

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 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.

Chris Ward
Project Manager

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.210	B	0.100	1	09/04/2020 18:01	WG1538209
(S) a,a,a-Trifluorotoluene(FID)	*81.7*		*77.0-120*		*09/04/2020 18:01*	WG1538209

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.299		0.00100	1	09/04/2020 12:55	WG1538268
(S) Toluene-d8	*98.5*		*75.0-131*		*09/04/2020 12:55*	WG1538268
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*09/04/2020 12:55*	WG1538268
(S) 1,2-Dichloroethane-d4	*86.3*		*70.0-130*		*09/04/2020 12:55*	WG1538268

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	308		4.00	1	09/07/2020 14:10	WG1539085
(S) o-Terphenyl	*184*	J1	*18.0-148*		*09/07/2020 14:10*	WG1539085

Sample Narrative:

L1257889-01 WG1539085: Surrogate failure due to matrix interference

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.188	B	0.100	1	09/04/2020 18:22	WG1538209
(S) a,a,a-Trifluorotoluene(FID)	*83.8*		*77.0-120*		*09/04/2020 18:22*	WG1538209

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.507		0.00117	1.17	09/04/2020 13:15	WG1538268
(S) Toluene-d8	*99.1*		*75.0-131*		*09/04/2020 13:15*	WG1538268
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*09/04/2020 13:15*	WG1538268
(S) 1,2-Dichloroethane-d4	*85.9*		*70.0-130*		*09/04/2020 13:15*	WG1538268

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	309		20.0	5	09/07/2020 14:48	WG1539085
(S) o-Terphenyl	*62.7*		*18.0-148*		*09/07/2020 14:48*	WG1539085

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.349		0.100	1	09/04/2020 18:43	WG1538209
(S) a,a,a-Trifluorotoluene(FID)	*85.0*		*77.0-120*		*09/04/2020 18:43*	WG1538209

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.221		0.00100	1	09/04/2020 13:36	WG1538268
(S) Toluene-d8	*95.5*		*75.0-131*		*09/04/2020 13:36*	WG1538268
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*09/04/2020 13:36*	WG1538268
(S) 1,2-Dichloroethane-d4	*90.0*		*70.0-130*		*09/04/2020 13:36*	WG1538268

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	473		20.0	5	09/07/2020 15:01	WG1539085
(S) o-Terphenyl	*27.7*		*18.0-148*		*09/07/2020 15:01*	WG1539085

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.165	B	0.100	1	09/04/2020 19:03	WG1538209
(S) a,a,a-Trifluorotoluene(FID)	*83.6*		*77.0-120*		*09/04/2020 19:03*	WG1538209

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.167		0.00100	1	09/04/2020 13:57	WG1538268
(S) Toluene-d8	*97.5*		*75.0-131*		*09/04/2020 13:57*	WG1538268
(S) 4-Bromofluorobenzene	*99.2*		*67.0-138*		*09/04/2020 13:57*	WG1538268
(S) 1,2-Dichloroethane-d4	*83.6*		*70.0-130*		*09/04/2020 13:57*	WG1538268

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	306		40.0	10	09/07/2020 15:52	WG1539085
(S) o-Terphenyl	*54.5*		*18.0-148*		*09/07/2020 15:52*	WG1539085

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.415		0.100	1	09/04/2020 19:24	WG1538209
(S) a,a,a-Trifluorotoluene(FID)	*85.4*		*77.0-120*		*09/04/2020 19:24*	WG1538209

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.200		0.00100	1	09/04/2020 14:17	WG1538268
(S) Toluene-d8	*95.8*		*75.0-131*		*09/04/2020 14:17*	WG1538268
(S) 4-Bromofluorobenzene	*97.3*		*67.0-138*		*09/04/2020 14:17*	WG1538268
(S) 1,2-Dichloroethane-d4	*81.4*		*70.0-130*		*09/04/2020 14:17*	WG1538268

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	853		400	100	09/07/2020 16:30	WG1539085
(S) o-Terphenyl	*142*	J7	*18.0-148*		*09/07/2020 16:30*	WG1539085

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.235	B	0.100	1	09/04/2020 19:44	WG1538209
(S) a,a,a-Trifluorotoluene(FID)	*80.7*		*77.0-120*		*09/04/2020 19:44*	WG1538209

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.541		0.00100	1	09/04/2020 14:38	WG1538268
(S) Toluene-d8	*96.4*		*75.0-131*		*09/04/2020 14:38*	WG1538268
(S) 4-Bromofluorobenzene	*100*		*67.0-138*		*09/04/2020 14:38*	WG1538268
(S) 1,2-Dichloroethane-d4	*77.4*		*70.0-130*		*09/04/2020 14:38*	WG1538268

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	325		20.0	5	09/07/2020 15:14	WG1539085
(S) o-Terphenyl	*35.0*		*18.0-148*		*09/07/2020 15:14*	WG1539085

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.205	B	0.100	1	09/04/2020 20:05	WG1538209
(S) a,a,a-Trifluorotoluene(FID)	*87.9*		*77.0-120*		*09/04/2020 20:05*	WG1538209

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.543		0.00100	1	09/04/2020 14:59	WG1538268
(S) Toluene-d8	*98.1*		*75.0-131*		*09/04/2020 14:59*	WG1538268
(S) 4-Bromofluorobenzene	*97.8*		*67.0-138*		*09/04/2020 14:59*	WG1538268
(S) 1,2-Dichloroethane-d4	*78.6*		*70.0-130*		*09/04/2020 14:59*	WG1538268

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	372		40.0	10	09/07/2020 16:05	WG1539085
(S) o-Terphenyl	*44.5*		*18.0-148*		*09/07/2020 16:05*	WG1539085

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.250	B	0.100	1	09/04/2020 20:25	WG1538209
(S) a,a,a-Trifluorotoluene(FID)	*88.4*		*77.0-120*		*09/04/2020 20:25*	WG1538209

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.103		0.00100	1	09/04/2020 15:19	WG1538268
(S) Toluene-d8	*94.3*		*75.0-131*		*09/04/2020 15:19*	WG1538268
(S) 4-Bromofluorobenzene	*106*		*67.0-138*		*09/04/2020 15:19*	WG1538268
(S) 1,2-Dichloroethane-d4	*91.4*		*70.0-130*		*09/04/2020 15:19*	WG1538268

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	181		80.0	20	09/07/2020 16:18	WG1539085
(S) o-Terphenyl	*60.6*	J7	*18.0-148*		*09/07/2020 16:18*	WG1539085

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.257	B	0.100	1	09/04/2020 20:46	WG1538209
(S) a,a,a-Trifluorotoluene(FID)	*87.3*		*77.0-120*		*09/04/2020 20:46*	WG1538209

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.353		0.00100	1	09/04/2020 15:40	WG1538268
(S) Toluene-d8	*101*		*75.0-131*		*09/04/2020 15:40*	WG1538268
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*09/04/2020 15:40*	WG1538268
(S) 1,2-Dichloroethane-d4	*84.3*		*70.0-130*		*09/04/2020 15:40*	WG1538268

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	331		80.0	20	09/08/2020 10:32	WG1539085
(S) o-Terphenyl	*67.8*	J7	*18.0-148*		*09/08/2020 10:32*	WG1539085

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.302		0.100	1	09/04/2020 21:07	WG1538209
(S) a,a,a-Trifluorotoluene(FID)	*83.1*		*77.0-120*		*09/04/2020 21:07*	WG1538209

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.286		0.00100	1	09/04/2020 16:01	WG1538268
(S) Toluene-d8	*96.4*		*75.0-131*		*09/04/2020 16:01*	WG1538268
(S) 4-Bromofluorobenzene	*100*		*67.0-138*		*09/04/2020 16:01*	WG1538268
(S) 1,2-Dichloroethane-d4	*85.6*		*70.0-130*		*09/04/2020 16:01*	WG1538268

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	273		20.0	5	09/07/2020 14:58	WG1539086
(S) o-Terphenyl	*82.8*		*18.0-148*		*09/07/2020 14:58*	WG1539086

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.182	B	0.100	1	09/04/2020 21:28	WG1538209
(S) a,a,a-Trifluorotoluene(FID)	*82.8*		*77.0-120*		*09/04/2020 21:28*	WG1538209

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.201		0.00101	1.01	09/04/2020 16:21	WG1538268
(S) Toluene-d8	*98.1*		*75.0-131*		*09/04/2020 16:21*	WG1538268
(S) 4-Bromofluorobenzene	*95.8*		*67.0-138*		*09/04/2020 16:21*	WG1538268
(S) 1,2-Dichloroethane-d4	*83.1*		*70.0-130*		*09/04/2020 16:21*	WG1538268

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	270		20.0	5	09/07/2020 15:51	WG1539086
(S) o-Terphenyl	*79.7*		*18.0-148*		*09/07/2020 15:51*	WG1539086

Method Blank (MB)

(MB) R3567658-3 09/04/20 11:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0265	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*91.0*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3567658-2 09/04/20 11:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.58	101	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*107*	*77.0-120*	

L1256940-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1256940-06 09/04/20 16:39 • (MS) R3567658-4 09/04/20 21:48 • (MSD) R3567658-5 09/04/20 22:09

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	93.5	ND	90.4	80.3	96.7	85.9	25	10.0-151			11.8	28
(S) a,a,a-Trifluorotoluene(FID)					*107*	*105*		*77.0-120*				

Method Blank (MB)

(MB) R3567698-2 09/04/20 10:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
(S) Toluene-d8	*96.5*			*75.0-131*
(S) 4-Bromofluorobenzene	*104*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*91.8*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3567698-1 09/04/20 09:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.148	118	70.0-123	
(S) Toluene-d8			*95.9*	*75.0-131*	
(S) 4-Bromofluorobenzene			*105*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*94.9*	*70.0-130*	

L1256920-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1256920-07 09/04/20 17:23 • (MS) R3567698-3 09/04/20 19:26 • (MSD) R3567698-4 09/04/20 19:47

