



VIA ELECTRONIC MAIL –

December 17, 2021

Jake Janicek
EH&S Specialist
Caerus Oil and Gas LLC
143 Diamond Avenue
Parachute, Colorado 81635

**Subject: Report of Work Completed
 Historic Tank Battery Release (2012)
 P14-397
 Sulfur Creek Field
 Rio Blanco County, Colorado**

Dear Mr. Janicek:

WSP USA Inc. (WSP), on behalf of Caerus Oil and Gas LLC (Caerus), conducted pothole delineation soil sampling activities associated with the historic produced water release discovered at the Scandard Draw 3-14 (P14-397) (Location ID:316323) pad location (Site). On January 18, 2012, a release from a ½ inch nipple on the Suction Pressure Transmitter broke thus causing the triplex pump to shut off. Hydrostatic pressure from the tank pushed the produced water back through the broken nipple fitting. An unknown volume of produced water was released, all fluids on the pad surface along with an additional 20 to 25 barrels (bbl) of ice/snow were recovered. The release was confined to the working surface of the pad. These site assessment activities were completed to further delineate the impacts observed within the release area. All previous remediation actions associated with this project can be referenced in Colorado Oil and Gas Conservation (COGCC) Initial Spill/Release Report Form 19 Document Number 2222545 and Remediation Number 19700. This document serves as a report of work completed (ROWC) under Remediation Project Number 19700 for the above-mentioned release. The Site is in the Sulfur Creek area of operation in Rio Blanco County, Colorado (Figure 1).

SOIL SAMPLING ACTIVITIES – P14-397 HISTORIC RELEASE

On November 30, 2021, WSP personnel completed potholing delineation soil sampling activities associated with the historic release. Using a hydro-vacuum truck operated by Western Slope Field Services, Inc. (WCO), WSP advanced three potholes within the original release footprint based on the initial release documents provided in Initial Spill/Release Report Form 19 Document Number 2222545. Each of the three potholes were advanced to a depth of 4 feet below ground surface (bgs). Confirmation soil samples were collected from five intervals within each pothole; surface, 1-foot to 1.5 feet, 2 feet to 2.5 feet, 3 feet to 3.5 feet, and 3.5 feet to 4 feet. During the advancement of each pothole, the soil collected with a hand auger was screened at approximately every one-foot interval. The soil was characterized by visually inspecting the confirmation soil samples and field screening the soil head space using a photoionization detector (PID) to monitor for the presence or absence of volatile organic vapors. Each sample was collected in clean laboratory prepared containers and submitted to Pace Analytical (Pace) of Mount Juliet, Tennessee for analysis of a previously approved reduced analyte suite of sodium adsorption ratio (SAR) and electrical conductivity (EC). The laboratory analytical report is provided in Enclosure A. The pothole and background soil sample locations are depicted on the enclosed Figure 2.

Additionally, on November 30, 2021, WSP personnel collected regional backgrounds within Willow Creek Draw (WCD) immediately surrounding the Site from comparable, nearby, non-impacted, native soil per COGCC Rule 915.e.(2). A total of four borings were advanced with a hand auger in pre-determined locations to depths ranging

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from 5.3 feet bgs to 6.5 feet bgs. Regional background samples were collected at every 1-foot interval starting at 1-foot bgs to 1.5 feet bgs or until auger refusal was encountered. The background soil samples were collected in clean, laboratory prepared containers and submitted to Pace for analysis of pH, SAR, EC, and arsenic. The soil analytical results are summarized in Table 1 and the laboratory analytical report is provided in Enclosure A. Figure 3 illustrates the additional background sample locations.

ANALYTICAL RESULTS – P14-397 HISTORIC RELEASE

Laboratory analytical results of the pothole confirmation soil samples collected on November 30, 2021 indicate that two of the 15 confirmation soil samples exceed the COGCC Table 910-1 Concentration Level (CL) for SAR, with values ranging from 12.5 in soil sample 20211130-P14-397(PH02)@1-1.5' to 28.7 in soil sample 20211130-P14-397(PH02). Additionally, soil sample 20211130-P14-397(PH02) exceeded the COGCC Table 910-1 CL for EC with a concentration of 7.920 millimhos per centimeter (mmhos/cm). All other analytes were either below the laboratory detection limit or within the Table 910-1 CLs.

Laboratory analytical results of regional background soil samples collected within the WCD on November 30, 2021 indicate that all 22 background soil samples exceed the COGCC Table 910-1 CL for arsenic, with concentrations ranging from 1.43 milligram per kilogram (mg/kg) in soil sample 20211130-P14-397(BG-SB04)@6-6.5' to 6.81 mg/kg in soil sample 20211130-P14-397(BG-SB01)@4-4.5'. Additionally, five of the 22 background soil samples exceeded the COGCC Table 910-1 CL for EC, with concentrations ranging from 6.390 mmhos/cm in soil sample 20211130-P14-397(BG-SB02)@2-2.5' to 8.120 mmhos/cm in soil sample 20211130-P14-397(BG-SB02)@4-4.5'. Lastly, six of the 22 regional background samples exceeded the COGCC Table 910-1 CL for SAR with values ranging from 12.5 in soil sample 20211130-P14-397(BG-SB02)@2-2.5' to 35.1 in soil sample 20211130-P14-397(BG-SB01)@2-2.5'. All pH analytes were within the COGCC Table 910-1 CL. All laboratory analytical results are included in Enclosure A and summarized in Table 1.

CONCLUSIONS – P14-397 HISTORIC RELEASE

Based on the data provided, WSP recommends that Caerus request a “No Further Action” and closure of the remediation project (COGCC Remediation Number 19700). This recommendation is based on the reasonings stated below.

- No hydrocarbon impacts were observed when completing the field investigation.
- The negligible impacts of the inorganic exceedances, specifically SAR and EC should be considered by the Director per COGCC Rule 915.e.2(C). Per COGCC Rule 915.e.2(C), Caerus requests that the elevated SAR values in soil samples 20211130-P14-397(PH02) and 20211130-P14-397(PH02)@1-1.5' and elevated EC concentrations in soil sample 20211130-P14-397(PH02) which were collected from within the historic release footprint on the working surface of the pad location to be evaluated and considered as naturally occurring. Although 2 of the 15 confirmation samples exceed the COGCC Table 910 CL for SAR (ranging from 12.5 to 28.7), these samples are within SAR background values collected at within the WCD and within proximity to the Site (max of 35.1), the values appear to be natural and within range of adjacent undisturbed lands and not related to the historic produced water release or general production operations. Lastly, although soil sample 20211130-P14-397(PH02) exceeded the COGCC 910-1 CL for EC with a concentration of 7.920 mmhos/cm this sample is within background of EC values collected within the WCD and within proximity to the Site (ranging from 6.390 mmhos/cm to 8.120 mmhos/cm) the concentration appears to be natural and within range of adjacent undisturbed lands and not related to the historic produced water release or general production operations. WSP recommends that Caerus request the Director for permission for the SAR values and EC concentration at the Site be evaluated as naturally occurring within the local area associated with the above-mentioned samples.



Please contact us at (970) 618-4514 or (970) 658-7025 if you have any questions regarding this report or require additional information.

Kind regards,

A handwritten signature in blue ink, appearing to be 'D. Held'.

Dustin Held
Sr. Consultant, Environmental Geologist

A handwritten signature in black ink, appearing to be 'Parker Coit'.

Parker Coit, P.G.
Sr. Consultant, Geologist

Encl.

FIGURES

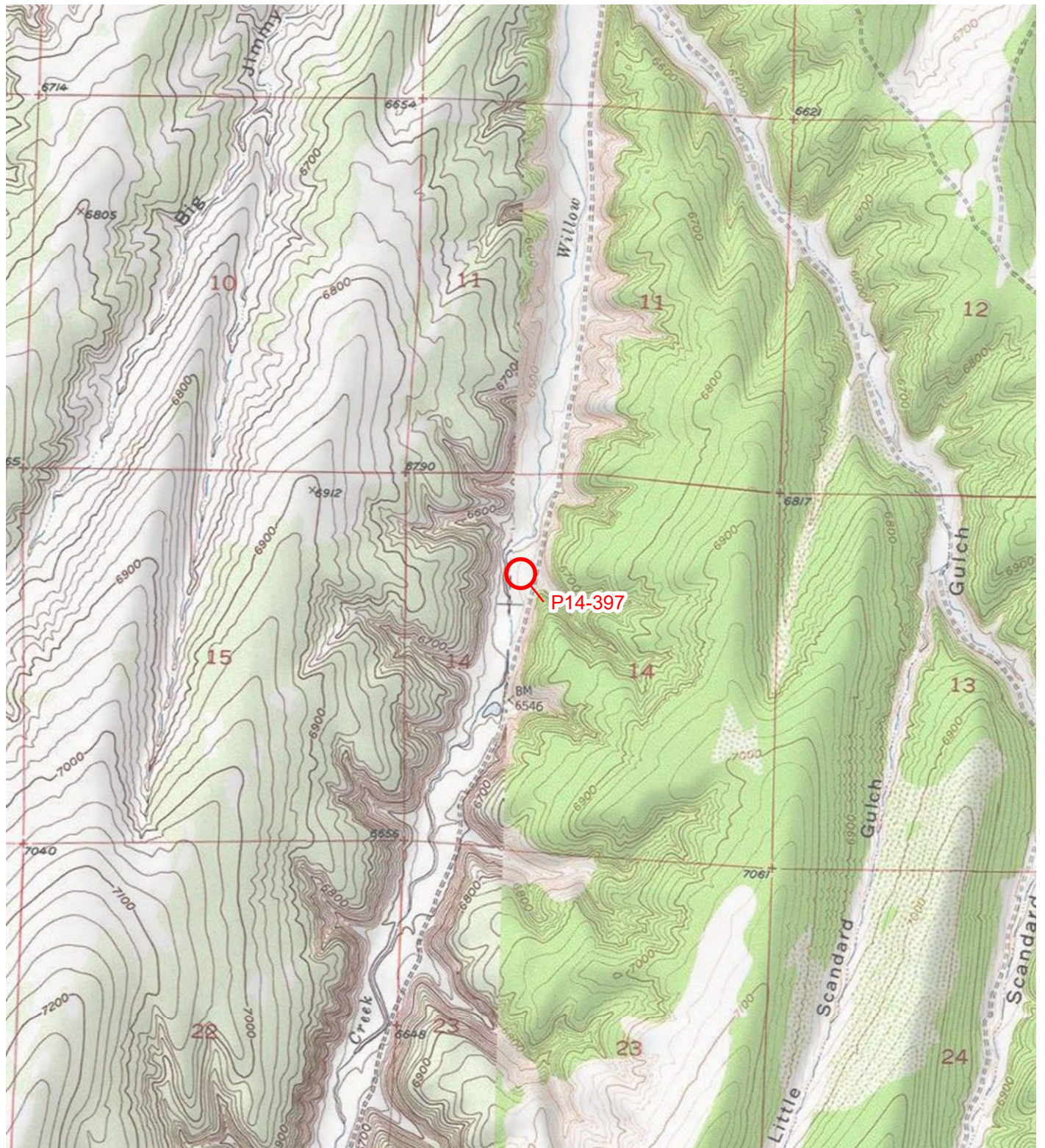
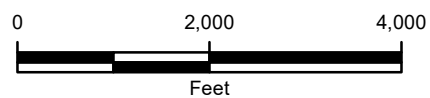


