November 14, 2023

Blair Rollins
Environmental Specialist
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Report of Work Completed – Well P&A

ECMC Location Name	DUNN-67S92W/9NWNE (334833)
Client Location Name	B9E
ECMC Well Name	DUNN #9-1C (B9E)
ECMC Remediation Project #	19022
Legal Description	NWNE Sec. 9 T7S-R92W
Coordinates (Lat/Long)	39.4667 / -107.66848
County	Garfield County, Colorado

Mr. Rollins,

Confluence Compliance Companies, LLC (Confluence) prepared this Report of Work Completed (ROWC) for Caerus Oil & Gas LLC (Caerus) to document findings of a site investigation conducted in association with plugging and abandonment (P&A) of the Dunn #9-1C well (API # 05-045-13329) and associated flowline at the B9E well pad (Location). The Location is 5.7 miles south-southwest of Silt, Colorado in Garfield County, as illustrated in the attached Topographic Location Map. Additional information on the Location and the associated remediation project is provided in the title block above, the attached Site Diagrams, soil boring logs, and laboratory analytical reports. This ROWC provides background on the Location, methods used to complete the site investigation, results of the investigation, and recommendations for how to proceed with this information.

Background

In July 2021, the DUNN #9-1C well and associated flowline at the Location were plugged and abandoned. Colorado Oil and Gas Conservation Commission (ECMC) Form 27 Document 402722447 was submitted in support of the P&A to open Remediation Project Number 19022.

On July 14, 2021, Confluence oversaw initial excavation and sampling activities associated with the wellhead abandonment. During excavation, historical drill cuttings were encountered. Soil samples were collected from the cuttings to characterize the potentially impacted material and submitted for laboratory analysis of ECMC Table 915-1 soil constituents. Background soil samples were also collected to characterize native soil conditions at the Location and were submitted for laboratory analysis of ECMC Table 915-1 inorganic soil constituents. P&A activities were postponed pending laboratory results of the drill cuttings characterization samples. Analytical results of the cuttings samples exceeded ECMC Table 915-1 Residential Soil Screening Levels (RSSLs) for pH and arsenic.

On October 13, 2021, Confluence returned to the Location to delineate exceedances observed in the initial characterization samples and to complete P&A sampling activities. Using excavation equipment, five potholes were advanced to depths ranging from 6 to 15 feet below ground surface (bgs). Samples were collected from the terminus of each pothole for laboratory analysis. Background

samples were also collected to further characterize native soil conditions at the Location. Analytical results of delineation samples indicated compliance with all ECMC Table 915-1 RSSLs except for sodium adsorption ratio (SAR), pH, and arsenic.

On October 17 and 18, 2022, Confluence conducted additional delineation sampling activities to the north of the abandoned wellhead. Using both a vacuum truck and drill rig, three soil borings were advanced to a depth of 17 feet bgs. Samples were collected from 5, 10 to 12, and 15 to 17 feet bgs from each pothole for laboratory analysis. Additionally, background samples were collected to further characterize native soil conditions at the Location. Analytical results of delineation soil samples indicated compliance with ECMC Table 915-1 RSSLs except for SAR, pH, arsenic, and chromium (VI). Analytical results of background soil samples exceeded ECMC Table 915-1 RSSLs for pH, arsenic, and chromium (VI).

As documented in Form 27 Document 403252186, on December 29, 2022, the ECMC conditionally approved the request for an alternative allowable concentration for pH of 9.50, arsenic of 47.87 milligrams/kilogram (mg/kg), and chromium (VI) of 5.31 mg/kg. The ECMC also approved the request for a reduced analyte suite of SAR, pH, and arsenic.

Methodology

On August 15 and 16, 2023, Confluence conducted additional delineation sampling activities to the north of the abandoned wellhead and previous soil boring locations, as well as additional background soil sampling to further characterize native soil conditions at the Location. Using a track mounted drill rig, three soil borings (SB10 through SB12) were advanced to a depth of 17 feet bgs. Two samples were collected from each boring: one at 10 to 12 ft bgs and one from the terminus of each borehole for laboratory analysis. The soil was characterized using visual and olfactory methods. Additionally, two soil borings (SB08 and SB09) were advanced to a depth of 20 feet bgs in comparable, nearby, non-impacted soil to further establish background concentrations at the Location.

All soil samples were collected in laboratory provided jars, immediately placed on ice, and shipped for laboratory analysis. Delineation soil samples were submitted for analysis of SAR, pH, and arsenic. Background soil samples were submitted for electrical conductivity (EC), SAR, pH, boron (hot water soluble), and ECMC Table 915-1 metals.

Results

These results summarize observations from onsite investigation efforts and associated laboratory analytical results. For organizational and presentation purposes, the results summary is divided between general observations of lithology and hydrogeology for the entire Location and soil boring activities.

Collected spatial data are depicted in the attached Site Diagrams. Laboratory analytical reports are attached and summarized in the Laboratory Results Summary Table.

Lithology and Hydrogeology

Lithology at the Location is characterized by well-drained sandy loam. According to Division of Water Resources well permit 286196 located 0.80 miles northeast of the Location, depth to groundwater measures approximately 65 feet bgs. Groundwater is expected to flow northeast toward Dry Hollow Creek and ultimately to the Colorado River, located 4.9 miles north of the Location.