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.124	0.00121	0.163	0.129	130	103	1	10.0-149			23.3	37
(S) Toluene-d8					*101*	*99.1*		*75.0-131*				
(S) 4-Bromofluorobenzene					*98.4*	*96.8*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*87.9*	*85.8*		*70.0-130*				

Method Blank (MB)

(MB) R3567838-1 09/07/20 07:22

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	*79.7*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3567838-2 09/07/20 07:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	36.1	72.2	50.0-150	
(S) o-Terphenyl			*61.4*	*18.0-148*	

L1257212-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1257212-01 09/07/20 12:28 • (MS) R3567838-3 09/07/20 12:41 • (MSD) R3567838-4 09/07/20 12:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	50.0	ND	29.2	29.4	58.4	58.8	1	50.0-150			0.683	20
(S) o-Terphenyl					*41.3*	*40.5*		*18.0-148*				

Method Blank (MB)

(MB) R3567980-1 09/07/20 13:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	*75.8*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3567980-2 09/07/20 14:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	35.7	71.4	50.0-150	
(S) o-Terphenyl			*79.7*	*18.0-148*	

L1257938-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1257938-03 09/07/20 16:30 • (MS) R3567980-3 09/07/20 16:43 • (MSD) R3567980-4 09/07/20 16:56

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	49.2	ND	33.5	32.4	65.7	63.8	1	50.0-150			3.34	20
(S) o-Terphenyl					*79.6*	*79.1*		*18.0-148*				

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
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.
U	Not detected at the Reporting Limit (or MDL where applicable).
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, the sample preparation volume or weight values differ from the standard, 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.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
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
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Pace National 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 Pace National.

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	T104704245-18-15
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

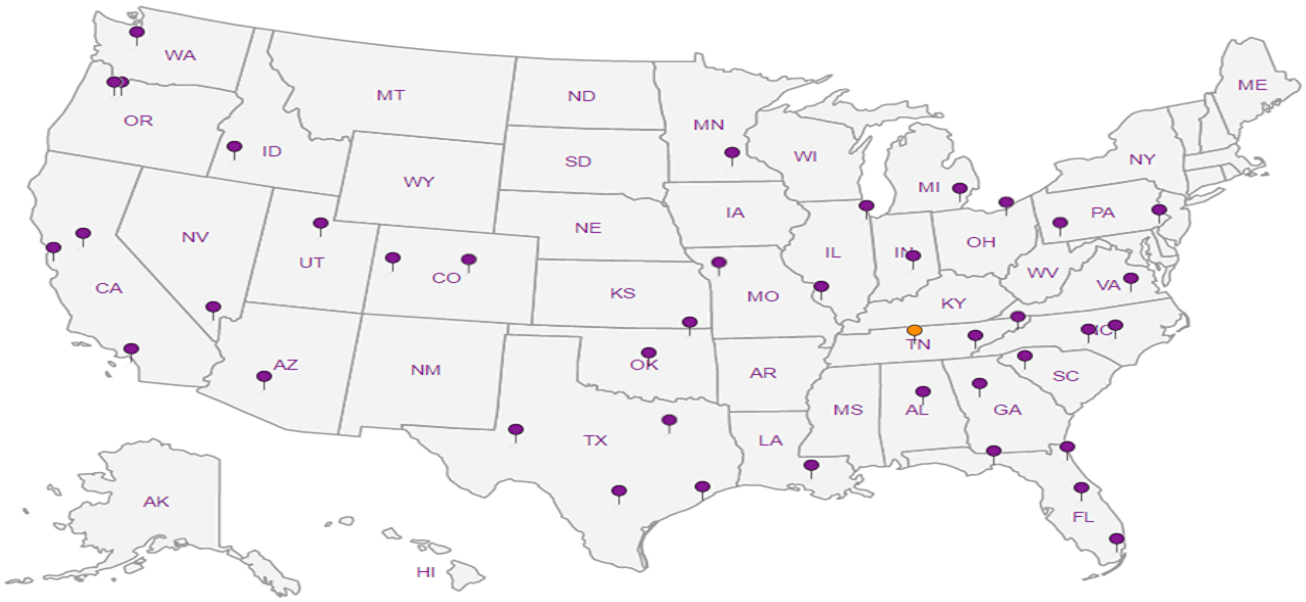
Third Party Federal Accreditations

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

Pace National 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. Pace National performs all testing at our central laboratory.



Caerus Oil & Gas LLC
143 Diamond Avenue
Parachute, CO 81635
970-285-9606

Billing Information: **Same as above**

Report to: EM jjanicek@caerusoilandgas.com
~~bmiddleton@caerusoilandgas.com~~

Email To: **bmiddleton@caerusoilandgas.com**

Project Description: **E34 - 496**

City/State Collected: **Piceance, CO**

Phone:
Fax:

Client Project # **E34 - 496**

Lab Project # **E34 - 496**

Collected by (print): Evan Mason

Site/Facility ID # **E34 - 496**

P.O. # **E34 - 496**

Collected by (signature):

Quote #

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
X Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed: ~~Standard TAT~~

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH- GRO/DRO	BTEX	TABLE 910- PAH's	SAR, EC, pH	TABLE 910- Metals	Benzene	Remarks	Sample # (lab only)
20200901-E34-496 (CUT01)	Comp	SS		9/1/20	1145	1	X					X		-01
20200901-E34-496 (CUT02)					1200	1	X					X		-02
20200901-E34-496 (CUT03)					1215	1	X					X		-03
20200901-E34-496 (CUT04)					1230	1	X					X		-04
20200901-E34-496 (CUT05)					1245	1	X					X		-05
20200901-E34-496 (CUT06)					1300	1	X					X		-06
20200901-E34-496 (CUT07)					1315	1	X					X		-07
20200901-E34-496 (CUT08)					1330	1	X					X		-08
20200901-E34-496 (CUT09)					1345	1	X					X		-09
20200901-E34-496 (CUT10)					1400	1	X					X		-10

Chain of Custody Page 1 of 2

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # L257889
Table # B141
Acctnum:
Template:
Prelogin:
TSR:
PB:
Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Two day TAT

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 1676 2750 6291

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD SCREEN: <0.5 mR/hr

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	9/2/20	900			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
	9220	1700		3.8-.1=3.7 AT ck 11	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK
				9/3/20 930	

Caerus Oil & Gas LLC
143 Diamond Avenue
Parachute, CO 81635
970-285-9606

Billing Information: **Same as above**

Report to: **bmiddleton@caerusoilandgas.com**

Email To: **jjanicek@caerusoilandgas.com**

Project Description: E34-496

City/State Collected:

Phone:
Fax:

Client Project #: E34-496

Lab Project #: E34-496

Collected by (print): Evan Mason

Site/Facility ID #: E34-496

P.O. #: E34-496

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
X Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #: NA

Date Results Needed: ~~Standard TAT~~

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # L1257889

Table #

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	TPH- GRO/DRO	BTEX	TABLE 910- PAH's	SAR	EC	TABLE 910- Metals	pH	Benzene			Remarks	Sample # (lab only)
20200901- E34-496 (CUT11)	Comp	SS		9/1/20	1415	1		X							X				-11

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Two day TAT

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 1676 2750 6286

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD SCREEN: <0.5 mR/hr

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	9/2/20	900	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	9/2/20	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: °C Bottles Received:
3.8-1-3.7 CK

Date: 9/3/20 Time: 730

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 30, 2020

Caerus Oil and Gas

Sample Delivery Group:	L1266396
Samples Received:	09/25/2020
Project Number:	E34 - 496
Description:	E34 - 496
Site:	E34 - 496
Report To:	Jake Janicek 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

TABLE OF CONTENTS

20200924-E34-496 (CUT01) L1266396-01 Solid

Collected by: Dustin Held
Collected date/time: 09/24/20 09:50
Received date/time: 09/25/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1550248	1	09/26/20 17:08	09/27/20 20:33	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1550132	1	09/26/20 17:08	09/28/20 01:06	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1550848	10	09/29/20 08:08	09/29/20 16:53	TJD	Mt. Juliet, TN

20200924-E34-496 (CUT02) L1266396-02 Solid

Collected by: Dustin Held
Collected date/time: 09/24/20 09:40
Received date/time: 09/25/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1550248	1	09/26/20 17:08	09/27/20 20:54	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1550132	1	09/26/20 17:08	09/28/20 01:25	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1550848	10	09/29/20 08:08	09/29/20 15:11	TJD	Mt. Juliet, TN

20200924-E34-496 (CUT03) L1266396-03 Solid

Collected by: Dustin Held
Collected date/time: 09/24/20 09:30
Received date/time: 09/25/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1550248	1	09/26/20 17:08	09/27/20 21:14	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1550132	1	09/26/20 17:08	09/28/20 01:44	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1550848	40	09/29/20 08:08	09/29/20 18:09	TJD	Mt. Juliet, TN

20200924-E34-496 (CUT05) L1266396-04 Solid

Collected by: Dustin Held
Collected date/time: 09/24/20 08:50
Received date/time: 09/25/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1550248	1	09/26/20 17:08	09/27/20 21:35	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1550132	1	09/26/20 17:08	09/28/20 02:04	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1550848	20	09/29/20 08:08	09/29/20 16:40	TJD	Mt. Juliet, TN

20200924-E34-496 (CUT06) L1266396-05 Solid

Collected by: Dustin Held
Collected date/time: 09/24/20 09:05
Received date/time: 09/25/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1550248	1	09/26/20 17:08	09/27/20 21:56	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1550132	1	09/26/20 17:08	09/28/20 02:23	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1550848	10	09/29/20 08:08	09/29/20 14:58	TJD	Mt. Juliet, TN

20200924-E34-496 (CUT07) L1266396-06 Solid

Collected by: Dustin Held
Collected date/time: 09/24/20 09:20
Received date/time: 09/25/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1550248	1	09/26/20 17:08	09/27/20 22:17	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1550132	1	09/26/20 17:08	09/28/20 02:42	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1550848	10	09/29/20 08:08	09/29/20 16:14	TJD	Mt. Juliet, TN

20200924-E34-496 (CUT09) L1266396-07 Solid

Collected by: Dustin Held
Collected date/time: 09/24/20 10:10
Received date/time: 09/25/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1550248	1	09/26/20 17:08	09/27/20 22:38	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1550132	1	09/26/20 17:08	09/28/20 03:01	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1550848	20	09/29/20 08:08	09/29/20 16:27	TJD	Mt. Juliet, TN

20200924-E34-496 (CUT10) L1266396-08 Solid

Collected by: Dustin Held
Collected date/time: 09/24/20 10:00
Received date/time: 09/25/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1550248	1	09/26/20 17:08	09/27/20 22:58	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1550132	1	09/26/20 17:08	09/28/20 03:20	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1550848	10	09/29/20 08:08	09/29/20 16:01	TJD	Mt. Juliet, TN

20200924-E34-496 (CUT11) L1266396-09 Solid

Collected by: Dustin Held
Collected date/time: 09/24/20 10:20
Received date/time: 09/25/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1550248	1	09/26/20 17:08	09/27/20 23:19	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1550132	1	09/26/20 17:08	09/28/20 03:39	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1550848	1	09/29/20 08:08	09/29/20 14:33	TJD	Mt. Juliet, TN

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 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.