IMAGE COURTESY OF ESRI/USGS

LEGEND

○ SITE LOCATION



COLORADO

FIGURE 1
SITE LOCATION MAP
P14-397
SENW SEC 14-T3S-R97W
RIO BLANCO COUNTY, COLORADO
CAERUS OIL AND GAS LLC





IMAGE COURTESY OF ESRI (MAXAR 11/4/2020)

LEGEND

■ POTHOLE SOIL SAMPLE

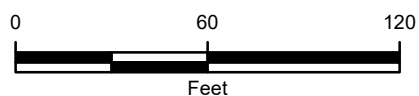


FIGURE 2
 SITE MAP
 P14-397
 SENW SEC 14-T3S-R97W
 RIO BLANCO COUNTY, COLORADO
 CAERUS OIL AND GAS, LLC



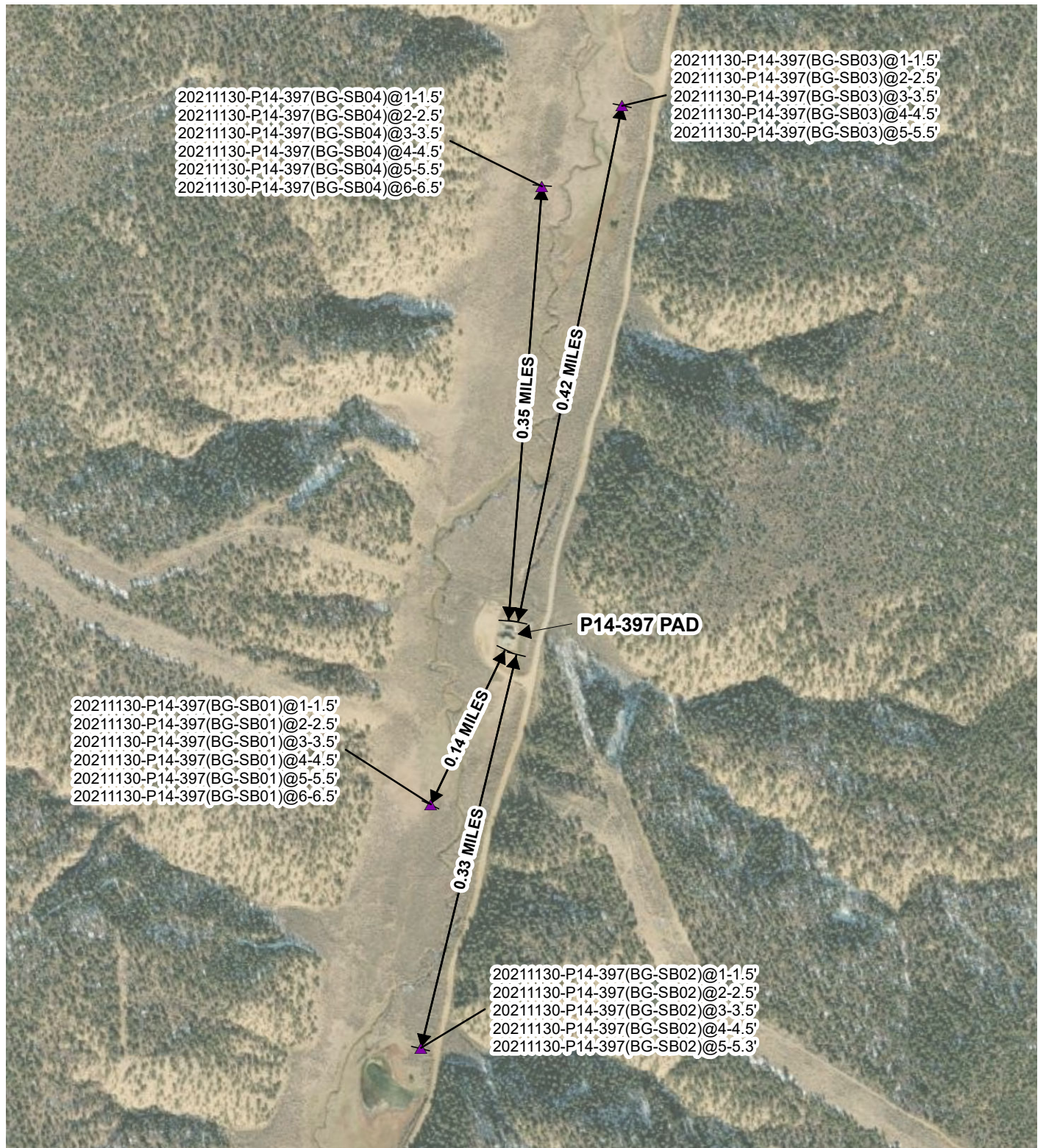


IMAGE COURTESY OF ESRI (MAXAR 11/4/2020)

LEGEND

▲ BACKGROUND SOIL BORING

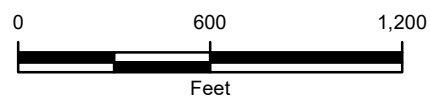


FIGURE 3
 SITE MAP
 P14-397
 SENW SEC 14-T3S-R97W
 RIO BLANCO COUNTY, COLORADO
 CAERUS OIL AND GAS LLC



TABLE

TABLE 1

SOIL ANALYTICAL RESULTS
P14-397 HISTORIC RELEASE (2012)
RIO BLANCO COUNTY, COLORADO
CAERUS OIL AND GAS LLC

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	CONFIRMATION SOIL SAMPLES				
			202111130-P14-397(PH01)	202111130-P14-397(PH01)@1-1.5'	202111130-P14-397(PH01)@2-2.5'	202111130-P14-397(PH01)@3-3.5'	202111130-P14-397(PH01)@3.5-4'
Sample Date			11/30/2021	11/30/2021	11/30/2021	11/30/2021	11/30/2021
Sample Depth Range (feet)			0-0.5	1-1.5	2-2.5	3-3.5	3.5-4
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation	Confirmation
Arsenic	0.39	mg/kg	NA	NA	NA	NA	NA
Barium	15,000	mg/kg	NA	NA	NA	NA	NA
Cadmium	70	mg/kg	NA	NA	NA	NA	NA
Chromium (III)	120,000	mg/kg	NA	NA	NA	NA	NA
Chromium (VI)	23	mg/kg	NA	NA	NA	NA	NA
Copper	3,100	mg/kg	NA	NA	NA	NA	NA
Lead	400	mg/kg	NA	NA	NA	NA	NA
Mercury	23	mg/kg	NA	NA	NA	NA	NA
Nickel	1,600	mg/kg	NA	NA	NA	NA	NA
Selenium	390	mg/kg	NA	NA	NA	NA	NA
Silver	390	mg/kg	NA	NA	NA	NA	NA
Zinc	23,000	mg/kg	NA	NA	NA	NA	NA
EC	4.0	mmhos/cm	2.560	1.300	1.730	3.170	1.710
pH	6 - 9	SU	NA	NA	NA	NA	NA
SAR	12	unitless	11.4	6.77	10.3	8.60	11.2
TPH-GRO		mg/kg	NA	NA	NA	NA	NA
TPH-DRO		mg/kg	NA	NA	NA	NA	NA
TPH	500	mg/kg	NA	NA	NA	NA	NA
Benzene	0.17	mg/kg	NA	NA	NA	NA	NA
Toluene	85	mg/kg	NA	NA	NA	NA	NA
Ethylbenzene	100	mg/kg	NA	NA	NA	NA	NA
Total Xylenes	175	mg/kg	NA	NA	NA	NA	NA
Acenaphthene	1,000	mg/kg	NA	NA	NA	NA	NA
Anthracene	1,000	mg/kg	NA	NA	NA	NA	NA
Benzo(A)anthracene	0.22	mg/kg	NA	NA	NA	NA	NA
Benzo(B)fluoranthene	0.22	mg/kg	NA	NA	NA	NA	NA
Benzo(K)fluoranthene	2.2	mg/kg	NA	NA	NA	NA	NA
Benzo(A)pyrene	0.022	mg/kg	NA	NA	NA	NA	NA
Chrysene	22	mg/kg	NA	NA	NA	NA	NA
Dibenzo(A,H)anthracene	0.022	mg/kg	NA	NA	NA	NA	NA
Fluoranthene	1,000	mg/kg	NA	NA	NA	NA	NA
Fluorene	1,000	mg/kg	NA	NA	NA	NA	NA
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	NA	NA	NA	NA	NA
Naphthalene	23	mg/kg	NA	NA	NA	NA	NA
Pyrene	1,000	mg/kg	NA	NA	NA	NA	NA