Delineation Results

Field screening did not indicate hydrocarbon odor or staining at any of the sample locations. Analytical results for all delineation soil samples indicated compliance with the ECMC Table 915-1 RSSLs, and were within the approved alternative allowable concentrations for pH and arsenic.

Background Sampling Results

Analytical results of background soil samples exceeded ECMC Table 915-1 RSSLs for pH and arsenic. A pH exceedance of 9.22 was detected in SB08 at a depth of 8 to 10 feet bgs, and pH exceedances of 8.65, 9.05, and 8.43 were detected in SB09 at the sample interval depths of 8 to 10, 13 to 15, and 18 to 20 feet bgs, respectively. Arsenic exceedances detected in SB08 were 11.0, 7.28, and 4.36 mg/kg, and exceedances detected in SB09 were 8.31, 7.65, and 9.77 mg/kg, at depths of 8 to 10, 13 to 15, and 18 to 20 feet bgs, respectively.

Analysis and Recommendations

Based on analytical results, all constituents of concern are fully delineated. Exceedances of pH above approved alternative allowable limits remain at approximately 10 feet bgs at the P&A Dunn #9-1C wellhead. Arsenic exceedances above approved allowable limits remain within SB06@5' approximately 40 feet northwest of the wellhead, SB05@15'-17' approximately 65 feet north of the wellhead, and at BASE@15' at the wellhead. Exceedances of SAR remain north of the wellhead within PH_N@6', SB06@5', SB07@10'-12', and SB05@15'-17'.

Confluence recommends a comprehensive characterization of potential waste streams at the Location. This includes additional sampling of pit material at various depths from the surface to 14 feet bgs. Additionally, Confluence suggests characterizing the produced water from a comingled storage tank, along with a produced water sample from the DUNN #92C (B9E) (API #05-045-13330) well. This well draws from the same Williams Fork formation (WMFK) as had the DUNN #9-1C and at similar depths: 5,722 feet bgs and 5,833 feet bgs, respectively. These samples aim to assess the waste composition and potential for noted impacts, particularly related to the arsenic exceedances at the Location.

Assuming the waste characterization defines arsenic exceedances as being naturally occurring, constituents of concern are within ECMC Table 915-1 Residential Soil Screening Levels except for SAR and pH. At that time, Confluence would recommend Caerus draft a 915.b Reclamation plan, aiming to leave the existing exceedances in place. The delineated SAR impacts are anticipated to remain within the project area, specifically at depths ranging from approximately 10 to 20 feet bgs, once the grading associated with the final reclamation is completed. Similarly, the delineated pH impacts are expected to remain at depths of approximately 15 to 20 feet bgs.

Confluence is grateful for the opportunity to support you with this project. If you have any questions about the methods, results, or recommendations presented here, please do not hesitate to contact me.

Regards,

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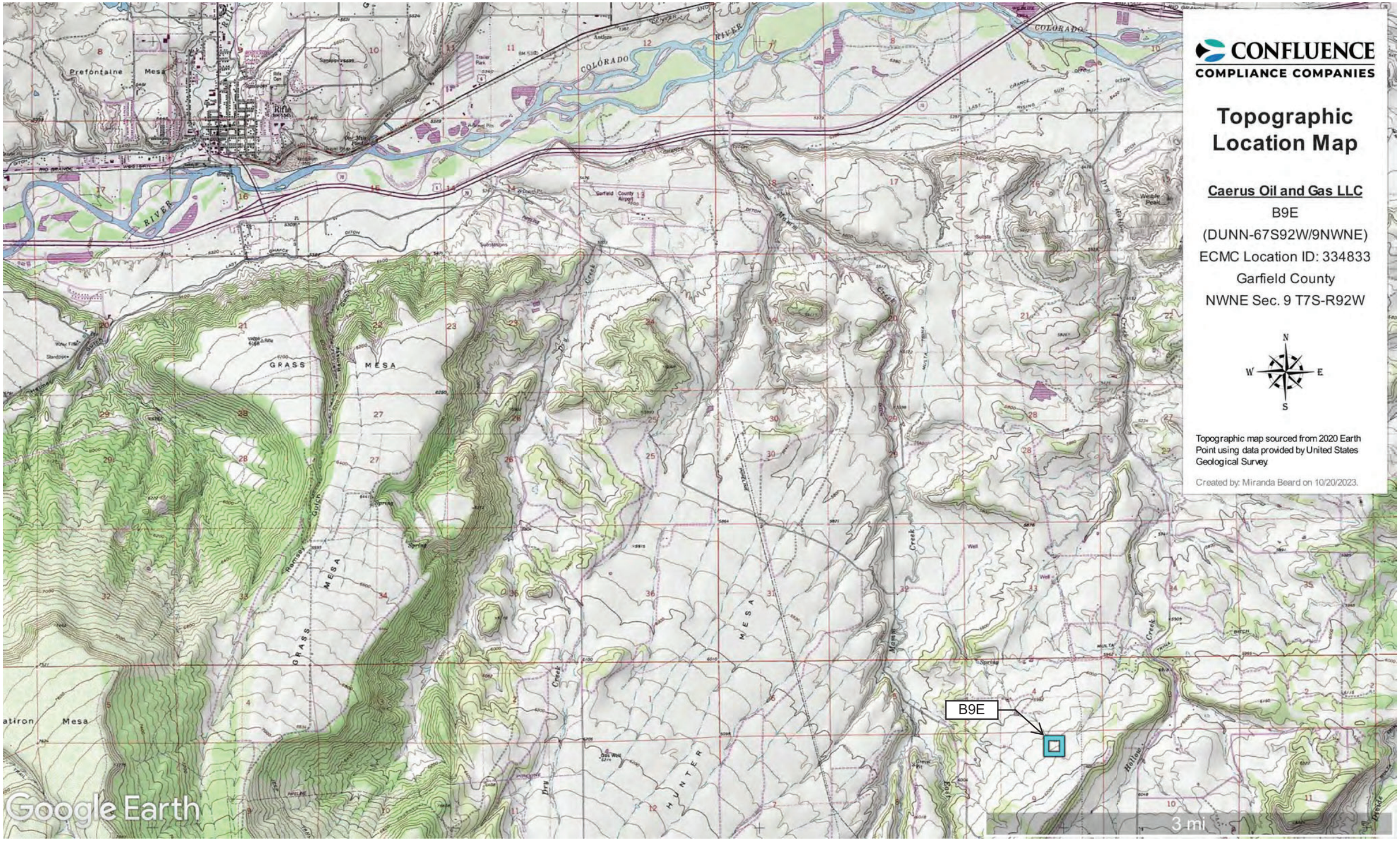
Attachments