Chris Ward

Chris Ward
Project Manager

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.310		0.100	1	09/27/2020 20:33	WG1550248
(S) a,a,a-Trifluorotoluene(FID)	*88.9*		*77.0-120*		*09/27/2020 20:33*	WG1550248

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.0777		0.00100	1	09/28/2020 01:06	WG1550132
(S) Toluene-d8	*99.3*		*75.0-131*		*09/28/2020 01:06*	WG1550132
(S) 4-Bromofluorobenzene	*109*		*67.0-138*		*09/28/2020 01:06*	WG1550132
(S) 1,2-Dichloroethane-d4	*98.9*		*70.0-130*		*09/28/2020 01:06*	WG1550132

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	432		40.0	10	09/29/2020 16:53	WG1550848
(S) o-Terphenyl	*31.2*		*18.0-148*		*09/29/2020 16:53*	WG1550848

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.739		0.100	1	09/27/2020 20:54	WG1550248
(S) a,a,a-Trifluorotoluene(FID)	*92.1*		*77.0-120*		*09/27/2020 20:54*	WG1550248

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.185		0.00100	1	09/28/2020 01:25	WG1550132
(S) Toluene-d8	*99.9*		*75.0-131*		*09/28/2020 01:25*	WG1550132
(S) 4-Bromofluorobenzene	*110*		*67.0-138*		*09/28/2020 01:25*	WG1550132
(S) 1,2-Dichloroethane-d4	*101*		*70.0-130*		*09/28/2020 01:25*	WG1550132

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	461		40.0	10	09/29/2020 15:11	WG1550848
(S) o-Terphenyl	*47.4*		*18.0-148*		*09/29/2020 15:11*	WG1550848

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.437		0.100	1	09/27/2020 21:14	WG1550248
(S) a,a,a-Trifluorotoluene(FID)	*86.2*		*77.0-120*		*09/27/2020 21:14*	WG1550248

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.0384		0.00100	1	09/28/2020 01:44	WG1550132
(S) Toluene-d8	*102*		*75.0-131*		*09/28/2020 01:44*	WG1550132
(S) 4-Bromofluorobenzene	*107*		*67.0-138*		*09/28/2020 01:44*	WG1550132
(S) 1,2-Dichloroethane-d4	*96.7*		*70.0-130*		*09/28/2020 01:44*	WG1550132

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	335		160	40	09/29/2020 18:09	WG1550848
(S) o-Terphenyl	*0.000*	J7	*18.0-148*		*09/29/2020 18:09*	WG1550848

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.435		0.100	1	09/27/2020 21:35	WG1550248
(S) a,a,a-Trifluorotoluene(FID)	*84.8*		*77.0-120*		*09/27/2020 21:35*	WG1550248

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.213		0.00100	1	09/28/2020 02:04	WG1550132
(S) Toluene-d8	*98.0*		*75.0-131*		*09/28/2020 02:04*	WG1550132
(S) 4-Bromofluorobenzene	*112*		*67.0-138*		*09/28/2020 02:04*	WG1550132
(S) 1,2-Dichloroethane-d4	*104*		*70.0-130*		*09/28/2020 02:04*	WG1550132

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	346		80.0	20	09/29/2020 16:40	WG1550848
(S) o-Terphenyl	*58.1*	J7	*18.0-148*		*09/29/2020 16:40*	WG1550848

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.336		0.100	1	09/27/2020 21:56	WG1550248
(S) a,a,a-Trifluorotoluene(FID)	*85.6*		*77.0-120*		*09/27/2020 21:56*	WG1550248

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.119		0.00100	1	09/28/2020 02:23	WG1550132
(S) Toluene-d8	*101*		*75.0-131*		*09/28/2020 02:23*	WG1550132
(S) 4-Bromofluorobenzene	*107*		*67.0-138*		*09/28/2020 02:23*	WG1550132
(S) 1,2-Dichloroethane-d4	*97.2*		*70.0-130*		*09/28/2020 02:23*	WG1550132

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	539		40.0	10	09/29/2020 14:58	WG1550848
(S) o-Terphenyl	*35.5*		*18.0-148*		*09/29/2020 14:58*	WG1550848

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.430		0.100	1	09/27/2020 22:17	WG1550248
(S) a,a,a-Trifluorotoluene(FID)	*85.1*		*77.0-120*		*09/27/2020 22:17*	WG1550248

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.0919		0.00100	1	09/28/2020 02:42	WG1550132
(S) Toluene-d8	*98.0*		*75.0-131*		*09/28/2020 02:42*	WG1550132
(S) 4-Bromofluorobenzene	*115*		*67.0-138*		*09/28/2020 02:42*	WG1550132
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*09/28/2020 02:42*	WG1550132

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	708		40.0	10	09/29/2020 16:14	WG1550848
(S) o-Terphenyl	*1960*	J1	*18.0-148*		*09/29/2020 16:14*	WG1550848

Sample Narrative:

L1266396-06 WG1550848: Surrogate failure due to matrix interference

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.307		0.100	1	09/27/2020 22:38	WG1550248
(S) a,a,a-Trifluorotoluene(FID)	*87.3*		*77.0-120*		*09/27/2020 22:38*	WG1550248

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.0780		0.00100	1	09/28/2020 03:01	WG1550132
(S) Toluene-d8	*99.1*		*75.0-131*		*09/28/2020 03:01*	WG1550132
(S) 4-Bromofluorobenzene	*108*		*67.0-138*		*09/28/2020 03:01*	WG1550132
(S) 1,2-Dichloroethane-d4	*99.4*		*70.0-130*		*09/28/2020 03:01*	WG1550132

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	385		80.0	20	09/29/2020 16:27	WG1550848
(S) o-Terphenyl	*59.5*	J7	*18.0-148*		*09/29/2020 16:27*	WG1550848

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.225	B	0.100	1	09/27/2020 22:58	WG1550248
(S) a,a,a-Trifluorotoluene(FID)	*88.6*		*77.0-120*		*09/27/2020 22:58*	WG1550248

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.125		0.00100	1	09/28/2020 03:20	WG1550132
(S) Toluene-d8	*99.4*		*75.0-131*		*09/28/2020 03:20*	WG1550132
(S) 4-Bromofluorobenzene	*107*		*67.0-138*		*09/28/2020 03:20*	WG1550132
(S) 1,2-Dichloroethane-d4	*99.1*		*70.0-130*		*09/28/2020 03:20*	WG1550132

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	321		40.0	10	09/29/2020 16:01	WG1550848
(S) o-Terphenyl	*38.7*		*18.0-148*		*09/29/2020 16:01*	WG1550848

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.489		0.100	1	09/27/2020 23:19	WG1550248
(S) a,a,a-Trifluorotoluene(FID)	*84.6*		*77.0-120*		*09/27/2020 23:19*	WG1550248

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.0966		0.00100	1	09/28/2020 03:39	WG1550132
(S) Toluene-d8	*99.2*		*75.0-131*		*09/28/2020 03:39*	WG1550132
(S) 4-Bromofluorobenzene	*108*		*67.0-138*		*09/28/2020 03:39*	WG1550132
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*09/28/2020 03:39*	WG1550132

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	294		4.00	1	09/29/2020 14:33	WG1550848
(S) o-Terphenyl	*13.8*	J2	*18.0-148*		*09/29/2020 14:33*	WG1550848

Sample Narrative:

L1266396-09 WG1550848: Surrogate failure due to matrix interference

Method Blank (MB)

(MB) R3575722-2 09/27/20 20:12

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0273	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*95.8*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3575722-1 09/27/20 19:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.44	98.9	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*110*	*77.0-120*	

L1266396-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1266396-03 09/27/20 21:14 • (MS) R3575722-3 09/28/20 04:05 • (MSD) R3575722-4 09/28/20 04:26

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.45	0.437	3.20	2.82	50.7	43.7	1	10.0-151			12.6	28
(S) a,a,a-Trifluorotoluene(FID)					*100*	*97.2*		*77.0-120*				

Method Blank (MB)

(MB) R3575693-2 09/27/20 21:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
(S) Toluene-d8	*97.0*			*75.0-131*
(S) 4-Bromofluorobenzene	*106*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3575693-1 09/27/20 20:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00448	89.6	70.0-123	
(S) Toluene-d8			*98.7*	*75.0-131*	
(S) 4-Bromofluorobenzene			*106*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*102*	*70.0-130*	

Method Blank (MB)

(MB) R3575878-1 09/29/20 13:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	*88.7*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3575878-2 09/29/20 13:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	44.6	89.2	50.0-150	
(S) o-Terphenyl			*80.3*	*18.0-148*	

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
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.
U	Not detected at the Reporting Limit (or MDL where applicable).
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, the sample preparation volume or weight values differ from the standard, 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.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
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
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Pace National 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 Pace National.