NOTES:
ND - less than the stated reporting limit
BOLD - 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
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
NA - analyte not analyzed
ND - analyte not detected

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P14-397 HISTORIC RELEASE (2012)
RIO BLANCO COUNTY, COLORADO
CAERUS OIL AND GAS LLC

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	CONFIRMATION SOIL SAMPLES				
			202111130-P14-397(PH02)	202111130-P14-397(PH02)@1-1.5'	202111130-P14-397(PH02)@2-2.5'	202111130-P14-397(PH02)@3-3.5'	202111130-P14-397(PH02)@3.5-4'
Sample Date			11/30/2021	11/30/2021	11/30/2021	11/30/2021	11/30/2021
Sample Depth Range (feet)			0-0.5	1-1.5	2-2.5	3-3.5	3.5-4
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation	Confirmation
Arsenic	0.39	mg/kg	NA	NA	NA	NA	NA
Barium	15,000	mg/kg	NA	NA	NA	NA	NA
Cadmium	70	mg/kg	NA	NA	NA	NA	NA
Chromium (III)	120,000	mg/kg	NA	NA	NA	NA	NA
Chromium (VI)	23	mg/kg	NA	NA	NA	NA	NA
Copper	3,100	mg/kg	NA	NA	NA	NA	NA
Lead	400	mg/kg	NA	NA	NA	NA	NA
Mercury	23	mg/kg	NA	NA	NA	NA	NA
Nickel	1,600	mg/kg	NA	NA	NA	NA	NA
Selenium	390	mg/kg	NA	NA	NA	NA	NA
Silver	390	mg/kg	NA	NA	NA	NA	NA
Zinc	23,000	mg/kg	NA	NA	NA	NA	NA
EC	4.0	mmhos/cm	7.920	3.590	1.430	1.190	1.080
pH	6 - 9	SU	NA	NA	NA	NA	NA
SAR	12	unitless	28.7	12.5	9.00	7.82	8.02
TPH-GRO		mg/kg	NA	NA	NA	NA	NA
TPH-DRO		mg/kg	NA	NA	NA	NA	NA
TPH	500	mg/kg	NA	NA	NA	NA	NA
Benzene	0.17	mg/kg	NA	NA	NA	NA	NA
Toluene	85	mg/kg	NA	NA	NA	NA	NA
Ethylbenzene	100	mg/kg	NA	NA	NA	NA	NA
Total Xylenes	175	mg/kg	NA	NA	NA	NA	NA
Acenaphthene	1,000	mg/kg	NA	NA	NA	NA	NA
Anthracene	1,000	mg/kg	NA	NA	NA	NA	NA
Benzo(A)anthracene	0.22	mg/kg	NA	NA	NA	NA	NA
Benzo(B)fluoranthene	0.22	mg/kg	NA	NA	NA	NA	NA
Benzo(K)fluoranthene	2.2	mg/kg	NA	NA	NA	NA	NA
Benzo(A)pyrene	0.022	mg/kg	NA	NA	NA	NA	NA
Chrysene	22	mg/kg	NA	NA	NA	NA	NA
Dibenzo(A,H)anthracene	0.022	mg/kg	NA	NA	NA	NA	NA
Fluoranthene	1,000	mg/kg	NA	NA	NA	NA	NA
Fluorene	1,000	mg/kg	NA	NA	NA	NA	NA
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	NA	NA	NA	NA	NA
Naphthalene	23	mg/kg	NA	NA	NA	NA	NA
Pyrene	1,000	mg/kg	NA	NA	NA	NA	NA

NOTES:
ND - less than the stated reporting limit
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COGCC - Colorado Oil and Gas Conservation Commission
EC- electrical conductivity
mg/kg - milligrams per kilogram
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PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	CONFIRMATION SOIL SAMPLES				
			202111130-P14-397(PH03)	202111130-P14-397(PH03)@1-1.5'	202111130-P14-397(PH03)@2-2.5'	202111130-P14-397(PH03)@3-3.5'	202111130-P14-397(PH03)3.5-4'
Sample Date			11/30/2021	11/30/2021	11/30/2021	11/30/2021	11/30/2021
Sample Depth Range (feet)			0-0.5	1-1.5	2-2.5	3-3.5	3.5-4
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation	Confirmation
Arsenic	0.39	mg/kg	NA	NA	NA	NA	NA
Barium	15,000	mg/kg	NA	NA	NA	NA	NA
Cadmium	70	mg/kg	NA	NA	NA	NA	NA
Chromium (III)	120,000	mg/kg	NA	NA	NA	NA	NA
Chromium (VI)	23	mg/kg	NA	NA	NA	NA	NA
Copper	3,100	mg/kg	NA	NA	NA	NA	NA
Lead	400	mg/kg	NA	NA	NA	NA	NA
Mercury	23	mg/kg	NA	NA	NA	NA	NA
Nickel	1,600	mg/kg	NA	NA	NA	NA	NA
Selenium	390	mg/kg	NA	NA	NA	NA	NA
Silver	390	mg/kg	NA	NA	NA	NA	NA
Zinc	23,000	mg/kg	NA	NA	NA	NA	NA
EC	4.0	mmhos/cm	1.680	1.940	1.330	1.880	1.400
pH	6 - 9	SU	NA	NA	NA	NA	NA
SAR	12	unitless	7.46	6.62	9.55	11.1	11.7
TPH-GRO		mg/kg	NA	NA	NA	NA	NA
TPH-DRO		mg/kg	NA	NA	NA	NA	NA
TPH	500	mg/kg	NA	NA	NA	NA	NA
Benzene	0.17	mg/kg	NA	NA	NA	NA	NA
Toluene	85	mg/kg	NA	NA	NA	NA	NA
Ethylbenzene	100	mg/kg	NA	NA	NA	NA	NA
Total Xylenes	175	mg/kg	NA	NA	NA	NA	NA
Acenaphthene	1,000	mg/kg	NA	NA	NA	NA	NA
Anthracene	1,000	mg/kg	NA	NA	NA	NA	NA
Benzo(A)anthracene	0.22	mg/kg	NA	NA	NA	NA	NA
Benzo(B)fluoranthene	0.22	mg/kg	NA	NA	NA	NA	NA
Benzo(K)fluoranthene	2.2	mg/kg	NA	NA	NA	NA	NA
Benzo(A)pyrene	0.022	mg/kg	NA	NA	NA	NA	NA
Chrysene	22	mg/kg	NA	NA	NA	NA	NA
Dibenzo(A,H)anthracene	0.022	mg/kg	NA	NA	NA	NA	NA
Fluoranthene	1,000	mg/kg	NA	NA	NA	NA	NA
Fluorene	1,000	mg/kg	NA	NA	NA	NA	NA
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	NA	NA	NA	NA	NA
Naphthalene	23	mg/kg	NA	NA	NA	NA	NA
Pyrene	1,000	mg/kg	NA	NA	NA	NA	NA

NOTES:
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CAERUS OIL AND GAS LLC

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	BACKGROUND SOIL SAMPLES				
			20211130-P14-397(BG-SB01)@1-1.5'	20211130-P14-397(BG-SB01)@2-2.5'	20211130-P14-397(BG-SB01)@3-3.5'	20211130-P14-397(BG-SB01)@4-4.5'	20211130-P14-397(BG-SB01)@5-5.5'
Sample Date			11/30/2021	11/30/2021	11/30/2021	11/30/2021	11/30/2021
Sample Depth Range (feet)			1-1.5	2-2.5	3-3.5	4-4.5	5-5.5
Sample Type			Background	Background	Background	Background	Background
Arsenic	0.39	mg/kg	2.22	2.59	2.17	6.81	1.73
Barium	15,000	mg/kg	NA	NA	NA	NA	NA
Cadmium	70	mg/kg	NA	NA	NA	NA	NA
Chromium (III)	120,000	mg/kg	NA	NA	NA	NA	NA
Chromium (VI)	23	mg/kg	NA	NA	NA	NA	NA
Copper	3,100	mg/kg	NA	NA	NA	NA	NA
Lead	400	mg/kg	NA	NA	NA	NA	NA
Mercury	23	mg/kg	NA	NA	NA	NA	NA
Nickel	1,600	mg/kg	NA	NA	NA	NA	NA
Selenium	390	mg/kg	NA	NA	NA	NA	NA
Silver	390	mg/kg	NA	NA	NA	NA	NA
Zinc	23,000	mg/kg	NA	NA	NA	NA	NA
EC	4.0	mmhos/cm	1.200	6.920	1.230	0.900	0.678
pH	6 - 9	SU	7.98	9.00	8.92	8.29	8.20
SAR	12	unitless	17.4	35.1	9.95	5.04	3.28
TPH-GRO		mg/kg	NA	NA	NA	NA	NA
TPH-DRO		mg/kg	NA	NA	NA	NA	NA
TPH	500	mg/kg	NA	NA	NA	NA	NA
Benzene	0.17	mg/kg	NA	NA	NA	NA	NA
Toluene	85	mg/kg	NA	NA	NA	NA	NA
Ethylbenzene	100	mg/kg	NA	NA	NA	NA	NA
Total Xylenes	175	mg/kg	NA	NA	NA	NA	NA
Acenaphthene	1,000	mg/kg	NA	NA	NA	NA	NA
Anthracene	1,000	mg/kg	NA	NA	NA	NA	NA
Benzo(A)anthracene	0.22	mg/kg	NA	NA	NA	NA	NA
Benzo(B)fluoranthene	0.22	mg/kg	NA	NA	NA	NA	NA
Benzo(K)fluoranthene	2.2	mg/kg	NA	NA	NA	NA	NA
Benzo(A)pyrene	0.022	mg/kg	NA	NA	NA	NA	NA
Chrysene	22	mg/kg	NA	NA	NA	NA	NA
Dibenzo(A,H)anthracene	0.022	mg/kg	NA	NA	NA	NA	NA
Fluoranthene	1,000	mg/kg	NA	NA	NA	NA	NA
Fluorene	1,000	mg/kg	NA	NA	NA	NA	NA
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	NA	NA	NA	NA	NA
Naphthalene	23	mg/kg	NA	NA	NA	NA	NA
Pyrene	1,000	mg/kg	NA	NA	NA	NA	NA