- Topographic Location Map
- Site Diagram – Background Samples
- Site Diagram – Investigation Samples
- Laboratory Results Summary Table
- Laboratory Analytical Reports



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COMPLIANCE COMPANIES

Topographic Location Map

Caerus Oil and Gas LLC

B9E

(DUNN-67S92W/9NWNE)

ECMC Location ID: 334833

Garfield County

NWNE Sec. 9 T7S-R92W

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W E
S

Topographic map sourced from 2020 Earth Point using data provided by United States Geological Survey

Created by: Miranda Beard on 10/20/2023.

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Site Diagram
P&A Investigation

Caerus Oil and Gas LLC
B9E
(DUNN-67S92W/9NWNE)
ECMC Location ID: 334833
Garfield County
NWNE Sec. 9 T7S-R92W

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W E
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Legend
- Soil Sample
- Final Excavation Boundary

Spatial data was collected using a handheld GPS unit with submeter accuracy. Illustration discrepancies may be present in this diagram due to the inherent limitations of data accuracy for both project data and the underlying aerial imagery. The position of illustrated data may have been manually adjusted to align with the aerial imagery in a manner more representative of field conditions for presentation purposes only.

Map created by: Amanda Baca on 11/6/2023.

CONFLUENCE
COMPLIANCE COMPANIES

Site Diagram
Background Samples

Caerus Oil and Gas LLC
B9E
(DUNN-67S92W/9NWNE)
ECMC Location ID: 334833
Garfield County
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Map created by: Amanda Baca on 11/6/2023.