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	T104704245-18-15
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

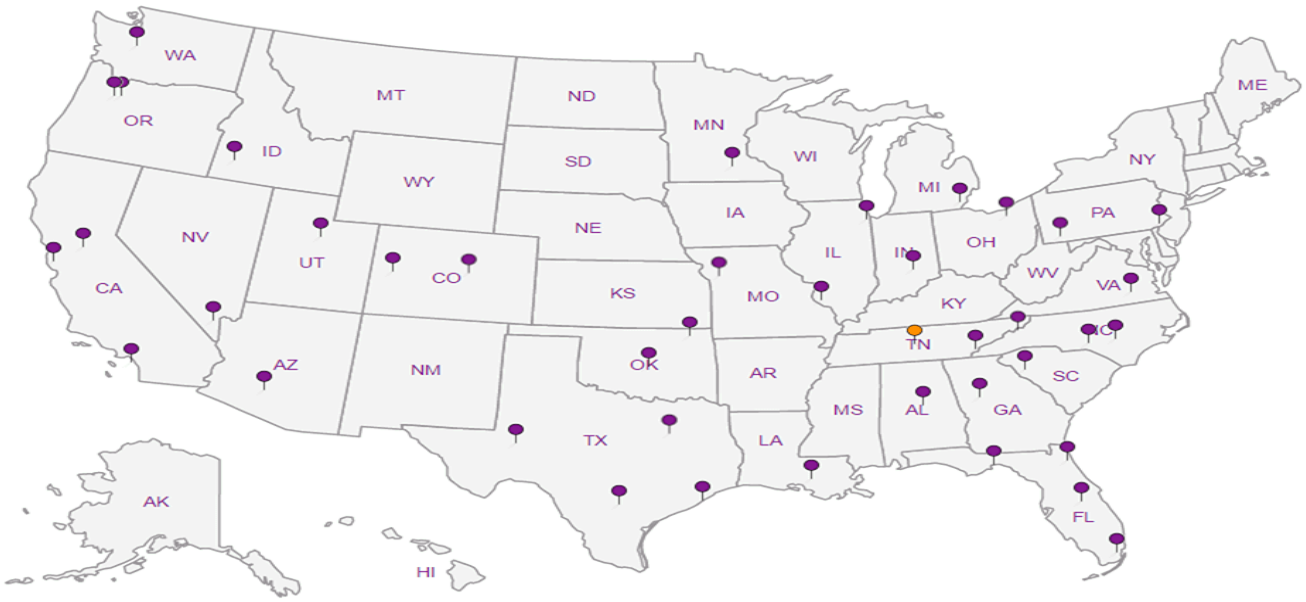
Third Party Federal Accreditations

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

Pace National 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. Pace National performs all testing at our central laboratory.



Caerus Oil & Gas LLC
143 Diamond Avenue
Parachute, CO 81635
970-285-9606

Billing Information:
Same as above

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to:
bmiddleton@caerusoilandgas.com

Email To:
bmiddleton@caerusoilandgas.com

Project Description: **E34 - 496**

City/State Collected: **Piceance, CO**

Phone:
Fax:

Client Project #
E34 - 496

Lab Project #
E34 - 496

Collected by (print): Dustin Held

Site/Facility ID #
E34 - 496

P.O. #
E34 - 496

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y _X_

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
_X_ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed
~~Standard TAT~~ DH

L # L1266396

Table # B104

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH- GRO/DRO	BTEX	TABLE 910- PAH's	SAR, EC, pH	TABLE 910- Metals	BENZENE				Remarks	Sample # (lab only)
20200924-E34-496 (CUT01)	Comp	SS		9/24/2020	950	1	X					X					-01
20200924-E34-496 (CUT02)	↓	↓		↓	940	↓	X					X					-02
~~20200924-E34-496 (CUT03)~~					930		X					X					-03
20200924-E34-496 (CUT05)					850		X					X					-04
20200924-E34-496 (CUT06)					905		X					X					-05
20200924-E34-496 (CUT07)					920		X					X					-06
20200924-E34-496 (CUT09)					1010		X					X					-07
20200924-E34-496 (CUT10)					1000		X					X					-08
20200924-E34-496 (CUT11)					1020		X					X					-09

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks:
TWO DAY TAT

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS _X_ FedEx __ Courier __ ______

Tracking # 1676 2750 6692

Sample Receipt Checklist
COC Seal Present/Intact: _X_NP __Y __N
COC Signed/Accurate: _X_Y __N
Bottles arrive intact: _X_Y __N
Correct bottles used: _X_Y __N
Sufficient volume sent: _X_Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature) [signature]	Date: 9/24/2020	Time: 1400	Received by: (Signature) [signature]	Trip Blank Received: Yes / No (circled) HCL / MeoH TBR	
Relinquished by : (Signature) [signature]	Date: 9/24/2020	Time: 1700	Received by: (Signature)	Temp: AS 3±0=3 °C	Bottles Received: 9	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 9/25/20	Time: 900	Hold:	Condition: NCF / OK (circled)

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

October 13, 2020

Caerus Oil and Gas

Sample Delivery Group:	L1271119
Samples Received:	10/08/2020
Project Number:	E34-596
Description:	E34-596
Site:	E34-596
Report To:	Brett Middleton 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

TABLE OF CONTENTS

20201007-E34-496 (CUT02) L1271119-01 Solid

Collected by: Evan Mason | Collected date/time: 10/07/20 10:00 | Received date/time: 10/08/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1557157	25.8	10/07/20 10:00	10/10/20 18:44	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1557096	1.03	10/07/20 10:00	10/10/20 14:41	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1556477	10	10/09/20 06:16	10/09/20 20:08	JN	Mt. Juliet, TN

20201007-E34-496 (CUT05) L1271119-02 Solid

Collected by: Evan Mason | Collected date/time: 10/07/20 10:30 | Received date/time: 10/08/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1557157	30.5	10/07/20 10:30	10/10/20 19:05	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1557096	1.22	10/07/20 10:30	10/10/20 15:00	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1556477	10	10/09/20 06:16	10/09/20 20:21	JN	Mt. Juliet, TN

20201007-E34-496 (CUT06) L1271119-03 Solid

Collected by: Evan Mason | Collected date/time: 10/07/20 11:00 | Received date/time: 10/08/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1557157	26.8	10/07/20 11:00	10/10/20 19:25	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1557096	1.07	10/07/20 11:00	10/10/20 15:19	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1556477	20	10/09/20 06:16	10/09/20 21:20	JN	Mt. Juliet, TN

20201007-E34-496 (CUT07) L1271119-04 Solid

Collected by: Evan Mason | Collected date/time: 10/07/20 11:30 | Received date/time: 10/08/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1557157	28.5	10/07/20 11:30	10/10/20 19:46	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1557096	1.14	10/07/20 11:30	10/10/20 15:38	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1556477	20	10/09/20 06:16	10/09/20 20:59	JN	Mt. Juliet, TN

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 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.

Chris Ward

Chris Ward
Project Manager

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	18.7		2.58	25.8	10/10/2020 18:44	WG1557157
(S) a,a,a-Trifluorotoluene(FID)	*94.3*		*77.0-120*		*10/10/2020 18:44*	WG1557157

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.761		0.00103	1.03	10/10/2020 14:41	WG1557096
(S) Toluene-d8	*111*		*75.0-131*		*10/10/2020 14:41*	WG1557096
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*10/10/2020 14:41*	WG1557096
(S) 1,2-Dichloroethane-d4	*94.4*		*70.0-130*		*10/10/2020 14:41*	WG1557096

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	284		40.0	10	10/09/2020 20:08	WG1556477
(S) o-Terphenyl	*0.000*	J2	*18.0-148*		*10/09/2020 20:08*	WG1556477

Sample Narrative:

L1271119-01 WG1556477: Surrogate failure due to matrix interference

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	22.2		3.05	30.5	10/10/2020 19:05	WG1557157
(S) a,a,a-Trifluorotoluene(FID)	*94.0*		*77.0-120*		*10/10/2020 19:05*	WG1557157

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.849		0.00122	1.22	10/10/2020 15:00	WG1557096
(S) Toluene-d8	*112*		*75.0-131*		*10/10/2020 15:00*	WG1557096
(S) 4-Bromofluorobenzene	*101*		*67.0-138*		*10/10/2020 15:00*	WG1557096
(S) 1,2-Dichloroethane-d4	*88.7*		*70.0-130*		*10/10/2020 15:00*	WG1557096

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	283		40.0	10	10/09/2020 20:21	WG1556477
(S) o-Terphenyl	*222*	J1	*18.0-148*		*10/09/2020 20:21*	WG1556477

Sample Narrative:

L1271119-02 WG1556477: Surrogate failure due to matrix interference

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	20.1		2.68	26.8	10/10/2020 19:25	WG1557157
(S) a,a,a-Trifluorotoluene(FID)	*94.3*		*77.0-120*		*10/10/2020 19:25*	WG1557157

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.748		0.00107	1.07	10/10/2020 15:19	WG1557096
(S) Toluene-d8	*114*		*75.0-131*		*10/10/2020 15:19*	WG1557096
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*10/10/2020 15:19*	WG1557096
(S) 1,2-Dichloroethane-d4	*86.6*		*70.0-130*		*10/10/2020 15:19*	WG1557096

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	249		80.0	20	10/09/2020 21:20	WG1556477
(S) o-Terphenyl	*0.000*	J7	*18.0-148*		*10/09/2020 21:20*	WG1556477

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	19.2		2.85	28.5	10/10/2020 19:46	WG1557157
(S) a,a,a-Trifluorotoluene(FID)	*93.3*		*77.0-120*		*10/10/2020 19:46*	WG1557157

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.809		0.00114	1.14	10/10/2020 15:38	WG1557096
(S) Toluene-d8	*111*		*75.0-131*		*10/10/2020 15:38*	WG1557096
(S) 4-Bromofluorobenzene	*99.8*		*67.0-138*		*10/10/2020 15:38*	WG1557096
(S) 1,2-Dichloroethane-d4	*82.1*		*70.0-130*		*10/10/2020 15:38*	WG1557096

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	216		80.0	20	10/09/2020 20:59	WG1556477
(S) o-Terphenyl	*0.000*	J7	*18.0-148*		*10/09/2020 20:59*	WG1556477