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Sample Date			11/30/2021	11/30/2021	11/30/2021	11/30/2021	11/30/2021	11/30/2021
Sample Depth Range (feet)			6-6.5	1-1.5'	2-2.5'	3-3.5'	4-4.5'	5-5.3'
Sample Type			Background	Background	Background	Background	Background	Background
Arsenic	0.39	mg/kg	4.43	1.87	2.97	2.26	2.26	1.86
Barium	15,000	mg/kg	NA	NA	NA	NA	NA	NA
Cadmium	70	mg/kg	NA	NA	NA	NA	NA	NA
Chromium (III)	120,000	mg/kg	NA	NA	NA	NA	NA	NA
Chromium (VI)	23	mg/kg	NA	NA	NA	NA	NA	NA
Copper	3,100	mg/kg	NA	NA	NA	NA	NA	NA
Lead	400	mg/kg	NA	NA	NA	NA	NA	NA
Mercury	23	mg/kg	NA	NA	NA	NA	NA	NA
Nickel	1,600	mg/kg	NA	NA	NA	NA	NA	NA
Selenium	390	mg/kg	NA	NA	NA	NA	NA	NA
Silver	390	mg/kg	NA	NA	NA	NA	NA	NA
Zinc	23,000	mg/kg	NA	NA	NA	NA	NA	NA
EC	4.0	mmhos/cm	0.760	0.411	6.390	7.940	8.120	7.710
pH	6 - 9	SU	8.28	8.23	7.93	8.00	7.98	8.06
SAR	12	unitless	2.39	0.682	12.5	19.3	18.8	17.8
TPH-GRO		mg/kg	NA	NA	NA	NA	NA	NA
TPH-DRO		mg/kg	NA	NA	NA	NA	NA	NA
TPH	500	mg/kg	NA	NA	NA	NA	NA	NA
Benzene	0.17	mg/kg	NA	NA	NA	NA	NA	NA
Toluene	85	mg/kg	NA	NA	NA	NA	NA	NA
Ethylbenzene	100	mg/kg	NA	NA	NA	NA	NA	NA
Total Xylenes	175	mg/kg	NA	NA	NA	NA	NA	NA
Acenaphthene	1,000	mg/kg	NA	NA	NA	NA	NA	NA
Anthracene	1,000	mg/kg	NA	NA	NA	NA	NA	NA
Benzo(A)anthracene	0.22	mg/kg	NA	NA	NA	NA	NA	NA
Benzo(B)fluoranthene	0.22	mg/kg	NA	NA	NA	NA	NA	NA
Benzo(K)fluoranthene	2.2	mg/kg	NA	NA	NA	NA	NA	NA
Benzo(A)pyrene	0.022	mg/kg	NA	NA	NA	NA	NA	NA
Chrysene	22	mg/kg	NA	NA	NA	NA	NA	NA
Dibenzo(A,H)anthracene	0.022	mg/kg	NA	NA	NA	NA	NA	NA
Fluoranthene	1,000	mg/kg	NA	NA	NA	NA	NA	NA
Fluorene	1,000	mg/kg	NA	NA	NA	NA	NA	NA
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	NA	NA	NA	NA	NA	NA
Naphthalene	23	mg/kg	NA	NA	NA	NA	NA	NA
Pyrene	1,000	mg/kg	NA	NA	NA	NA	NA	NA

NOTES:
ND - less than the stated reporting limit
BOLD - 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
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
NA - analyte not analyzed
ND - analyte not detected

TABLE 1

SOIL ANALYTICAL RESULTS
P14-397 HISTORIC RELEASE (2012)
RIO BLANCO COUNTY, COLORADO
CAERUS OIL AND GAS LLC

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	BACKGROUND SOIL SAMPLES				
			202111130-P14-397(BG-SB03)@1-1.5'	202111130-P14-397(BG-SB03)@2-2.5'	202111130-P14-397(BG-SB03)@3-3.5'	202111130-P14-397(BG-SB03)@4-4.5'	202111130-P14-397(BG-SB03)@5-5.5'
Sample Date			11/30/2021	11/30/2021	11/30/2021	11/30/2021	11/30/2021
Sample Depth Range (feet)			1-1.5'	2-2.5'	3-3.5'	4-4.5'	5-5.5'
Sample Type			Background	Background	Background	Background	Background
Arsenic	0.39	mg/kg	2.51	2.16	2.14	2.86	2.33
Barium	15,000	mg/kg	NA	NA	NA	NA	NA
Cadmium	70	mg/kg	NA	NA	NA	NA	NA
Chromium (III)	120,000	mg/kg	NA	NA	NA	NA	NA
Chromium (VI)	23	mg/kg	NA	NA	NA	NA	NA
Copper	3,100	mg/kg	NA	NA	NA	NA	NA
Lead	400	mg/kg	NA	NA	NA	NA	NA
Mercury	23	mg/kg	NA	NA	NA	NA	NA
Nickel	1,600	mg/kg	NA	NA	NA	NA	NA
Selenium	390	mg/kg	NA	NA	NA	NA	NA
Silver	390	mg/kg	NA	NA	NA	NA	NA
Zinc	23,000	mg/kg	NA	NA	NA	NA	NA
EC	4.0	mmhos/cm	0.188	0.346	0.409	0.542	0.691
pH	6 - 9	SU	8.28	8.40	8.66	8.38	8.22
SAR	12	unitless	0.659	2.07	2.77	2.87	2.48
TPH-GRO		mg/kg	NA	NA	NA	NA	NA
TPH-DRO		mg/kg	NA	NA	NA	NA	NA
TPH	500	mg/kg	NA	NA	NA	NA	NA
Benzene	0.17	mg/kg	NA	NA	NA	NA	NA
Toluene	85	mg/kg	NA	NA	NA	NA	NA
Ethylbenzene	100	mg/kg	NA	NA	NA	NA	NA
Total Xylenes	175	mg/kg	NA	NA	NA	NA	NA
Acenaphthene	1,000	mg/kg	NA	NA	NA	NA	NA
Anthracene	1,000	mg/kg	NA	NA	NA	NA	NA
Benzo(A)anthracene	0.22	mg/kg	NA	NA	NA	NA	NA
Benzo(B)fluoranthene	0.22	mg/kg	NA	NA	NA	NA	NA
Benzo(K)fluoranthene	2.2	mg/kg	NA	NA	NA	NA	NA
Benzo(A)pyrene	0.022	mg/kg	NA	NA	NA	NA	NA
Chrysene	22	mg/kg	NA	NA	NA	NA	NA
Dibenzo(A,H)anthracene	0.022	mg/kg	NA	NA	NA	NA	NA
Fluoranthene	1,000	mg/kg	NA	NA	NA	NA	NA
Fluorene	1,000	mg/kg	NA	NA	NA	NA	NA
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	NA	NA	NA	NA	NA
Naphthalene	23	mg/kg	NA	NA	NA	NA	NA
Pyrene	1,000	mg/kg	NA	NA	NA	NA	NA

NOTES:
ND - less than the stated reporting limit
BOLD - 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
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
NA - analyte not analyzed
ND - analyte not detected