CONFLUENCE

Laboratory Results Summary Table - Soil
B9E DUNN #9-1C

10/20/2023

					Organic Compounds (mg/kg [ppm])																								
ECMC Soil Screening Levels																													
ECMC Table 915-1 Residential -->				NA	500	NA	NA	NA	1.2	490	5.8	58	30	27	360	1800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	18	24	2	180
Sample Date	**Solid/Soil Source (Equipment)** (Y-Jet/Sump, Separator, Tank Battery, Dump Line, PH, Cuttings, Background, etc.)	**Depth - Z** (feet) **(NEGATIVE VALUE)** below ground surface (bgs)	**Sample ID**	**PID** (ppm)	**TPH (total volatile and extractable petroleum hydrocarbons) (GRO+DRO+ ORO)**	**TPH-GRO (C6-C10) Low Fraction**	**TPH-DRO (C10-C28) High Fraction**	**TPH-ORO (C28-C36) High Fraction**	**Benzene**	**Toluene**	**Ethylbenzene**	**Xylenes - total (sum of o-, m-, p- isomers)**	**1,2,4-trimethylbenzene**	**1,3,5-trimethylbenzene**	**Acenaphthene**	**Anthracene**	**Benzo(A)anthracene**	**Benzo(A)pyrene**	**Benzo(B)fluoranthene**	**Benzo(K)fluoranthene**	**Chrysene**	**Dibenz(A,H)anthracene**	**Fluoranthene**	**Fluorene**	**Indeno(1,2,3,C,D)pyrene**	**1- Methylnaphthalene**	**2- Methylnaphthalene**	**Naphthalene**	**Pyrene**
8/16/2023	Pad	-12	**20230816-B9E-(SB11)@10-12**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
8/16/2023	Pad	-17	**20230816-B9E-(SB11)@15-17**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
8/16/2023	Pad	-12	**20230816-B9E-(SB10)@10-12**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
8/16/2023	Pad	-17	**20230816-B9E-(SB10)@15-17**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
8/16/2023	Pad	-12	**20230816-B9E-(SB12)@10-12**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
8/16/2023	Pad	-17	**20230816-B9E-(SB12)@15-17**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
10/18/2022	Pad	-12	**20221018-B9E-SB05@10'-12'**	**6.2**	*ND*	*<0.100*	*<4.00*	*<4.00*	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.00600*
10/18/2022	Pad	-17	**20221018-B9E-SB05@15'-17'**	**10.2**	**0.183**	**0.183**	*<4.00*	*<4.00*	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.00600*
10/18/2022	Pad	-12	**20221018-B9E-SB06@10'-12'**	**0.5**	*ND*	*<0.100*	*<4.00*	*<4.00*	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.00600*
10/18/2022	Pad	-17	**20221018-B9E-SB06@15'-17'**	**2.8**	**28.7**	*<1.00*	**10.3**	**18.4**	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.00600*
10/18/2022	Pad	-12	**20221018-B9E-SB07@10'-12'**	**0.8**	*ND*	*<0.100*	*<4.00*	*<4.00*	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.00600*
10/18/2022	Pad	-17	**20221018-B9E-SB07@15'-17'**	**1.7**	*ND*	*<0.100*	*<4.00*	*<4.00*	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.00600*
10/17/2022	Pad	-5	**20221017-B9E-SB05@5'**	**4.1**	**16.6**	*<0.100*	**6.47**	**10.1**	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.00600*
10/17/2022	Pad	-5	**20221017-B9E-SB06@5'**	**14.9**	**18.2**	*<0.100*	**7.42**	**10.8**	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.00600*
10/17/2022	Pad	-5	**20221017-B9E-SB07@5'**	**3.3**	*ND*	*<0.100*	*<4.00*	*<4.00*	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.00600*
10/13/2021	Pad	-6	**20211013-B9E(FLOWLINE@6')**	**0.1**	**88.4**	**0.0371**	**46.8**	**41.6**	*<0.00100*	*<0.00500*	*<0.00250*	**0.0020**	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*
10/13/2021	Pad	-6	**20211013-B9E (PH_S@6')**	**33.1**	**256**	**0.359**	**129**	**127**	**0.000668**	**0.00161**	*<0.00250*	**0.00656**	**0.00832**	**0.00403**	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	**0.00811**	*<0.00600*	**0.0235**	**0.0383**	**0.00910**	**0.00373**
10/13/2021	Pad	-6	**20211013-B9E (PH_E@6')**	**3.6**	**41.7**	**0.0318**	**15.8**	**25.9**	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	**0.00511**	*<0.0200*	*<0.0200*
10/13/2021	Pad	-6	**20211013-B9E (PH_N@6')**	**1.1**	**0.618**	**0.0409**	*<4.00*	**0.577**	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.0200*
10/13/2021	Pad	-15	**20211013-B9E (BASE@15')**	**0.3**	**4.39**	*<0.100*	**1.80**	**2.59**	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.0200*
10/13/2021	Pad	-6	**20211013-B9E (PH_W@6')**	**3.4**	**24.1**	**0.0637**	**11.4**	**12.6**	*<0.00100*	*<0.00500*	*<0.00250*	*<0.00650*	*<0.00500*	*<0.00500*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	**0.00322**	*<0.00600*	**0.0143**	**0.0308**	**0.00917**	**0.00449**
10/13/2021	Pad	-15	**20211013-B9E (BASE@15')**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
7/14/2021	Pad	-10	**20210714-B9E (BASE@10')**	**3.4**	**16.55**	**0.142**	**5.41**	**11.00**	**0.00113**	*<0.00500*	**0.00113**	**0.0027**	*<0.0050*	*<0.0050*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.00600*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.0200*
7/14/2021	Pad	-9	**20210714-B9E (SS01@9')**	**47.2**	**129.17**	**7.63**	**113**	**8.54**	**0.0322**	**0.00413**	**0.0304**	**0.390**	**0.402**	**0.227**	*<0.00600*	**0.118**	**0.0163**	*<0.00600*	*<0.00600*	*<0.00600*	**0.0224**	*<0.00600*	**0.116**	**0.491**	*<0.00600*	**2.02**	**2.97**	**0.371**	**0.314**

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Orange Fill = Exceedance
Dark Gray Italics = Below Reporting Detection Limit (RDL) "NA" = Not Analyzed
mg/kg = milligrams per kilogram / parts per million