Method Blank (MB)

(MB) R3580956-2 10/10/20 17:34

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0272	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*95.4*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3580956-1 10/10/20 16:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.34	115	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*113*	*77.0-120*	

Method Blank (MB)

(MB) R3580224-3 10/10/20 07:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
(S) Toluene-d8	*111*			*75.0-131*
(S) 4-Bromofluorobenzene	*94.1*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*96.4*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3580224-1 10/10/20 06:43 • (LCSD) R3580224-2 10/10/20 07:02

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.104	0.107	83.2	85.6	70.0-123			2.84	20
(S) Toluene-d8				*108*	*109*	*75.0-131*				
(S) 4-Bromofluorobenzene				*102*	*98.4*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*105*	*101*	*70.0-130*				

Method Blank (MB)

(MB) R3580079-1 10/09/20 14:32

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	*80.3*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3580079-2 10/09/20 14:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	36.3	72.6	50.0-150	
(S) o-Terphenyl			*95.9*	*18.0-148*	

L1270647-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1270647-01 10/09/20 15:37 • (MS) R3580079-3 10/09/20 15:50 • (MSD) R3580079-4 10/09/20 16:04

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	50.0	ND	28.1	36.0	56.2	72.0	1	50.0-150		J3	24.6	20
(S) o-Terphenyl					*80.3*	*85.0*		*18.0-148*				

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
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.
U	Not detected at the Reporting Limit (or MDL where applicable).
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, the sample preparation volume or weight values differ from the standard, 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.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
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
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Pace National 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 Pace National.

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	T104704245-18-15
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

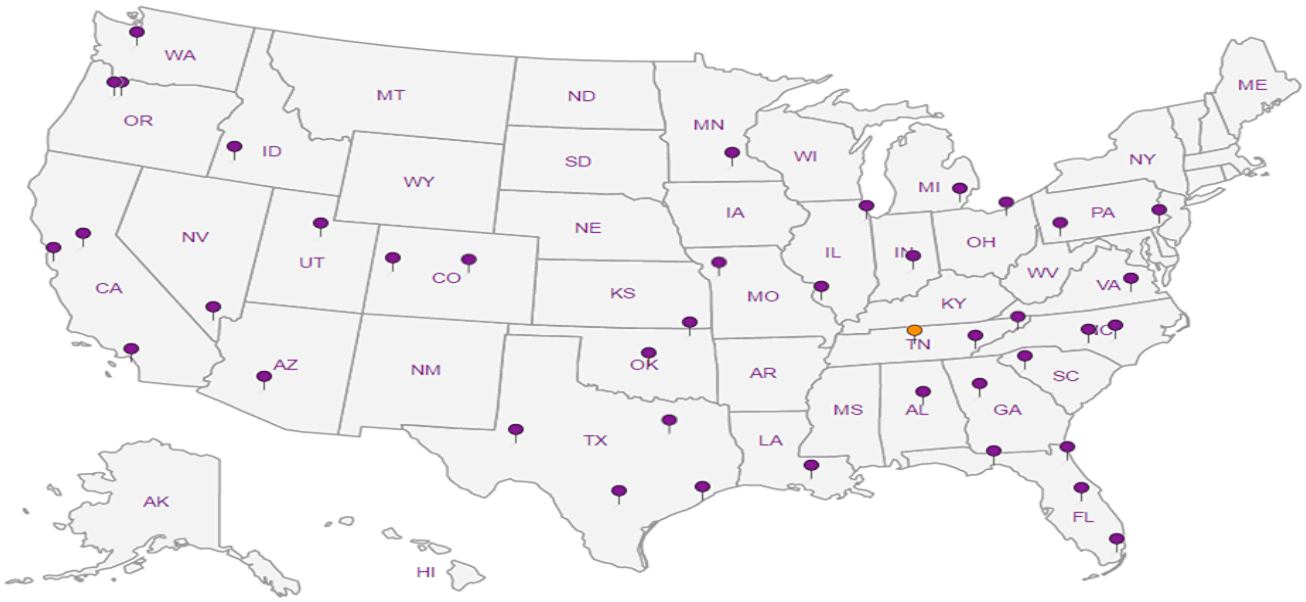
Third Party Federal Accreditations

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

Pace National 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. Pace National performs all testing at our central laboratory.



Caerus Oil & Gas LLC
143 Diamond Avenue
Parachute, CO 81635
970-285-9606

Billing Information: **Same as above**

Pres Chk

Report to: **bmiddleton@caerusoilandgas.com**

Email To: **jjanicek@caerusoilandgas.com**

Project Description: **E34-596**

City/State Collected: **Parachute, CO**

Phone:
Fax:

Client Project # **E34-596**

Lab Project # **E34-596**

Collected by (print): Evan Mason

Site/Facility ID # **E34-596**

P.O. # **E34-596**

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
X Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote # **NA**

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH- GRO/DRO	Benzene										Remarks	Sample # (lab only)
20201007-E34-496(CUT02)	Comp	SS		10/7/20	1000	1	X	X											-01
20201007-E34-496 (CUT05)	↓	↓		↓	1030	1	X	X											02
20201007-E34-496 (CUT06)					1100	1	X	X											03
20201007-E34-496 (CUT07)	↓	↓		↓	1130	1	X	X											04

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 127119
H093

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

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
Two DAY TAT

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier __ _____

Tracking # 1876 2750 6096

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Evan Mason	10/7/20	1300	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10720	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			MPappas

Trip Blank Received: Yes / NO
HCL / MeoH
TBR

Temp: 1.6 °C Bottles Received: 4

Date: 10-8-20 Time: 900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 02, 2020

Caerus Oil and Gas

Sample Delivery Group:	L1276737
Samples Received:	10/22/2020
Project Number:	E34 - 496
Description:	E34-496
Site:	E34 - 496
Report To:	Jake Janicek 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

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 Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

20201021-E34-496 (CUT02) L1276737-01 Solid

Collected by: Evan Mason | Collected date/time: 10/21/20 11:30 | Received date/time: 10/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1566897	1	10/27/20 22:31	10/29/20 02:10	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1567114	1	10/27/20 22:31	10/29/20 02:11	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1566696	10	10/28/20 16:31	10/29/20 04:22	JN	Mt. Juliet, TN

20201021-E34-496 (CUT05) L1276737-02 Solid

Collected by: Evan Mason | Collected date/time: 10/21/20 11:50 | Received date/time: 10/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1566616	1	10/27/20 22:31	10/28/20 07:42	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1567114	1	10/27/20 22:31	10/29/20 02:30	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1566696	10	10/28/20 16:31	10/29/20 03:44	JN	Mt. Juliet, TN

20201021-E34-496 (CUT06) L1276737-03 Solid

Collected by: Evan Mason | Collected date/time: 10/21/20 12:10 | Received date/time: 10/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1566616	1	10/27/20 22:31	10/28/20 08:03	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1567114	1	10/27/20 22:31	10/29/20 02:49	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1566696	10	10/28/20 16:31	10/29/20 04:35	JN	Mt. Juliet, TN

20201021-E34-496 (CUT07) L1276737-04 Solid

Collected by: Evan Mason | Collected date/time: 10/21/20 12:30 | Received date/time: 10/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1566616	1	10/27/20 22:31	10/28/20 09:00	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1567114	1	10/27/20 22:31	10/29/20 03:08	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1566696	10	10/28/20 16:31	10/29/20 04:48	JN	Mt. Juliet, TN

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 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.

Chris Ward
Project Manager

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.228		0.100	1	10/29/2020 02:10	WG1566897
(S) a,a,a-Trifluorotoluene(FID)	*91.4*		*77.0-120*		*10/29/2020 02:10*	WG1566897

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.200	J5	0.00100	1	10/29/2020 02:11	WG1567114
Toluene	0.429	J5	0.00500	1	10/29/2020 02:11	WG1567114
Ethylbenzene	0.0613	J5	0.00250	1	10/29/2020 02:11	WG1567114
Total Xylenes	0.320	J5	0.00650	1	10/29/2020 02:11	WG1567114
(S) Toluene-d8	*106*		*75.0-131*		*10/29/2020 02:11*	WG1567114
(S) 4-Bromofluorobenzene	*109*		*67.0-138*		*10/29/2020 02:11*	WG1567114
(S) 1,2-Dichloroethane-d4	*100*		*70.0-130*		*10/29/2020 02:11*	WG1567114

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	225		40.0	10	10/29/2020 04:22	WG1566696
(S) o-Terphenyl	*125*		*18.0-148*		*10/29/2020 04:22*	WG1566696

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.274		0.100	1	10/28/2020 07:42	WG1566616
(S) a,a,a-Trifluorotoluene(FID)	*93.9*		*77.0-120*		*10/28/2020 07:42*	WG1566616

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.177		0.00100	1	10/29/2020 02:30	WG1567114
Toluene	0.383		0.00500	1	10/29/2020 02:30	WG1567114
Ethylbenzene	0.0616		0.00250	1	10/29/2020 02:30	WG1567114
Total Xylenes	0.293		0.00650	1	10/29/2020 02:30	WG1567114
(S) Toluene-d8	*108*		*75.0-131*		*10/29/2020 02:30*	WG1567114
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*10/29/2020 02:30*	WG1567114
(S) 1,2-Dichloroethane-d4	*96.5*		*70.0-130*		*10/29/2020 02:30*	WG1567114

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	166	J3 J5 J6	40.0	10	10/29/2020 03:44	WG1566696
(S) o-Terphenyl	*84.2*		*18.0-148*		*10/29/2020 03:44*	WG1566696

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.314		0.100	1	10/28/2020 08:03	WG1566616
(S) a,a,a-Trifluorotoluene(FID)	*97.3*		*77.0-120*		*10/28/2020 08:03*	WG1566616