TABLE 1

SOIL ANALYTICAL RESULTS
P14-397 HISTORIC RELEASE (2012)
RIO BLANCO COUNTY, COLORADO
CAERUS OIL AND GAS LLC

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	BACKGROUND SOIL SAMPLES					
			20211130-P14-397(BG-SB04)@1-1.5'	20211130-P14-397(BG-SB04)@2-2.5'	20211130-P14-397(BG-SB04)@3-3.5.5'	20211130-P14-397(BG-SB04)@4-4.5'	20211130-P14-397(BG-SB04)@5-5.5'	20211130-P14-397(BG-SB04)@6-6.5'
Sample Date			11/30/2021	11/30/2021	11/30/2021	11/30/2021	11/30/2021	11/30/2021
Sample Depth Range (feet)			1-1.5'	2-2.5'	3-3.5	4-4.5	5-5.5	6-6.5
Sample Type			Background	Background	Background	Background	Background	Background
Arsenic	0.39	mg/kg	3.38	2.76	2.29	2.01	1.93	1.43
Barium	15,000	mg/kg	NA	NA	NA	NA	NA	NA
Cadmium	70	mg/kg	NA	NA	NA	NA	NA	NA
Chromium (III)	120,000	mg/kg	NA	NA	NA	NA	NA	NA
Chromium (VI)	23	mg/kg	NA	NA	NA	NA	NA	NA
Copper	3,100	mg/kg	NA	NA	NA	NA	NA	NA
Lead	400	mg/kg	NA	NA	NA	NA	NA	NA
Mercury	23	mg/kg	NA	NA	NA	NA	NA	NA
Nickel	1,600	mg/kg	NA	NA	NA	NA	NA	NA
Selenium	390	mg/kg	NA	NA	NA	NA	NA	NA
Silver	390	mg/kg	NA	NA	NA	NA	NA	NA
Zinc	23,000	mg/kg	NA	NA	NA	NA	NA	NA
EC	4.0	mmhos/cm	0.365	0.147	0.514	0.459	0.606	0.353
pH	6 - 9	SU	8.07	8.29	8.42	8.47	8.43	8.58
SAR	12	unitless	0.441	2.17	2.00	2.27	3.84	2.51
TPH-GRO		mg/kg	NA	NA	NA	NA	NA	NA
TPH-DRO		mg/kg	NA	NA	NA	NA	NA	NA
TPH	500	mg/kg	NA	NA	NA	NA	NA	NA
Benzene	0.17	mg/kg	NA	NA	NA	NA	NA	NA
Toluene	85	mg/kg	NA	NA	NA	NA	NA	NA
Ethylbenzene	100	mg/kg	NA	NA	NA	NA	NA	NA
Total Xylenes	175	mg/kg	NA	NA	NA	NA	NA	NA
Acenaphthene	1,000	mg/kg	NA	NA	NA	NA	NA	NA
Anthracene	1,000	mg/kg	NA	NA	NA	NA	NA	NA
Benzo(A)anthracene	0.22	mg/kg	NA	NA	NA	NA	NA	NA
Benzo(B)fluoranthene	0.22	mg/kg	NA	NA	NA	NA	NA	NA
Benzo(K)fluoranthene	2.2	mg/kg	NA	NA	NA	NA	NA	NA
Benzo(A)pyrene	0.022	mg/kg	NA	NA	NA	NA	NA	NA
Chrysene	22	mg/kg	NA	NA	NA	NA	NA	NA
Dibenzo(A,H)anthracene	0.022	mg/kg	NA	NA	NA	NA	NA	NA
Fluoranthene	1,000	mg/kg	NA	NA	NA	NA	NA	NA
Fluorene	1,000	mg/kg	NA	NA	NA	NA	NA	NA
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	NA	NA	NA	NA	NA	NA
Naphthalene	23	mg/kg	NA	NA	NA	NA	NA	NA
Pyrene	1,000	mg/kg	NA	NA	NA	NA	NA	NA


NOTES:
ND - less than the stated reporting limit
BOLD - 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
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
NA - analyte not analyzed
ND - analyte not detected

ENCLOSURE A – LABORATORY ANALYTICAL REPORTS

Caerus Oil and Gas

Sample Delivery Group: L1437298
Samples Received: 12/02/2021
Project Number: P14-397
Description: P14-397
Site: P14-397
Report To: Jake Janicek
143 Diamond Avenue
Parachute, CO 81635

Entire Report Reviewed By:



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.



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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

SAMPLE SUMMARY

20211130-P14-397(PH01) L1437298-01 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 09:55

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:03	12/09/21 00:03	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

20211130-P14-397(PH01)@1-1.5' L1437298-02 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 10:05

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:06	12/09/21 00:06	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN

⁴ Cn

⁵ Sr

⁶ Qc

20211130-P14-397(PH01)@2-2.5' L1437298-03 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 10:15

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:09	12/09/21 00:09	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN

⁷ Gl

⁸ Al

⁹ Sc

20211130-P14-397(PH01)@3-3.5' L1437298-04 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 10:20

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:11	12/09/21 00:11	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN

20211130-P14-397(PH01)@3.5-4' L1437298-05 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 10:22

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:14	12/09/21 00:14	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN

20211130-P14-397(PH02) L1437298-06 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 10:00

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:17	12/09/21 00:17	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN

20211130-P14-397(PH02)@1-1.5' L1437298-07 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 10:30

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:20	12/09/21 00:20	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN

SAMPLE SUMMARY

20211130-P14-397(PH02)@2-2.5' L1437298-08 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 10:35

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:23	12/09/21 00:23	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

20211130-P14-397(PH02)@3-3.5' L1437298-09 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 10:40

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:25	12/09/21 00:25	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN

20211130-P14-397(PH02)@3.5-4' L1437298-10 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 10:45

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:33	12/09/21 00:33	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784566	1	12/07/21 01:46	12/07/21 06:07	ARD	Mt. Juliet, TN

20211130-P14-397(PH03) L1437298-11 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 10:10

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:36	12/09/21 00:36	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784566	1	12/07/21 01:46	12/07/21 06:07	ARD	Mt. Juliet, TN

20211130-P14-397(PH03)@1-1.5' L1437298-12 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 10:50

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:39	12/09/21 00:39	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784566	1	12/07/21 01:46	12/07/21 06:07	ARD	Mt. Juliet, TN

20211130-P14-397(PH03)@2-2.5' L1437298-13 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 10:55

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:42	12/09/21 00:42	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784566	1	12/07/21 01:46	12/07/21 06:07	ARD	Mt. Juliet, TN

20211130-P14-397(PH03)@3-3.5' L1437298-14 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 11:00

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:44	12/09/21 00:44	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784566	1	12/07/21 01:46	12/07/21 06:07	ARD	Mt. Juliet, TN

SAMPLE SUMMARY

20211130-P14-397(PH03)@3.5-4' L1437298-15 Solid

Collected by
K. Moreland

Collected date/time
11/30/21 11:05

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784364	1	12/09/21 00:47	12/09/21 00:47	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784566	1	12/07/21 01:46	12/07/21 06:07	ARD	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

CASE NARRATIVE

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



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	11.4		1	12/09/2021 00:03	WG1784364

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	2560		10.0	1	12/07/2021 03:10	WG1784565

Sample Narrative:
L1437298-01 WG1784565: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	6.77		1	12/09/2021 00:06	WG1784364

¹Cp

²Tc

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1300		10.0	1	12/07/2021 03:10	WG1784565

³Ss

⁴Cn

Sample Narrative:

L1437298-02 WG1784565: at 25C

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	10.3		1	12/09/2021 00:09	WG1784364

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1730		10.0	1	12/07/2021 03:10	WG1784565

Sample Narrative:

L1437298-03 WG1784565: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	8.60		1	12/09/2021 00:11	WG1784364

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	3170		10.0	1	12/07/2021 03:10	WG1784565

Sample Narrative:

L1437298-04 WG1784565: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	11.2		1	12/09/2021 00:14	WG1784364

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1710		10.0	1	12/07/2021 03:10	WG1784565

Sample Narrative:

L1437298-05 WG1784565: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	28.7		1	12/09/2021 00:17	WG1784364

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	7920		10.0	1	12/07/2021 03:10	WG1784565

Sample Narrative:
L1437298-06 WG1784565: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	12.5		1	12/09/2021 00:20	WG1784364

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
Specific Conductance	3590		10.0	1	12/07/2021 03:10	WG1784565

Sample Narrative:
L1437298-07 WG1784565: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	9.00		1	12/09/2021 00:23	WG1784364

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1430		10.0	1	12/07/2021 03:10	WG1784565

Sample Narrative:
L1437298-08 WG1784565: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	7.82		1	12/09/2021 00:25	WG1784364

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1190		10.0	1	12/07/2021 03:10	WG1784565

Sample Narrative:

L1437298-09 WG1784565: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	8.02		1	12/09/2021 00:33	WG1784364

¹Cp

²Tc

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1080		10.0	1	12/07/2021 06:07	WG1784566

³Ss

⁴Cn

Sample Narrative:

L1437298-10 WG1784566: at 25C

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	7.46		1	12/09/2021 00:36	WG1784364

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1680		10.0	1	12/07/2021 06:07	WG1784566

Sample Narrative:
L1437298-11 WG1784566: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	6.62		1	12/09/2021 00:39	WG1784364

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1940		10.0	1	12/07/2021 06:07	WG1784566

Sample Narrative:
L1437298-12 WG1784566: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	9.55		1	12/09/2021 00:42	WG1784364

1
Cp

2
Tc

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1330		10.0	1	12/07/2021 06:07	WG1784566

3
Ss

4
Cn

Sample Narrative:

L1437298-13 WG1784566: at 25C

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	11.1		1	12/09/2021 00:44	WG1784364

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1880		10.0	1	12/07/2021 06:07	WG1784566

Sample Narrative:

L1437298-14 WG1784566: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	11.7		1	12/09/2021 00:47	WG1784364

¹Cp

²Tc

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	1400		10.0	1	12/07/2021 06:07	WG1784566

³Ss

⁴Cn

Sample Narrative:

L1437298-15 WG1784566: at 25C

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3737683-1 12/07/21 03:10

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:

BLANK: at 25C

L1437294-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1437294-16 12/07/21 03:10 • (DUP) R3737683-3 12/07/21 03:10

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	691	728	1	5.21		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1437298-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1437298-06 12/07/21 03:10 • (DUP) R3737683-4 12/07/21 03:10

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	7920	8120	1	2.49		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3737683-2 12/07/21 03:10

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	262	97.6	85.0-115	

Sample Narrative:

LCS: at 25C



Method Blank (MB)

(MB) R3737705-1 12/07/21 06:07

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:

BLANK: at 25C

L1437656-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1437656-02 12/07/21 06:07 • (DUP) R3737705-3 12/07/21 06:07

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	34.0	38.8	1	13.2		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1437907-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1437907-05 12/07/21 06:07 • (DUP) R3737705-4 12/07/21 06:07

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	883	874	1	1.02		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3737705-2 12/07/21 06:07

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	258	96.2	85.0-115	

Sample Narrative:

LCS: at 25C



GLOSSARY OF TERMS

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.
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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

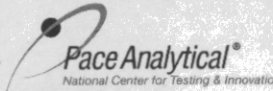

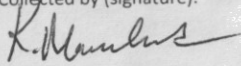
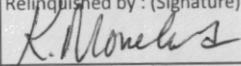
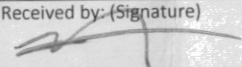
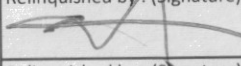
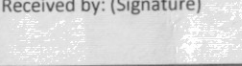
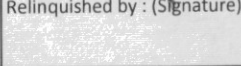
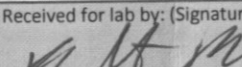
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Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina 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	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* 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 Analytical.