CONFLUENCE

Laboratory Results Summary Table - Soil
B9E DUNN #9-1C

10/20/2023

					Soil Suitability for Reclamation				Metals (mg/kg [ppm])									
ECMC Soil Screening Levels																		
ECMC Table 915-1 Residential -->				NA	4	6	6-8.3	2	0.68	15000	71	0.3	3100	400	1500	390	390	23000
Sample Date	Solid/Soil Source (Equipment) [Vault/Sump, Separator, Tank Battery, Dump Line, Pit, Cuttings, Background, etc.]	Depth - Z (feet) (NEGATIVE VALUE) below ground surface (bgs)	Sample ID	PID (ppm)	EC (Specific Conductance) (millimhos/centimeter) (by saturated paste method)	SAR (Sodium Adsorption Ratio) (calculation) (by saturated paste method)	pH (pH Units) (by saturated paste method)	Boron - Hot Water Soluble (mg/L)	Arsenic	Barium	Cadmium (mg/kg)	Chromium (VI)	Copper	Lead	Nickel	Selenium	Silver	Zinc
8/16/2023	Pad	-12	20230816-B9E-(SB11)@10-12	NA	NA	0.485	9.21	NA	11.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
8/16/2023	Pad	-17	20230816-B9E-(SB11)@15-17	NA	NA	0.466	9.15	NA	8.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
8/16/2023	Pad	-12	20230816-B9E-(SB10)@10-12	NA	NA	0.586	8.47	NA	3.84	NA	NA	NA	NA	NA	NA	NA	NA	NA
8/16/2023	Pad	-17	20230816-B9E-(SB10)@15-17	NA	NA	0.285	9.09	NA	8.40	NA	NA	NA	NA	NA	NA	NA	NA	NA
8/16/2023	Pad	-12	20230816-B9E-(SB12)@10-12	NA	NA	0.690	9.00	NA	5.17	NA	NA	NA	NA	NA	NA	NA	NA	NA
8/16/2023	Pad	-17	20230816-B9E-(SB12)@15-17	NA	NA	1.93	8.85	NA	10.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/18/2022	Pad	-12	20221018-B9E-SB05@10'-12'	6.2	0.257	5.16	9.45	<0.200	20.8	58.8	<0.500	<1.00	5.78	12.3	3.16	<2.00	<1.00	16.4
10/18/2022	Pad	-17	20221018-B9E-SB05@15'-17'	10.2	0.577	6.43	8.98	<0.200	62.0	94.5	<0.500	1.53	4.54	9.70	3.19	<2.00	<1.00	13.6
10/18/2022	Pad	-12	20221018-B9E-SB06@10'-12'	0.5	0.325	5.09	8.75	0.230	10.4	84.0	<0.500	1.94	4.41	7.60	4.40	<2.00	<1.00	18.5
10/18/2022	Pad	-17	20221018-B9E-SB06@15'-17'	2.8	0.435	4.82	8.80	0.225	19.3	154	<0.500	1.38	6.91	9.27	7.04	<2.00	<1.00	27.8
10/18/2022	Pad	-12	20221018-B9E-SB07@10'-12'	0.8	0.348	6.78	9.26	<0.200	10.7	36.8	<0.500	<1.00	4.33	9.05	2.89	<2.00	<1.00	15.6
10/18/2022	Pad	-17	20221018-B9E-SB07@15'-17'	1.7	0.472	2.71	8.91	0.254	13.7	39.4	<0.500	1.51	4.92	9.00	7.12	<2.00	<1.00	24.7
10/17/2022	Pad	-5	20221017-B9E-SB05@5'	4.1	0.314	4.45	8.63	0.369	3.40	335	<0.500	<1.00	5.55	3.75	5.49	<2.00	<1.00	17.3
10/17/2022	Pad	-5	20221017-B9E-SB06@5'	14.9	0.633	7.13	8.03	0.204	83.9	612	1.19	<1.00	30.2	34.2	12.7	<2.00	<1.00	45.7
10/17/2022	Pad	-5	20221017-B9E-SB07@5'	3.3	0.332	5.30	9.00	<0.200	5.36	117	<0.500	<1.00	6.71	9.23	8.50	<2.00	<1.00	26.9
10/13/2021	Pad	-6	20211013-B9E(FLOWLINE@6')	0.1	0.689	2.38	7.84	0.485	6.15	483	0.185	<1.00	10.3	7.57	8.84	<2.00	<1.00	25.8
10/13/2021	Pad	-6	20211013-B9E (PH_S@6')	33.1	0.561	2.44	9.06	0.450	6.61	2870	<0.0500	<1.00	8.98	10.5	6.65	1.15	<1.00	29.7
10/13/2021	Pad	-6	20211013-B9E (PH_E@6')	3.6	1.130	1.96	8.11	0.518	10.5	2300	<0.0500	<1.00	8.04	9.68	6.55	<2.00	<1.00	26.4
10/13/2021	Pad	-6	20211013-B9E (PH_N@6')	1.1	0.778	9.93	9.12	0.438	2.57	494	0.253	<1.00	8.73	8.75	11.5	<2.00	<1.00	39.1
10/13/2021	Pad	-15	20211013-B9E (BASE@15')	0.3	0.560	3.73	8.45	1.28	49.8	186	0.553	<1.00	28.7	39.7	13.5	1.72	<1.00	57.3
10/13/2021	Pad	-6	20211013-B9E (PH_W@6')	3.4	0.757	3.93	8.08	0.504	9.65	1330	0.0563	<1.00	9.66	11.2	7.30	<2.00	<1.00	33.1
10/13/2021	Pad	-15	20211013-B9E (BASE@15')	NA	NA	NA	NA	NA	36.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/14/2021	Pad	-10	20210714-B9E (BASE@10')	3.4	0.417	3.90	10.2	0.415	2.43	176	0.243	<1.00	10.2	7.28	15.5	<2.00	<1.00	46.3
7/14/2021	Pad	-9	20210714-B9E (SS01@9')	47.2	1.210	5.43	9.67	0.800	2.52	14300	<2.50	<1.00	15.4	15.7	9.67	1.84	<1.00	86.2

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mg/kg = milligrams per kilogram / parts per million