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.0967		0.00100	1	10/29/2020 02:49	WG1567114
Toluene	0.213		0.00500	1	10/29/2020 02:49	WG1567114
Ethylbenzene	0.0311		0.00250	1	10/29/2020 02:49	WG1567114
Total Xylenes	0.154		0.00650	1	10/29/2020 02:49	WG1567114
(S) Toluene-d8	*109*		*75.0-131*		*10/29/2020 02:49*	WG1567114
(S) 4-Bromofluorobenzene	*101*		*67.0-138*		*10/29/2020 02:49*	WG1567114
(S) 1,2-Dichloroethane-d4	*98.5*		*70.0-130*		*10/29/2020 02:49*	WG1567114

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	236		40.0	10	10/29/2020 04:35	WG1566696
(S) o-Terphenyl	*135*		*18.0-148*		*10/29/2020 04:35*	WG1566696

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.295		0.100	1	10/28/2020 09:00	WG1566616
(S) a,a,a-Trifluorotoluene(FID)	*85.6*		*77.0-120*		*10/28/2020 09:00*	WG1566616

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.0272		0.00100	1	10/29/2020 03:08	WG1567114
Toluene	0.0642		0.00500	1	10/29/2020 03:08	WG1567114
Ethylbenzene	0.0100		0.00250	1	10/29/2020 03:08	WG1567114
Total Xylenes	0.0538		0.00650	1	10/29/2020 03:08	WG1567114
(S) Toluene-d8	*108*		*75.0-131*		*10/29/2020 03:08*	WG1567114
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*10/29/2020 03:08*	WG1567114
(S) 1,2-Dichloroethane-d4	*100*		*70.0-130*		*10/29/2020 03:08*	WG1567114

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPH (GC/FID) High Fraction	193		40.0	10	10/29/2020 04:48	WG1566696
(S) o-Terphenyl	*96.1*		*18.0-148*		*10/29/2020 04:48*	WG1566696

Method Blank (MB)

(MB) R3588014-3 10/28/20 01:37

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*110*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3588014-2 10/28/20 00:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.47	99.5	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*95.0*	*77.0-120*	

L1276095-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1276095-02 10/28/20 10:15 • (MS) R3588014-6 10/28/20 11:17 • (MSD) R3588014-7 10/28/20 11:38

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	10900	3350	10700	10500	67.4	65.6	2000	10.0-151			1.89	28
(S) a,a,a-Trifluorotoluene(FID)					*97.2*	*99.4*		*77.0-120*				

Method Blank (MB)

(MB) R3586997-3 10/28/20 18:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*98.2*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3586997-2 10/28/20 18:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.29	96.2	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*99.7*	*77.0-120*	

L1278446-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1278446-03 10/29/20 04:24 • (MS) R3586997-6 10/29/20 05:30 • (MSD) R3586997-7 10/29/20 05:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	138	ND	126	113	91.3	81.9	25	10.0-151			10.9	28
(S) a,a,a-Trifluorotoluene(FID)					*100*	*94.9*		*77.0-120*				

Method Blank (MB)

(MB) R3587155-2 10/29/20 01:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*109*			*75.0-131*
(S) 4-Bromofluorobenzene	*104*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*96.4*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3587155-1 10/29/20 00:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.136	109	70.0-123	
Ethylbenzene	0.125	0.134	107	74.0-126	
Toluene	0.125	0.126	101	75.0-121	
Xylenes, Total	0.375	0.395	105	72.0-127	
(S) Toluene-d8			*105*	*75.0-131*	
(S) 4-Bromofluorobenzene			*99.2*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*105*	*70.0-130*	

L1276737-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1276737-01 10/29/20 02:11 • (MS) R3587155-3 10/29/20 08:33 • (MSD) R3587155-4 10/29/20 08:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.200	0.852	0.764	522	451	1	10.0-149	J5	J5	10.9	37
Ethylbenzene	0.125	0.0613	0.325	0.308	211	197	1	10.0-160	J5	J5	5.37	38
Toluene	0.125	0.429	1.54	1.43	889	801	1	10.0-156	J5	J5	7.41	38
Xylenes, Total	0.375	0.320	1.32	1.26	267	251	1	10.0-160	J5	J5	4.65	38
(S) Toluene-d8					*104*	*106*		*75.0-131*				
(S) 4-Bromofluorobenzene					*107*	*104*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*104*	*101*		*70.0-130*				

Method Blank (MB)

(MB) R3586975-1 10/28/20 23:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	*50.2*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3586975-2 10/28/20 23:33

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	35.0	70.0	50.0-150	
(S) o-Terphenyl			*69.7*	*18.0-148*	

L1276737-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1276737-02 10/29/20 03:44 • (MS) R3586975-3 10/29/20 03:57 • (MSD) R3586975-4 10/29/20 04:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	49.8	166	185	327	38.2	330	10	50.0-150	J6	J3 J5	55.5	20
(S) o-Terphenyl					*68.8*	*109*		*18.0-148*				

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
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.
U	Not detected at the Reporting Limit (or MDL where applicable).
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, the sample preparation volume or weight values differ from the standard, 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.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
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.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Pace National 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 Pace National.

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	T104704245-18-15
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

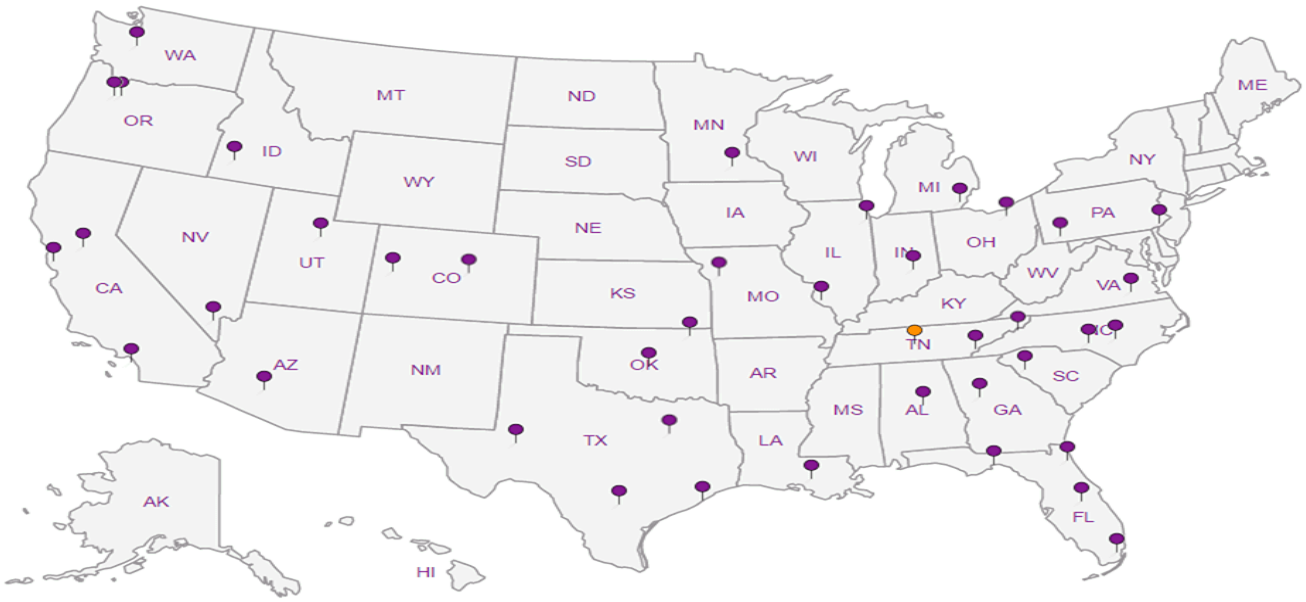
Third Party Federal Accreditations

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

Pace National 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. Pace National performs all testing at our central laboratory.



Caerus Oil & Gas LLC
143 Diamond Avenue
Parachute, CO 81635
970-285-9606

Billing Information: **Same as above**

Report to: **jjanicek@caerusoilandgas.com**

Email To: **jjanicek@caerusoilandgas.com**

Project Description: **E34 - 496**

City/State Collected: **Piceance, CO**

Phone:
Fax:

Client Project # **E34 - 496**

Lab Project # **E34 - 496**

Collected by (print): **Evan Mason**

Site/Facility ID # **E34 - 496**

P.O. # **E34 - 496**

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: **STANDARD TAT**

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH- GRO/DRO	Benzene	Remarks	Sample # (lab only)
20201021 -E34-496 (CUT02)	Comp	SS		10/21/20	1130	1	X	X		-01
20201021 -E34-496 (CUT05)	Comp	SS		10/21/20	1150	1	X	X		02
20201021 -E34-496 (CUT06)	Comp	SS		10/21/20	1210	1	X	X		03
20201021 -E34-496 (CUT07)	Comp	SS		10/21/20	1230	1	X	X		04

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L1276737
1102

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

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
STANDARD TAT

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 167627505961

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

RAD SCREEN: <0.5 mR/hr

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/21/20	1430	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/22/20	1710	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: °C 2.6-2-2.4 Bottles Received: 4

Date: 10/22/20 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 19, 2020

Caerus Oil and Gas

Sample Delivery Group:	L1284475
Samples Received:	11/11/2020
Project Number:	E34-496
Description:	E34-496
Site:	E34-496
Report To:	Jake Janicek 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

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 Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

20201109-E34-496(CUT02) L1284475-01 Solid

Collected by: Evan Mason
Collected date/time: 11/09/20 11:20
Received date/time: 11/11/20 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1577680	25	11/09/20 11:20	11/17/20 22:07	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1576827	1	11/09/20 11:20	11/15/20 20:41	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1577768	1	11/18/20 08:51	11/18/20 20:06	JN	Mt. Juliet, TN

20201109-E34-496(CUT05) L1284475-02 Solid

Collected by: Evan Mason
Collected date/time: 11/09/20 11:35
Received date/time: 11/11/20 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1578318	25	11/09/20 11:35	11/19/20 01:29	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1576827	1	11/09/20 11:35	11/15/20 21:00	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1577768	10	11/18/20 08:51	11/18/20 21:22	JN	Mt. Juliet, TN

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 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.