Caerus Oil & Gas LLC 143 Diamond Avenue Parachute, CO 81635 970-285-9606				Billing Information:				Analysis / Container / Preservative				Chain of Custody Page <u>1</u> of <u>2</u>		
				Same as above								 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859		
Report to: jjanicek@caerusoilandgas.com				Email To: jjanicek@caerusoilandgas.com				<div style="display: flex; justify-content: space-between;"> <div> L# 1437298 B001 </div> <div>  </div> </div>						
Project Description: P14-397				City/State Collected: Piceance Crk, CO										
Phone: (970) 618-4514		Client Project # P14-397		Lab Project # P14-397										
Collected by (print): K. MORELAND		Site/Facility ID # P14-397		P.O. # P14-397										
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #										
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				Date Results Needed Standard TAT		No. of Cntrs								
Sample ID	Comp/Grab	Matrix *	Depth Ft	Date	Time									
20211130-P14-397(PH01)	GRAB	SS	0-6"	11/30/21	955	2	TPH-GRO,DRO,ORO	BTEX	TABLE 915-1- PAH's	SAR, EC, pH, Boron	TABLE 915-1- Metals	chromium (VI)	EC, SAR	
20211130-P14-397(PH01)@1-1.5'			1-1.5'		1005									-01
20211130-P14-397(PH01)@2-2.5'			2-2.5'		1015									-02
20211130-P14-397(PH01)@3-3.5'			3-3.5'		1020									-03
20211130-P14-397(PH01)@3.5-4'			3.5-4'		1022									-04
20211130-P14-397(PH02)			0-6"		1000									-05
20211130-P14-397(PH02)@1-1.5'			1-1.5'		1030									-06
20211130-P14-397(PH02)@2-2.5'			2-2.5'		1035									-07
20211130-P14-397(PH02)@3-3.5'			3-3.5'		1040									-08
20211130-P14-397(PH02)@3.5-4'	✓	✓	3.5-4'	✓	1045	✓							✓	-09
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other				Remarks: Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier				pH _____ Temp _____ Flow _____ Other _____				Tracking # 5018 1232 0191		
Relinquished by: (Signature) 		Date: 11/30/21		Time: 1600		Received by: (Signature) 		Trip Blank Received: Yes/No HCL / MeOH TBR		Bottles Received: 30		If preservation required by Login: Date/Time		
Relinquished by: (Signature) 		Date: 12/1/21		Time: 1500		Received by: (Signature) 		Temp: 84.1°C 23.40 = 23		Hold:		Condition: NCF / OK		
Relinquished by: (Signature) 		Date: 12/2/21		Time: 900		Received for lab by: (Signature) 		Date: 12/2/21		Time: 900				

Sample Receipt Checklist	
COC Seal Present/Intact:	NP <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
If Applicable	
VOA Zero Headspace:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Preservation Correct/Checked:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N

[illegible]

Caerus Oil and Gas

Sample Delivery Group: L1437294
Samples Received: 12/02/2021
Project Number: P14-397
Description: P14-397
Site: P14-397
Report To: Jake Janicek
143 Diamond Avenue
Parachute, CO 81635

Entire Report Reviewed By:



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.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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

SAMPLE SUMMARY

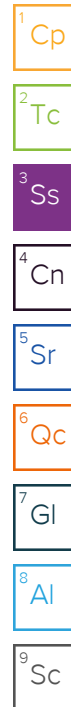
20211130-P14-397(BG-SB01)@1-1.5' L1437294-01 Solid

Collected by
DH

Collected date/time
11/30/21 10:15

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 21:40	12/08/21 21:40	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784353	1	12/06/21 09:00	12/06/21 10:53	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784547	1	12/06/21 02:16	12/06/21 07:43	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 10:58	JDG	Mt. Juliet, TN



20211130-P14-397(BG-SB01)@2-2.5' L1437294-02 Solid

Collected by
DH

Collected date/time
11/30/21 10:20

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 21:42	12/08/21 21:42	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784353	1	12/06/21 09:00	12/06/21 10:53	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784547	1	12/06/21 02:16	12/06/21 07:43	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:01	JDG	Mt. Juliet, TN

20211130-P14-397(BG-SB01)@3-3.5' L1437294-03 Solid

Collected by
DH

Collected date/time
11/30/21 10:35

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 21:45	12/08/21 21:45	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784353	1	12/06/21 09:00	12/06/21 10:53	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784547	1	12/06/21 02:16	12/06/21 07:43	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:04	JDG	Mt. Juliet, TN

20211130-P14-397(BG-SB01)@4-4.5' L1437294-04 Solid

Collected by
DH

Collected date/time
11/30/21 10:40

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 21:48	12/08/21 21:48	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784353	1	12/06/21 09:00	12/06/21 10:53	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784547	1	12/06/21 02:16	12/06/21 07:43	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:08	JDG	Mt. Juliet, TN

20211130-P14-397(BG-SB01)@5-5.5' L1437294-05 Solid

Collected by
DH

Collected date/time
11/30/21 10:45

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 21:51	12/08/21 21:51	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784353	1	12/06/21 09:00	12/06/21 10:53	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784547	1	12/06/21 02:16	12/06/21 07:43	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:11	JDG	Mt. Juliet, TN

20211130-P14-397(BG-SB01)@6-6.5' L1437294-06 Solid

Collected by
DH

Collected date/time
11/30/21 10:55

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 21:54	12/08/21 21:54	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784353	1	12/06/21 09:00	12/06/21 10:53	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784547	1	12/06/21 02:16	12/06/21 07:43	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:21	JDG	Mt. Juliet, TN

SAMPLE SUMMARY

20211130-P14-397(BG-SB02)@1-1.5' L1437294-07 Solid

Collected by
DH

Collected date/time
11/30/21 11:35

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 21:56	12/08/21 21:56	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784353	1	12/06/21 09:00	12/06/21 10:53	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784547	1	12/06/21 02:16	12/06/21 07:43	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:24	JDG	Mt. Juliet, TN



20211130-P14-397(BG-SB02)@2-2.5' L1437294-08 Solid

Collected by
DH

Collected date/time
11/30/21 11:45

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 21:59	12/08/21 21:59	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784353	1	12/06/21 09:00	12/06/21 10:53	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784547	1	12/06/21 02:16	12/06/21 07:43	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:28	JDG	Mt. Juliet, TN

20211130-P14-397(BG-SB02)@3-3.5' L1437294-09 Solid

Collected by
DH

Collected date/time
11/30/21 11:50

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 22:02	12/08/21 22:02	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784353	1	12/06/21 09:00	12/06/21 10:53	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784547	1	12/06/21 02:16	12/06/21 07:43	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:31	JDG	Mt. Juliet, TN

20211130-P14-397(BG-SB02)@4-4.5' L1437294-10 Solid

Collected by
DH

Collected date/time
11/30/21 12:00

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 22:10	12/08/21 22:10	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784353	1	12/06/21 09:00	12/06/21 10:53	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784547	1	12/06/21 02:16	12/06/21 07:43	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:34	JDG	Mt. Juliet, TN

20211130-P14-397(BG-SB02)@5-5.3' L1437294-11 Solid

Collected by
DH

Collected date/time
11/30/21 12:05

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 22:13	12/08/21 22:13	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784353	1	12/06/21 09:00	12/06/21 10:53	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784547	1	12/06/21 02:16	12/06/21 07:43	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:38	JDG	Mt. Juliet, TN

20211130-P14-397(BG-SB03)@1-1.5' L1437294-12 Solid

Collected by
DH

Collected date/time
11/30/21 12:30

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 22:16	12/08/21 22:16	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784375	1	12/06/21 14:00	12/06/21 15:17	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:41	JDG	Mt. Juliet, TN

SAMPLE SUMMARY

20211130-P14-397(BG-SB03)@2-2.5' L1437294-13 Solid

Collected by
DH

Collected date/time
11/30/21 13:00

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 22:19	12/08/21 22:19	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784375	1	12/06/21 14:00	12/06/21 15:17	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:44	JDG	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

20211130-P14-397(BG-SB03)@3-3.5' L1437294-14 Solid

Collected by
DH

Collected date/time
11/30/21 13:15

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 22:22	12/08/21 22:22	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784375	1	12/06/21 14:00	12/06/21 15:17	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784444	5	12/06/21 07:41	12/06/21 11:47	JDG	Mt. Juliet, TN

20211130-P14-397(BG-SB03)@4-4.5' L1437294-15 Solid

Collected by
DH

Collected date/time
11/30/21 14:00

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 22:24	12/08/21 22:24	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784375	1	12/06/21 14:00	12/06/21 15:17	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784907	5	12/07/21 16:32	12/08/21 01:38	JPD	Mt. Juliet, TN

20211130-P14-397(BG-SB03)@5-5.5' L1437294-16 Solid

Collected by
DH

Collected date/time
11/30/21 14:10

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 22:27	12/08/21 22:27	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784375	1	12/06/21 14:00	12/06/21 15:17	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784907	5	12/07/21 16:32	12/08/21 01:41	JPD	Mt. Juliet, TN

20211130-P14-397(BG-SB04)@1-1.5' L1437294-17 Solid

Collected by
DH

Collected date/time
11/30/21 13:25

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 22:30	12/08/21 22:30	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784375	1	12/06/21 14:00	12/06/21 15:17	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784907	5	12/07/21 16:32	12/08/21 01:51	JPD	Mt. Juliet, TN