CONFLUENCE

Laboratory Results Summary Table - Background
B9E DUNN #9-1C

10/20/2023

ECMC Soil Screening Levels					Soil Suitability for Reclamation				Metals (mg/kg [ppm])														
ECMC Table 915-1 Residential -->				NA	4	6	6-8.3	2	0.68	NA	15000	NA	71	NA	0.3	NA	3100	400	NA	1500	390	390	23000
Sample Date	Solid/Soil Source (Equipment) [Vault/Sump, Separator, Tank Battery, Dump Line, Pit, Cuttings, Background, etc.]	Depth - Z (feet) (NEGATIVE VALUE) below ground surface (bgs)	Sample ID	PID (ppm)	EC (Specific Conductance) (millimhos/centimeter) (by saturated paste method)	SAR (Sodium Adsorption Ratio) (calculation) (by saturated paste method)	pH (pH Units) (by saturated paste method)	Boron - Hot Water Soluble (mg/L)	Arsenic	Barium (LDNR True Total Barium)	Barium	Boron	Cadmium (mg/kg)	Chromium (III)	Chromium (VI)	Chromium (Total)	Copper	Lead	Mercury (Total Mercury by EPA 7471)	Nickel	Selenium	Silver	Zinc
8/15/2023	Background	-10	20230815-MCBG-(B9E-SB08)@8-10	NA	0.262	2.15	9.22	0.169	11.0	NA	92.1	NA	0.263	NA	<1.00	NA	8.74	9.63	NA	10.2	0.458	<0.500	23.8
8/15/2023	Background	-15	20230815-MCBG-(B9E-SB08)@13-15	NA	0.0831	2.57	8.22	0.0526	7.28	NA	35.8	NA	<1.00	NA	<1.00	NA	8.58	6.82	NA	3.00	0.190	<0.500	16.6
8/15/2023	Background	-20	20230815-MCBG-(B9E-SB08)@18-20	NA	0.0908	1.80	8.00	0.0436	4.36	NA	28.2	NA	<1.00	NA	<1.00	NA	2.67	6.30	NA	4.69	0.181	<0.500	18.1
8/15/2023	Background	-10	20230815-MCBG-(B9E-SB09)@8-10	NA	0.0581	2.20	8.65	0.127	8.31	NA	40.3	NA	<1.00	NA	<1.00	NA	2.23	5.48	NA	1.83	0.381	<0.500	9.25
8/15/2023	Background	-15	20230815-MCBG-(B9E-SB09)@13-15	NA	0.0934	1.93	9.05	0.0725	7.65	NA	35.3	NA	0.107	NA	<1.00	NA	3.10	5.99	NA	4.84	0.277	<0.500	17.2
8/15/2023	Background	-20	20230815-MCBG-(B9E-SB09)@18-20	NA	0.0564	1.78	8.43	0.0499	9.77	NA	41.3	NA	<1.00	NA	<1.00	NA	6.55	7.06	NA	4.46	0.267	<0.500	22.5
10/17/2022	Background	-5.5	20221017-B9E-SB01@5-5.5'	NA	0.216	2.07	8.86	0.221	38.3	NA	112	NA	<0.500	NA	1.35	NA	7.60	10.8	NA	4.21	<2.00	<1.00	16.5
10/17/2022	Background	-10	20221017-B9E-SB01@10'	NA	0.476	1.98	8.53	0.411	4.48	NA	207	NA	<0.500	NA	<1.00	NA	13.8	9.70	NA	19.2	<2.00	<1.00	56.8
10/17/2022	Background	-13.5	20221017-B9E-SB01@13.5'	NA	0.218	1.75	8.77	<0.200	18.7	NA	97.0	NA	<0.500	NA	4.25	NA	7.16	7.65	NA	5.90	<2.00	<1.00	15.7
10/17/2022	Background	-5	20221017-B9E-SB02@5'	NA	0.310	2.43	8.40	<0.200	12.4	NA	45.4	NA	<0.500	NA	2.00	NA	9.73	7.38	NA	5.06	<2.00	<1.00	21.0
10/17/2022	Background	-10	20221017-B9E-SB02@10'	NA	0.321	4.22	8.36	<0.200	15.0	NA	55.8	NA	<0.500	NA	1.26	NA	6.93	10.9	NA	5.19	<2.00	<1.00	25.5
10/17/2022	Background	-15	20221017-B9E-SB02@15'	NA	0.334	0.729	8.48	<0.200	4.57	NA	181	NA	<0.500	NA	<1.00	NA	15.0	13.2	NA	18.5	<2.00	<1.00	57.0
10/17/2022	Background	-18	20221017-B9E-SB02@18'	NA	0.218	0.984	8.46	<0.200	3.44	NA	247	NA	0.642	NA	<1.00	NA	18.4	13.5	NA	21.3	<2.00	<1.00	79.8
10/17/2022	Background	-6	20221017-B9E-SB03@5'-6'	NA	0.265	1.52	8.78	1.28	5.08	NA	77.1	NA	<0.500	NA	<1.00	NA	5.64	7.14	NA	5.27	<2.00	<1.00	20.8
10/17/2022	Background	-10	20221017-B9E-SB03@10'	NA	0.274	0.325	8.51	0.349	5.30	NA	346	NA	<0.500	NA	<1.00	NA	8.30	4.97	NA	10.0	<2.00	<1.00	21.9
10/17/2022	Background	-6	20221017-B9E-SB04@5'-6'	NA	0.150	0.485	8.52	0.230	14.0	NA	654	NA	<0.500	NA	<1.00	NA	9.48	6.35	NA	7.76	<2.00	<1.00	18.9
10/17/2022	Background	-10	20221017-B9E-SB04@10'	NA	0.177	0.324	8.40	0.262	11.4	NA	101	NA	<0.500	NA	<1.00	NA	7.89	10.3	NA	12.5	<2.00	<1.00	39.8
10/13/2021	Background	-1.5	20211013-B9E (BGE2@1.5')	NA	2.620	0.527	9.21	NA	3.78	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/13/2021	Background	-2	20211013-B9E (BGE3@2')	NA	0.598	0.321	9.50	NA	1.85	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/14/2021	Background	-1	20210714-B9E (BGW@1')	NA	0.295	0.269	8.07	NA	4.69	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/14/2021	Background	-3	20210714-B9E (BGN@3')	NA	0.241	0.508	8.28	NA	4.87	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/14/2021	Background	-0.7	20210714-B9E (BGE@8")	NA	0.317	0.0660	8.20	NA	6.23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/14/2021	Background	-2	20210714-B9E (BGS@2')	NA	0.283	0.103	8.12	NA	5.94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Orange Fill = Exceedance
Dark Gray Italics = Below Reporting Detection Limit (RDL) "NA" = Not Analyzed
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ANALYTICAL REPORT