Chris Ward
Project Manager

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	18.1	J3	2.50	25	11/17/2020 22:07	WG1577680
(S) a,a,a-Trifluorotoluene(FID)	*99.8*		*77.0-120*		*11/17/2020 22:07*	WG1577680

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.715		0.00100	1	11/15/2020 20:41	WG1576827
(S) Toluene-d8	*106*		*75.0-131*		*11/15/2020 20:41*	WG1576827
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*11/15/2020 20:41*	WG1576827
(S) 1,2-Dichloroethane-d4	*117*		*70.0-130*		*11/15/2020 20:41*	WG1576827

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	142	J3 J6	4.00	1	11/18/2020 20:06	WG1577768
(S) o-Terphenyl	*74.6*		*18.0-148*		*11/18/2020 20:06*	WG1577768

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	27.8		2.50	25	11/19/2020 01:29	WG1578318
(S) a,a,a-Trifluorotoluene(FID)	*94.0*		*77.0-120*		*11/19/2020 01:29*	WG1578318

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	1.37		0.00100	1	11/15/2020 21:00	WG1576827
(S) Toluene-d8	*104*		*75.0-131*		*11/15/2020 21:00*	WG1576827
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*11/15/2020 21:00*	WG1576827
(S) 1,2-Dichloroethane-d4	*111*		*70.0-130*		*11/15/2020 21:00*	WG1576827

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	366		40.0	10	11/18/2020 21:22	WG1577768
(S) o-Terphenyl	*159*	J1	*18.0-148*		*11/18/2020 21:22*	WG1577768

Sample Narrative:

L1284475-02 WG1577768: Surrogate failure due to matrix interference

Method Blank (MB)

(MB) R3594126-3 11/17/20 12:49

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0234	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*95.0*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3594126-1 11/17/20 10:47 • (LCSD) R3594126-2 11/17/20 11:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.16	6.32	112	115	72.0-127			2.56	20
(S) a,a,a-Trifluorotoluene(FID)				*111*	*113*	*77.0-120*				

L1284475-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1284475-01 11/17/20 22:07 • (MS) R3594126-4 11/17/20 22:42 • (MSD) R3594126-5 11/17/20 23:32

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	110	18.1	74.6	124	51.4	96.3	25	10.0-151		J3	49.7	28
(S) a,a,a-Trifluorotoluene(FID)					*105*	*110*		*77.0-120*				

Method Blank (MB)

(MB) R3594968-2 11/19/20 00:17

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0296	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*96.9*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3594968-1 11/18/20 23:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.61	83.8	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*106*	*77.0-120*	

L1284475-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1284475-02 11/19/20 01:29 • (MS) R3594968-3 11/19/20 09:29 • (MSD) R3594968-4 11/19/20 09:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	138	27.8	173	179	105	110	25	10.0-151			3.41	28
(S) a,a,a-Trifluorotoluene(FID)					*115*	*117*		*77.0-120*				

Method Blank (MB)

(MB) R3594451-2 11/15/20 18:09

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
(S) Toluene-d8	*103*			*75.0-131*
(S) 4-Bromofluorobenzene	*96.8*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3594451-1 11/15/20 17:11 • (LCSD) R3594451-5 11/16/20 02:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.115	0.129	92.0	103	70.0-123			11.5	20
(S) Toluene-d8				*104*	*105*	*75.0-131*				
(S) 4-Bromofluorobenzene				*97.7*	*99.2*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*124*	*115*	*70.0-130*				

L1284954-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1284954-07 11/16/20 01:10 • (MS) R3594451-3 11/16/20 01:29 • (MSD) R3594451-4 11/16/20 01:48

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	25.0	554	509	520	0.000	0.000	200	10.0-149	E V	E V	2.14	37
(S) Toluene-d8					*81.4*	*79.8*		*75.0-131*				
(S) 4-Bromofluorobenzene					*79.4*	*78.4*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*115*	*110*		*70.0-130*				

Method Blank (MB)

(MB) R3594872-1 11/18/20 16:12

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	*79.9*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3594872-2 11/18/20 16:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	40.5	81.0	50.0-150	
(S) o-Terphenyl			*94.1*	*18.0-148*	

L1284475-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1284475-01 11/18/20 20:06 • (MS) R3594872-3 11/18/20 20:19 • (MSD) R3594872-4 11/18/20 20:32

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	49.2	142	145	31.4	6.10	0.000	1	50.0-150	J6	J3 J6	129	20
(S) o-Terphenyl					*65.5*	*23.8*		*18.0-148*				

Guide to Reading and Understanding Your Laboratory Report

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Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
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.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
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Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
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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
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National 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 Pace National.

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	T104704245-18-15
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

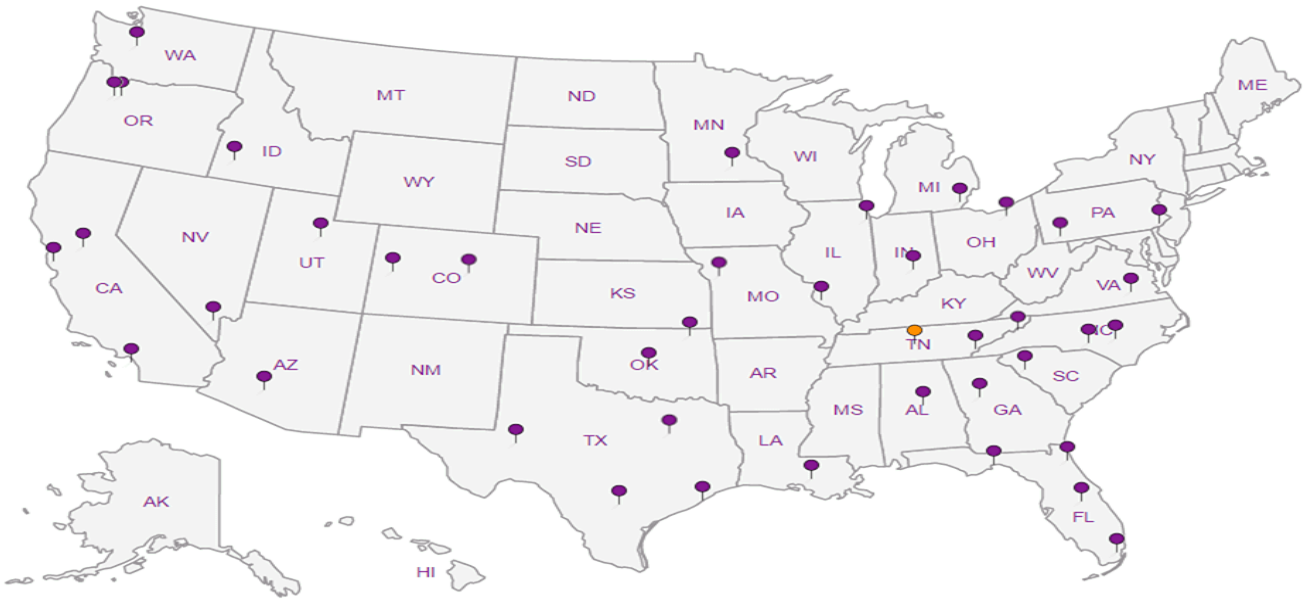
Third Party Federal Accreditations

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

Pace National 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. Pace National performs all testing at our central laboratory.



Caerus Oil & Gas LLC
143 Diamond Avenue
Parachute, CO 81635
970-285-9606

Billing Information:
Same as above

Report to: jjanicek@caerusoilandgas.com

Email To: jjanicek@caerusoilandgas.com

Project Description: E34 - 496

City/State Collected: Piceance, CO

Phone:
Fax:

Client Project # E34 - 496

Lab Project # E34 - 496

Collected by (print): Evan Mason

Site/Facility ID # E34 - 496

P.O. # E34 - 496

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: STANDARD TAT

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH- GRO/DRO	Benzene	Pres Chk	Remarks	Sample # (lab only)
20201109 - E34-496(CUT02)	Comp	SS		11/9/2020	1120	2	X	X			-01
20201109 - E34-496(CUT05)	Comp	SS		11/9/2020	1135	2	X	X			-02

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 1284475
H120

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

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
SYANDARD TAT

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 1676 2750 5652

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	11/10/20	1330		0
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.7 °C Bottles Received: 2
	11/10/20	1700		1.7+0=1.7
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				11/11/2020 09:15

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 28, 2020

Caerus Oil and Gas

Sample Delivery Group:	L1297721
Samples Received:	12/17/2020
Project Number:	E34-496
Description:	E34-496
Site:	E34-496
Report To:	Jake Janicek 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

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 Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