20211130-P14-397(BG-SB04)@2-2.5' L1437294-18 Solid

Collected by
DH

Collected date/time
11/30/21 13:30

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 22:33	12/08/21 22:33	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784375	1	12/06/21 14:00	12/06/21 15:17	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784907	5	12/07/21 16:32	12/08/21 01:54	JPD	Mt. Juliet, TN

SAMPLE SUMMARY

20211130-P14-397(BG-SB04)@3-3.5' L1437294-19 Solid

Collected by
DH

Collected date/time
11/30/21 13:35

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 22:36	12/08/21 22:36	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784375	1	12/06/21 14:00	12/06/21 15:17	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784907	5	12/07/21 16:32	12/08/21 01:21	JPD	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

20211130-P14-397(BG-SB04)@4-4.5' L1437294-20 Solid

Collected by
DH

Collected date/time
11/30/21 13:40

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784359	1	12/08/21 22:44	12/08/21 22:44	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784375	1	12/06/21 14:00	12/06/21 15:17	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784907	5	12/07/21 16:32	12/08/21 01:58	JPD	Mt. Juliet, TN

⁵Sr

⁶Qc

⁷Gl

⁸Al

20211130-P14-397(BG-SB04)@5-5.5' L1437294-21 Solid

Collected by
DH

Collected date/time
11/30/21 13:45

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784363	1	12/09/21 00:50	12/09/21 00:50	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784375	1	12/06/21 14:00	12/06/21 15:17	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784907	5	12/07/21 16:32	12/08/21 02:01	JPD	Mt. Juliet, TN

⁹Sc

20211130-P14-397(BG-SB04)@6-6.5' L1437294-22 Solid

Collected by
DH

Collected date/time
11/30/21 13:50

Received date/time
12/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1784363	1	12/09/21 00:53	12/09/21 00:53	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1784375	1	12/06/21 14:00	12/06/21 15:17	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1784565	1	12/07/21 00:44	12/07/21 03:10	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784907	5	12/07/21 16:32	12/08/21 02:04	JPD	Mt. Juliet, TN

CASE NARRATIVE

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	17.4		1	12/08/2021 21:40	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.98	T8	1	12/06/2021 10:53	WG1784353

³Ss

⁴Cn

Sample Narrative:

L1437294-01 WG1784353: 7.98 at 19.6C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1200		10.0	1	12/06/2021 07:43	WG1784547

⁶Qc

⁷Gl

Sample Narrative:

L1437294-01 WG1784547: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.22		0.100	1.00	5	12/06/2021 10:58	WG1784444

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	35.1		1	12/08/2021 21:42	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.00	T8	1	12/06/2021 10:53	WG1784353

³Ss

⁴Cn

Sample Narrative:

L1437294-02 WG1784353: 9 at 19.3C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	6920		10.0	1	12/06/2021 07:43	WG1784547

⁶Qc

⁷Gl

Sample Narrative:

L1437294-02 WG1784547: at 25C

⁸Al

⁹Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.59		0.100	1.00	5	12/06/2021 11:01	WG1784444

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	9.95		1	12/08/2021 21:45	WG1784359

¹ Cp

² Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.92	T8	1	12/06/2021 10:53	WG1784353

³ Ss

⁴ Cn

Sample Narrative:

L1437294-03 WG1784353: 8.92 at 19.3C

⁵ Sr

⁶ Qc

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1230		10.0	1	12/06/2021 07:43	WG1784547

⁷ Gl

⁸ Al

Sample Narrative:

L1437294-03 WG1784547: at 25C

⁹ Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.17		0.100	1.00	5	12/06/2021 11:04	WG1784444

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	5.04		1	12/08/2021 21:48	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.29	T8	1	12/06/2021 10:53	WG1784353

³Ss

⁴Cn

Sample Narrative:
L1437294-04 WG1784353: 8.29 at 19.3C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	900		10.0	1	12/06/2021 07:43	WG1784547

⁶Qc

⁷Gl

Sample Narrative:
L1437294-04 WG1784547: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	6.81		0.100	1.00	5	12/06/2021 11:08	WG1784444

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.28		1	12/08/2021 21:51	WG1784359

¹ Cp

² Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.20	T8	1	12/06/2021 10:53	WG1784353

³ Ss

⁴ Cn

Sample Narrative:
L1437294-05 WG1784353: 8.2 at 19.2C

⁵ Sr

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	678		10.0	1	12/06/2021 07:43	WG1784547

⁶ Qc

⁷ Gl

Sample Narrative:
L1437294-05 WG1784547: at 25C

⁸ Al

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.73		0.100	1.00	5	12/06/2021 11:11	WG1784444

⁹ Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.39		1	12/08/2021 21:54	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.28	T8	1	12/06/2021 10:53	WG1784353

³Ss

⁴Cn

Sample Narrative:

L1437294-06 WG1784353: 8.28 at 19.3C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	<u>Qualifier</u>	RDL umhos/cm	Dilution	Analysis date / time	<u>Batch</u>
Specific Conductance	760		10.0	1	12/06/2021 07:43	WG1784547

⁶Qc

⁷Gl

Sample Narrative:

L1437294-06 WG1784547: at 25C

⁸Al

Metals (ICPMS) by Method 6020

	Result	<u>Qualifier</u>	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	4.43		0.100	1.00	5	12/06/2021 11:21	WG1784444

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.682		1	12/08/2021 21:56	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.23	T8	1	12/06/2021 10:53	WG1784353

³Ss

⁴Cn

Sample Narrative:

L1437294-07 WG1784353: 8.23 at 19.2C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	411		10.0	1	12/06/2021 07:43	WG1784547

⁶Qc

⁷Gl

Sample Narrative:

L1437294-07 WG1784547: at 25C

⁸Al

Metals (ICPMS) by Method 6020

	Result	<u>Qualifier</u>	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	1.87		0.100	1.00	5	12/06/2021 11:24	WG1784444

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	12.5		1	12/08/2021 21:59	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.93	T8	1	12/06/2021 10:53	WG1784353

³Ss

⁴Cn

Sample Narrative:
L1437294-08 WG1784353: 7.93 at 19.3C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	6390		10.0	1	12/06/2021 07:43	WG1784547

⁶Qc

⁷Gl

Sample Narrative:
L1437294-08 WG1784547: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.97		0.100	1.00	5	12/06/2021 11:28	WG1784444

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	19.3		1	12/08/2021 22:02	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.00	T8	1	12/06/2021 10:53	WG1784353

³Ss

⁴Cn

Sample Narrative:
L1437294-09 WG1784353: 8 at 19.3C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	7940		10.0	1	12/06/2021 07:43	WG1784547

⁶Qc

⁷Gl

Sample Narrative:
L1437294-09 WG1784547: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.26		0.100	1.00	5	12/06/2021 11:31	WG1784444

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	18.8		1	12/08/2021 22:10	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.98	T8	1	12/06/2021 10:53	WG1784353

³Ss

⁴Cn

Sample Narrative:
L1437294-10 WG1784353: 7.98 at 19.3C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	8120		10.0	1	12/06/2021 07:43	WG1784547

⁶Qc

⁷Gl

Sample Narrative:
L1437294-10 WG1784547: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.26		0.100	1.00	5	12/06/2021 11:34	WG1784444

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	17.8		1	12/08/2021 22:13	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.06	T8	1	12/06/2021 10:53	WG1784353

³Ss

⁴Cn

Sample Narrative:
L1437294-11 WG1784353: 8.06 at 19.4C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	7710		10.0	1	12/06/2021 07:43	WG1784547

⁶Qc

⁷Gl

Sample Narrative:
L1437294-11 WG1784547: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	1.86		0.100	1.00	5	12/06/2021 11:38	WG1784444

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.659		1	12/08/2021 22:16	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.28	T8	1	12/06/2021 15:17	WG1784375

³Ss

⁴Cn

Sample Narrative:
L1437294-12 WG1784375: 8.28 at 18.6C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	188		10.0	1	12/07/2021 03:10	WG1784565

⁶Qc

⁷Gl

Sample Narrative:
L1437294-12 WG1784565: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.51		0.100	1.00	5	12/06/2021 11:41	WG1784444

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.07		1	12/08/2021 22:19	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.40	T8	1	12/06/2021 15:17	WG1784375

³Ss

⁴Cn

Sample Narrative:
L1437294-13 WG1784375: 8.4 at 18.4C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	346		10.0	1	12/07/2021 03:10	WG1784565

⁶Qc

⁷Gl

Sample Narrative:
L1437294-13 WG1784565: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.16		0.100	1.00	5	12/06/2021 11:44	WG1784444

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.77		1	12/08/2021 22:22	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.66	T8	1	12/06/2021 15:17	WG1784375

³Ss

⁴Cn

Sample Narrative:
L1437294-14 WG1784375: 8.66 at 18.5C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	409		10.0	1	12/07/2021 03:10	WG1784565

⁶Qc

⁷Gl

Sample Narrative:
L1437294-14 WG1784565: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.14		0.100	1.00	5	12/06/2021 11:47	WG1784444

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.87		1	12/08/2021 22:24	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.36	T8	1	12/06/2021 15:17	WG1784375

³Ss

⁴Cn

Sample Narrative:
L1437294-15 WG1784375: 8.36 at 18.4C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	542		10.0	1	12/07/2021 03:10	WG1784565

⁶Qc

⁷Gl

Sample Narrative:
L1437294-15 WG1784565: at 25C

⁸Al

⁹Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.86		0.100	1.00	5	12/08/2021 01:38	WG1784907

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.48		1	12/08/2021 22:27	WG1784359

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.22	T8	1	12/06/2021 15:17	WG1784375

Sample Narrative:

L1437294-16 WG1784375: 8.22 at 18.6C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	691		10.0	1	12/07/2021 03:10	WG1784565

Sample Narrative:

L1437294-16 WG1784565: at 25C

Metals (ICPMS) by Method 6020

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.33		0.100	1.00	5	12/08/2021 01:41	WG1784907

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.441		1	12/08/2021 22:30	WG1784359

1
Cp

2
Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.07	T8	1	12/06/2021 15:17	WG1784375

3
Ss

4
Cn

Sample Narrative:

L1437294-17 WG1784375: 8.07 at 18.2C

5
Sr

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	365		10.0	1	12/07/2021 03:10	WG1784565

6
Qc

7
Gl

Sample Narrative:

L1437294-17 WG1784565: at 25C

8
Al

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.38		0.100	1.00	5	12/08/2021 01:51	WG1784907

9
Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.17		1	12/08/2021 22:33	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.29	T8	1	12/06/2021 15:17	WG1784375

³Ss

⁴Cn

Sample Narrative:
L1437294-18 WG1784375: 8.29 at 18.1C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	<u>Qualifier</u>	RDL umhos/cm	Dilution	Analysis date / time	<u>Batch</u>
Specific Conductance	416		10.0	1	12/07/2021 03:10	WG1784565

⁶Qc

⁷Gl

Sample Narrative:
L1437294-18 WG1784565: at 25C

⁸Al

⁹Sc

Metals (ICPMS) by Method 6020

	Result	<u>Qualifier</u>	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.76		0.100	1.00	5	12/08/2021 01:54	WG1784907

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.00		1	12/08/2021 22:36	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.42	T8	1	12/06/2021 15:17	WG1784375

³Ss

⁴Cn

Sample Narrative:
L1437294-19 WG1784375: 8.42 at 18.4C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	<u>Qualifier</u>	RDL umhos/cm	Dilution	Analysis date / time	<u>Batch</u>
Specific Conductance	514		10.0	1	12/07/2021 03:10	WG1784565

⁶Qc

⁷Gl

Sample Narrative:
L1437294-19 WG1784565: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.29		0.100	1.00	5	12/08/2021 01:21	WG1784907

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.27		1	12/08/2021 22:44	WG1784359

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.47	T8	1	12/06/2021 15:17	WG1784375

³Ss

⁴Cn

Sample Narrative:
L1437294-20 WG1784375: 8.47 at 18.4C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	459		10.0	1	12/07/2021 03:10	WG1784565

⁶Qc

⁷Gl

Sample Narrative:
L1437294-20 WG1784565: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.01		0.100	1.00	5	12/08/2021 01:58	WG1784907

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.84		1	12/09/2021 00:50	WG1784363

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.43	T8	1	12/06/2021 15:17	WG1784375

³Ss

⁴Cn

Sample Narrative:
L1437294-21 WG1784375: 8.43 at 18.4C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	606		10.0	1	12/07/2021 03:10	WG1784565

⁶Qc

⁷Gl

Sample Narrative:
L1437294-21 WG1784565: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	1.93		0.100	1.00	5	12/08/2021 02:01	WG1784907

⁹Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.51		1	12/09/2021 00:53	WG1784363

¹Cp

²Tc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.58	T8	1	12/06/2021 15:17	WG1784375

³Ss

⁴Cn

Sample Narrative:
L1437294-22 WG1784375: 8.58 at 18.2C

⁵Sr

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	353		10.0	1	12/07/2021 03:10	WG1784565

⁶Qc

⁷Gl

Sample Narrative:
L1437294-22 WG1784565: at 25C

⁸Al

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	1.43		0.100	1.00	5	12/08/2021 02:04	WG1784907

⁹Sc

L1437294-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1437294-03 12/06/21 10:53 • (DUP) R3737353-2 12/06/21 10:53

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	8.92	8.92	1	0.000		1

Sample Narrative:

OS: 8.92 at 19.3C

DUP: 8.92 at 19.6C

L1437306-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1437306-01 12/06/21 10:53 • (DUP) R3737353-3 12/06/21 10:53

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.66	7.71	1	0.651		1

Sample Narrative:

OS: 7.66 at 19.2C

DUP: 7.71 at 19.2C

Laboratory Control Sample (LCS)

(LCS) R3737353-1 12/06/21 10:53

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10 at 19.1C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1437294-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1437294-12 12/06/21 15:17 • (DUP) R3737512-2 12/06/21 15:17

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	pH	su		%		%
pH	8.28	8.30	1	0.241		1

Sample Narrative:

OS: 8.28 at 18.6C

DUP: 8.3 at 18.4C

L1437294-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1437294-21 12/06/21 15:17 • (DUP) R3737512-3 12/06/21 15:17

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	pH	su		%		%
pH	8.43	8.47	1	0.473		1

Sample Narrative:

OS: 8.43 at 18.4C

DUP: 8.47 at 18.7C

Laboratory Control Sample (LCS)

(LCS) R3737512-1 12/06/21 15:17

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	su	su	%	%	
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 18.2C



Method Blank (MB)

(MB) R3737265-1 12/06/21 07:43

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:

BLANK: at 25C

L1436781-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1436781-13 12/06/21 07:43 • (DUP) R3737265-3 12/06/21 07:43

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1390	1340	1	3.58		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1437178-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1437178-03 12/06/21 07:43 • (DUP) R3737265-4 12/06/21 07:43

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	982	1060	1	7.55		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3737265-2 12/06/21 07:43

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	265	99.0	85.0-115	

Sample Narrative:

LCS: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3737683-1 12/07/21 03:10

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:

BLANK: at 25C

L1437294-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1437294-16 12/07/21 03:10 • (DUP) R3737683-3 12/07/21 03:10

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	691	728	1	5.21		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1437298-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1437298-06 12/07/21 03:10 • (DUP) R3737683-4 12/07/21 03:10

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	7920	8120	1	2.49		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3737683-2 12/07/21 03:10

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	262	97.6	85.0-115	

Sample Narrative:

LCS: at 25C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3737475-1 12/06/21 10:11

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3737475-2 12/06/21 10:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	92.8	92.8	80.0-120	

L1436821-41 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1436821-41 12/06/21 10:18 • (MS) R3737475-5 12/06/21 10:28 • (MSD) R3737475-6 12/06/21 10:31

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 %
Arsenic	99.7	15.7	90.2	89.4	74.6	73.7	5	75.0-125	J6	J6	0.943	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3738305-1 12/08/21 01:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3738305-2 12/08/21 01:17

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	90.1	90.1	80.0-120	

L1437294-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1437294-19 12/08/21 01:21 • (MS) R3738305-5 12/08/21 01:31 • (MSD) R3738305-6 12/08/21 01:34

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 %
Arsenic	100	2.29	82.5	85.1	80.2	82.8	5	75.0-125			3.07	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

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.

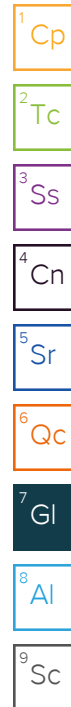
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* 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 Analytical.



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 3									
Report to: jjanicek@caerusoilandgas.com				Email To: jjanicek@caerusoilandgas.com																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									
Project Description: P14-397				City/State Collected: Piceance Crk, CO																									
Phone: Fax:				Client Project # P14-397				Lab Project # P14-397												L # 1437294 B250									
Collected by (print): 				Site/Facility ID # P14-397				P.O. # P14-397												Acctnum:									
Collected by (signature): 				Rush? (Lab MUST Be Notified) ____ Same Day ____ Five Day ____ Next Day ____ 5 Day (Rad Only) ____ Two Day ____ 10 Day (Rad Only) ____ Three Day				Quote #												Template:									
Immediately Packed on Ice N ____ Y ____				Date Results Needed Standard TAT				No. of Cntrs												Prelogin:									
Sample ID				Comp/Grab		Matrix *		Depth		Date		Time		TPH - GRO, DRO, ORO		BTX		TABLE 915-1 - PAH's		SAR, EC, pH, Boron		TABLE 915-1 - Metals		chromium (VI)		EC, SAR, PH, Arsenic		Shipped Via:	
20211130-P14-397 (Bg-SB01) @ 1-1.5' Grab SS NA 11/30/21 1015 2																												Remarks	
20211130-P14-397 (Bg-SB01) @ 2-2.5'																												Sample # (lab only)	
20211130-P14-397 (Bg-SB01) @ 3-3.5'																												-01	
20211130-P14-397 (Bg-SB01) @ 4-4.5'																												-02	
20211130-P14-397 (Bg-SB01) @ 5-5.5'																												-03	
20211130-P14-397 (Bg-SB01) @ 6-6.5'																												-04	
20211130-P14-397 (Bg-SB01) @ 7-7.5'																												-05	
20211130-P14-397 (Bg-SB02) @ 1-1.5'																												-06	
20211130-P14-397 (Bg-SB02) @ 2-2.5'																												-07	
20211130-P14-397 (Bg-SB02) @ 3-3.5'																												-08	
20211130-P14-397 (Bg-SB02) @ 4-4.5'																												-09	
20211130-P14-397 (Bg-SB02) @ 5-5.5'																												-10	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other				Remarks:				pH ____ Temp ____ Flow ____ Other ____				Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N																	
Samples returned via: ____ UPS ____ FedEx ____ Courier ____				Tracking #				5016 1231 9989/1232 0191																					
Relinquished by: (Signature) 				Date: 12/1/21		Time: 1000		Received by: (Signature) 				Trip Blank Received: Yes/No HCL / MeOH TBR																	
Relinquished by: (Signature) 				Date: 12/1/21		Time: 1500		Received by: (Signature) 				Temp: BAATC Bottles Received: 0.1 to 70.7 43				If preservation required by Login: Date/Time													
Relinquished by: (Signature) 				Date:		Time:		Received for lab by: (Signature) 				Date: 12/2/21 Time: 900				Hold: Condition: NCF 1/OK													