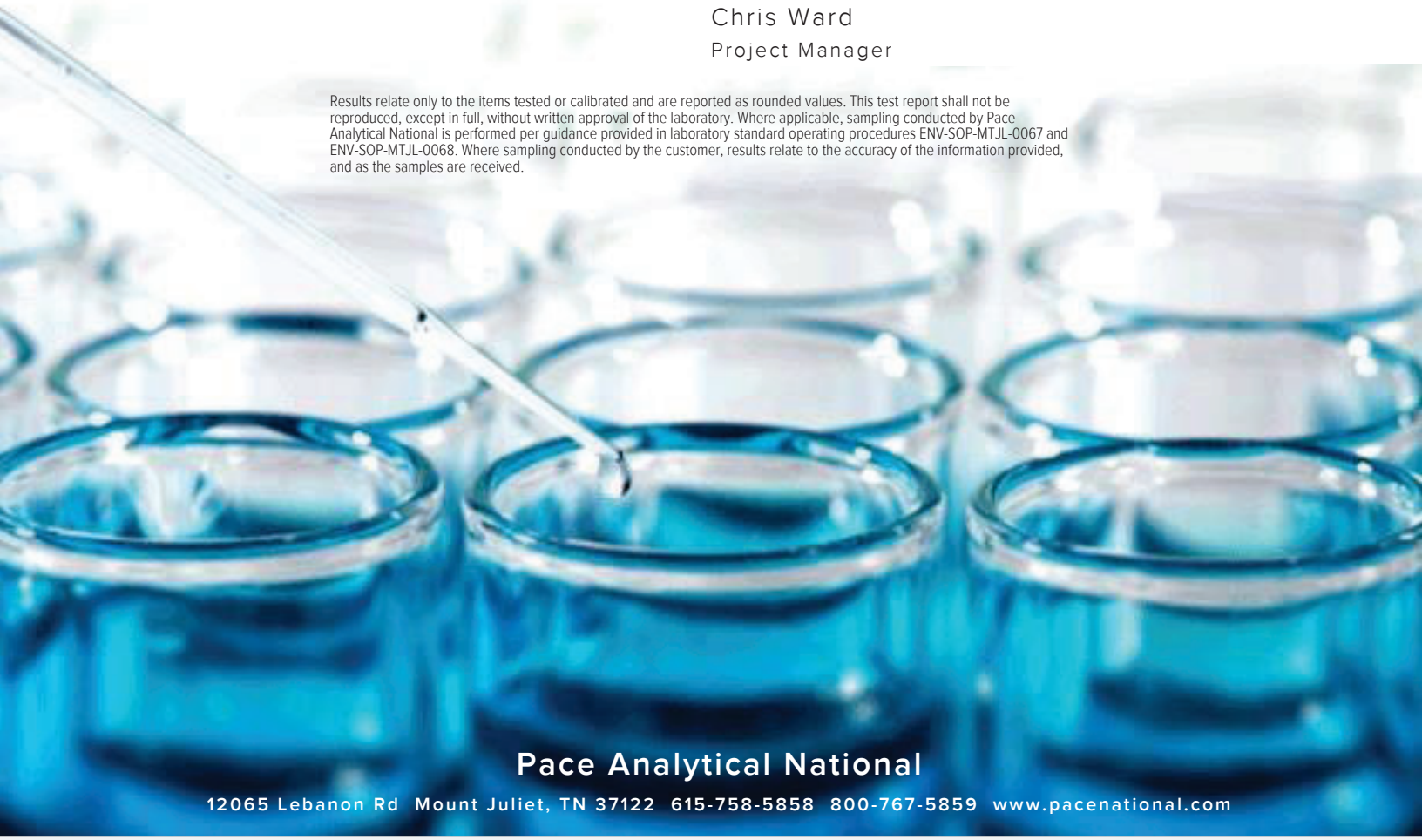
August 29, 2023

Caerus Oil and Gas

Sample Delivery Group:	L1647723
Samples Received:	08/18/2023
Project Number:	
Description:	B9E Dunn #9-1C (B9E) wellhead P&A
Site:	B9E
Report To:	Jake J. / Brett M. / Blair R. / Andy V. 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