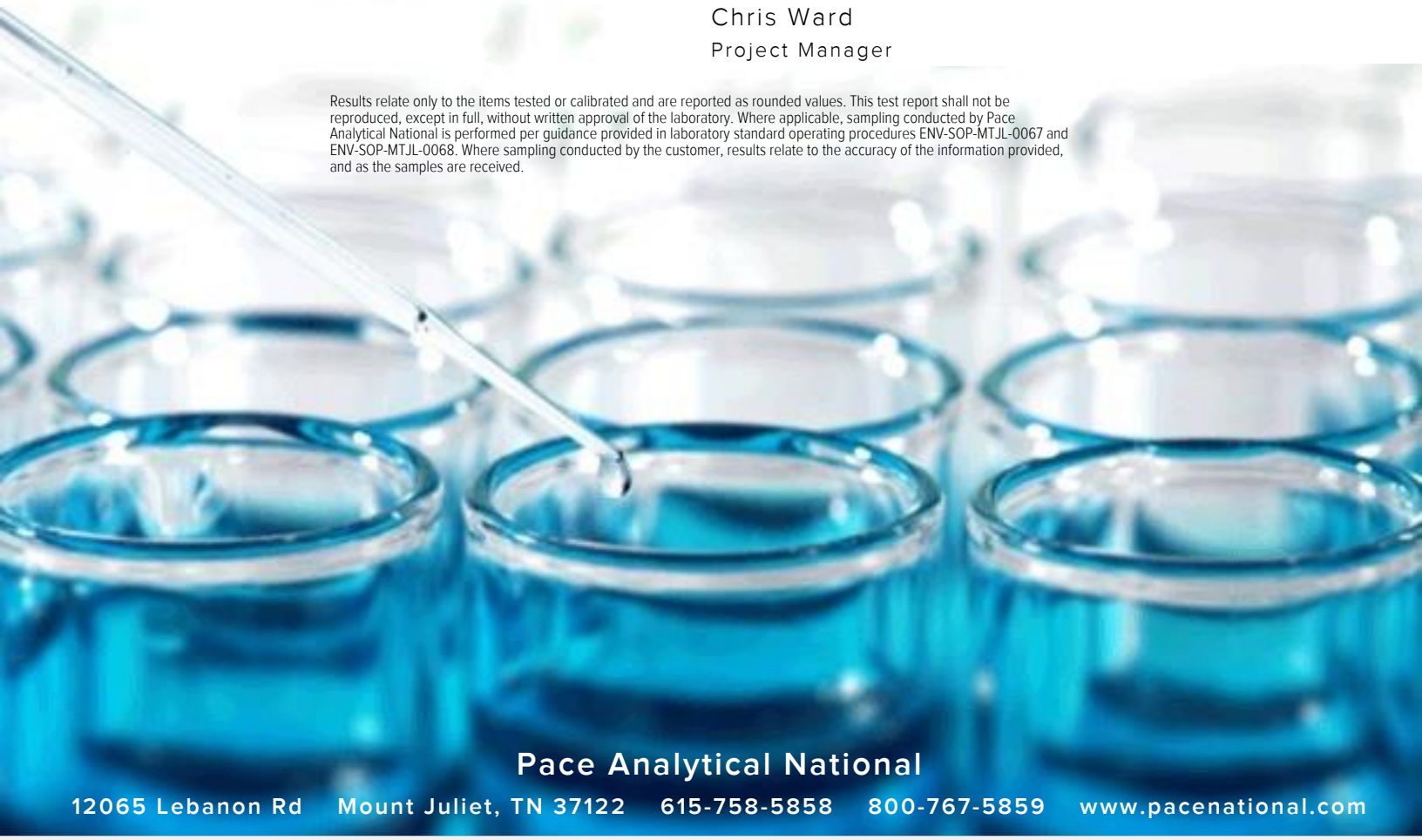


TABLE OF CONTENTS

20201215-E34-496(CUT02) L1297721-01 Solid

Collected by: Evan Mason
Collected date/time: 12/15/20 11:45
Received date/time: 12/17/20 10:20

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1595738	26.3	12/17/20 21:12	12/22/20 09:18	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1594368	1.05	12/17/20 21:12	12/18/20 17:22	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1597286	1	12/24/20 15:41	12/24/20 22:45	JDG	Mt. Juliet, TN

20201215-E34-496(CUT05) L1297721-02 Solid

Collected by: Evan Mason
Collected date/time: 12/15/20 12:00
Received date/time: 12/17/20 10:20

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1595738	34.5	12/17/20 21:12	12/22/20 09:39	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1594368	1.38	12/17/20 21:12	12/18/20 17:41	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1597286	1	12/24/20 15:41	12/25/20 20:49	CAG	Mt. Juliet, TN

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 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.

Chris Ward
Project Manager

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	17.0		2.63	26.3	12/22/2020 09:18	WG1595738
(S) a,a,a-Trifluorotoluene(FID)	*94.2*		*77.0-120*		*12/22/2020 09:18*	WG1595738

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.237		0.00105	1.05	12/18/2020 17:22	WG1594368
(S) Toluene-d8	*105*		*75.0-131*		*12/18/2020 17:22*	WG1594368
(S) 4-Bromofluorobenzene	*94.3*		*67.0-138*		*12/18/2020 17:22*	WG1594368
(S) 1,2-Dichloroethane-d4	*118*		*70.0-130*		*12/18/2020 17:22*	WG1594368

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	116		4.00	1	12/24/2020 22:45	WG1597286
(S) o-Terphenyl	*54.0*		*18.0-148*		*12/24/2020 22:45*	WG1597286

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	17.7		3.45	34.5	12/22/2020 09:39	WG1595738
(S) a,a,a-Trifluorotoluene(FID)	*93.8*		*77.0-120*		*12/22/2020 09:39*	WG1595738

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.380		0.00138	1.38	12/18/2020 17:41	WG1594368
(S) Toluene-d8	*107*		*75.0-131*		*12/18/2020 17:41*	WG1594368
(S) 4-Bromofluorobenzene	*95.6*		*67.0-138*		*12/18/2020 17:41*	WG1594368
(S) 1,2-Dichloroethane-d4	*117*		*70.0-130*		*12/18/2020 17:41*	WG1594368

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	108		4.00	1	12/25/2020 20:49	WG1597286
(S) o-Terphenyl	*30.7*		*18.0-148*		*12/25/2020 20:49*	WG1597286

Method Blank (MB)

(MB) R3606824-2 12/22/20 02:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.5*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3606824-1 12/22/20 01:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.10	92.7	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*104*	*77.0-120*	

L1296244-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1296244-01 12/22/20 06:53 • (MS) R3606824-3 12/22/20 11:01 • (MSD) R3606824-4 12/22/20 11:22

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	109	ND	124	130	113	119	25	10.0-151			4.72	28
(S) a,a,a-Trifluorotoluene(FID)					*112*	*113*		*77.0-120*				

Method Blank (MB)

(MB) R3607107-2 12/18/20 12:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
(S) Toluene-d8	*103*			*75.0-131*
(S) 4-Bromofluorobenzene	*97.3*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*124*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3607107-1 12/18/20 12:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.114	91.2	70.0-123	
(S) Toluene-d8			*103*	*75.0-131*	
(S) 4-Bromofluorobenzene			*93.8*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*128*	*70.0-130*	

Method Blank (MB)

(MB) R3607246-1 12/24/20 19:22

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	*80.0*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3607246-2 12/24/20 19:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	40.1	80.2	50.0-150	
(S) o-Terphenyl			*97.0*	*18.0-148*	

L1297461-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1297461-01 12/24/20 21:29 • (MS) R3607246-3 12/24/20 21:41 • (MSD) R3607246-4 12/24/20 21:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	47.8	151	327	305	368	312	1	50.0-150	E J5	J5	6.96	20
(S) o-Terphenyl					*23.4*	*72.6*		*18.0-148*				

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Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
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Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.

Pace National 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 Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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]	KY90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-20-18
Maine	TN00003	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	998093910
Montana	CERT0086	Wyoming	A2LA

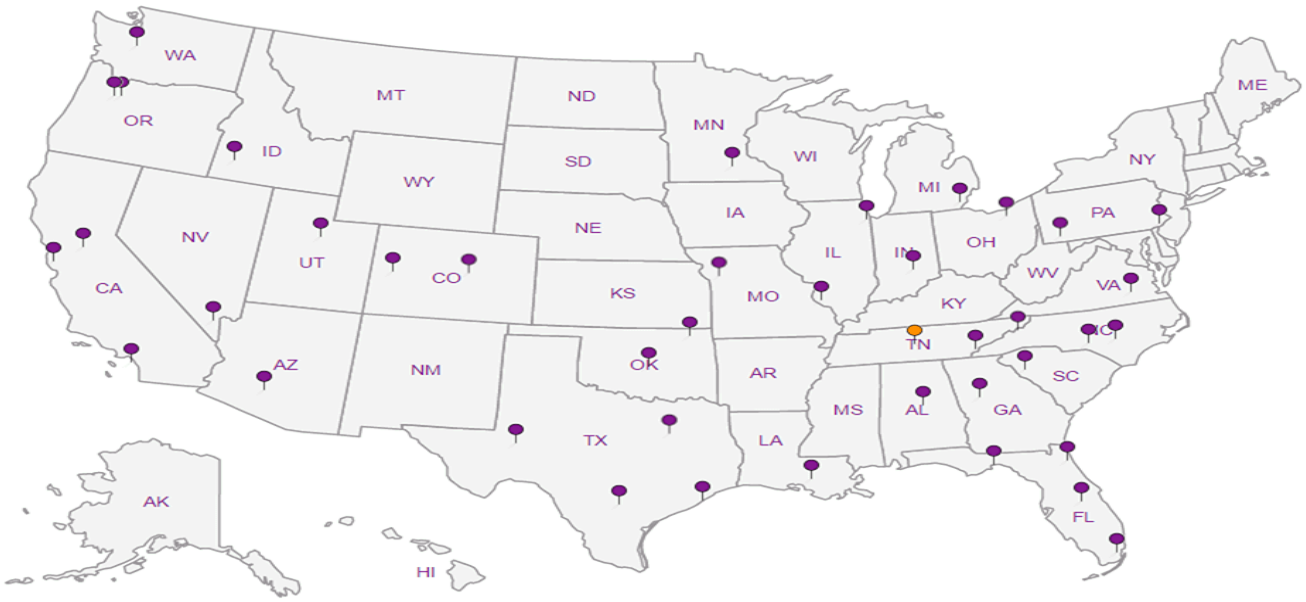
Third Party Federal Accreditations

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

Pace National 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. Pace National performs all testing at our central laboratory.



Caerus Oil & Gas LLC
143 Diamond Avenue
Parachute, CO 81635
970-285-9606

Billing Information: **Same as above**

Report to: **jjanicek@caerusoilandgas.com**

Email To: **jjanicek@caerusoilandgas.com**

Project Description: **E34 - 496**

City/State Collected: **Piceance, CO**

Phone:
Fax:

Client Project # **E34 - 496**

Lab Project # **E34 - 496**

Collected by (print): **Evan Mason**

Site/Facility ID # **E34 - 496**

P.O. # **E34 - 496**

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: **STANDARD TAT**

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH- GRO/DRO	Benzene									
20201215-E34-496 (CUT02)	Comp	SS		12/15/20	1145	1	X	X									-01
20201215-E34-496 (CUT05)	Comp	SS		↓	1200	1	X	X									-02

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 1257221

E115

Table

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

Remarks | Sample # (lab only)

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
STANDARD TAT

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD SCREEN: <0.5 mR/hr

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	12/16/20	1600			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
	12/16/20	1700		2.7-1-2.6 2	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
				12-17-20	10:20

Hold: | Condition: NCF / OK