TABLE OF CONTENTS

SAMPLE SUMMARY

20230816-B9E-(SB11)@10-12 L1647723-01 Solid

Collected by: Alex Slorby
Collected date/time: 08/16/23 09:25
Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2118224	1	08/25/23 17:54	08/25/23 17:54	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2117299	1	08/19/23 16:20	08/19/23 18:01	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117168	1	08/19/23 17:53	08/28/23 22:23	ZSA	Mt. Juliet, TN

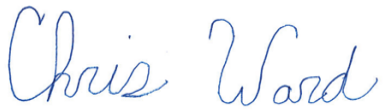
20230816-B9E-(SB11)@15-17 L1647723-02 Solid

Collected by: Alex Slorby
Collected date/time: 08/16/23 09:35
Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2118219	1	08/25/23 16:50	08/25/23 16:50	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2117299	1	08/19/23 16:20	08/19/23 18:01	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117168	1	08/19/23 17:53	08/28/23 21:07	ZSA	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

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.485		1	08/25/2023 17:54	WG2118224

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.21	T8	1	08/19/2023 18:01	WG2117299

Sample Narrative:

L1647723-01 WG2117299: 9.21 at 23.4C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	11.1		0.518	2.00	1	08/28/2023 22:23	WG2117168

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.466		1	08/25/2023 16:50	WG2118219

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.15	T8	1	08/19/2023 18:01	WG2117299

Sample Narrative:

L1647723-02 WG2117299: 9.15 at 23.2C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	8.04		0.518	2.00	1	08/28/2023 21:07	WG2117168

L1647722-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1647722-02 08/19/23 18:01 • (DUP) R3962913-2 08/19/23 18:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	9.05	9.03	1	0.221		1

Sample Narrative:

OS: 9.05 at 23.9C

DUP: 9.03 at 23.7C

L1647731-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1647731-05 08/19/23 18:01 • (DUP) R3962913-3 08/19/23 18:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.77	8.75	1	0.228		1

Sample Narrative:

OS: 8.77 at 22.5C

DUP: 8.75 at 22.7C

Laboratory Control Sample (LCS)

(LCS) R3962913-1 08/19/23 18:01

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

Sample Narrative:

LCS: 10 at 21.2C

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

Method Blank (MB)

(MB) R3966504-1 08/28/23 21:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.518	2.00

Laboratory Control Sample (LCS)

(LCS) R3966504-2 08/28/23 21:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	93.3	93.3	80.0-120	

L1647731-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647731-02 08/28/23 21:32 • (MS) R3966504-5 08/28/23 21:40 • (MSD) R3966504-6 08/28/23 21:42

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	3.78	96.7	90.2	93.0	86.5	1	75.0-125			6.96	20

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
T8	Sample(s) received past/too close to holding time expiration.

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	LAO000356
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.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here: **H137**

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins, Andy Verbonitz	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B9E Dunn #9-1C (B9E) wellhead P&A	State: CO / County/City: Garfield Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Phone: Email:	Site/Facility ID #: B9E	Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Alex Slorby	Purchase Order # : Quote #:	DW PWS ID #: DW Location Code:
Collected By (signature): Alex Slorby	Turnaround Date Required: Standard Turnaround	Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	SAR, pH	Arsenic	Lab Sample # / Comments
20230816-B9E-(SB11)@10-12	SL	G			8/16/2023	0925		3	G	X	X	L1647723 -01
20230816-B9E-(SB11)@15-17	SL	G			8/16/2023	0935		3	G	X	X	-02

Analyses

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips: _____	
Sample pH Acceptable	Y N NA
pH Strips: _____	
Sulfide Present	Y N NA
Lead Acetate Strips: _____	

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:
Please store all extra material for additional analysis.

Type of Ice Used: Wet Blue Dry None	SHORT HOLDS PRESENT (<72 hours) : Y N N/A
Packing Material Used:	Lab Tracking #:
Radchem sample(s) screened (<500 cpm): Y N NA	Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: ___oC
Cooler 1 Therm Corr. Factor: ___oC
Cooler 1 Corrected Temp: ___oC
Comments:

Relinquished by/Company: (Signature) Alex Slorby	Date/Time: 8/17/2023 1200	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time: 8/17 1230	Received by/Company: (Signature)	Date/Time: 8-18-23 0400
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY

Table #:	
Acctnum:	
Template:	
Prelogin:	
PM:	
PB:	

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

L1647723

Tracking Numbers	Temperature
6525 5572 0082	2.5+0 = 2.5
6525 5572 0050	2.2+0 = 2.2
6525 5572 0049	2.8+0 = 2.8
6525 5572 0071	4.8+0 = 4.8

ANALYTICAL REPORT

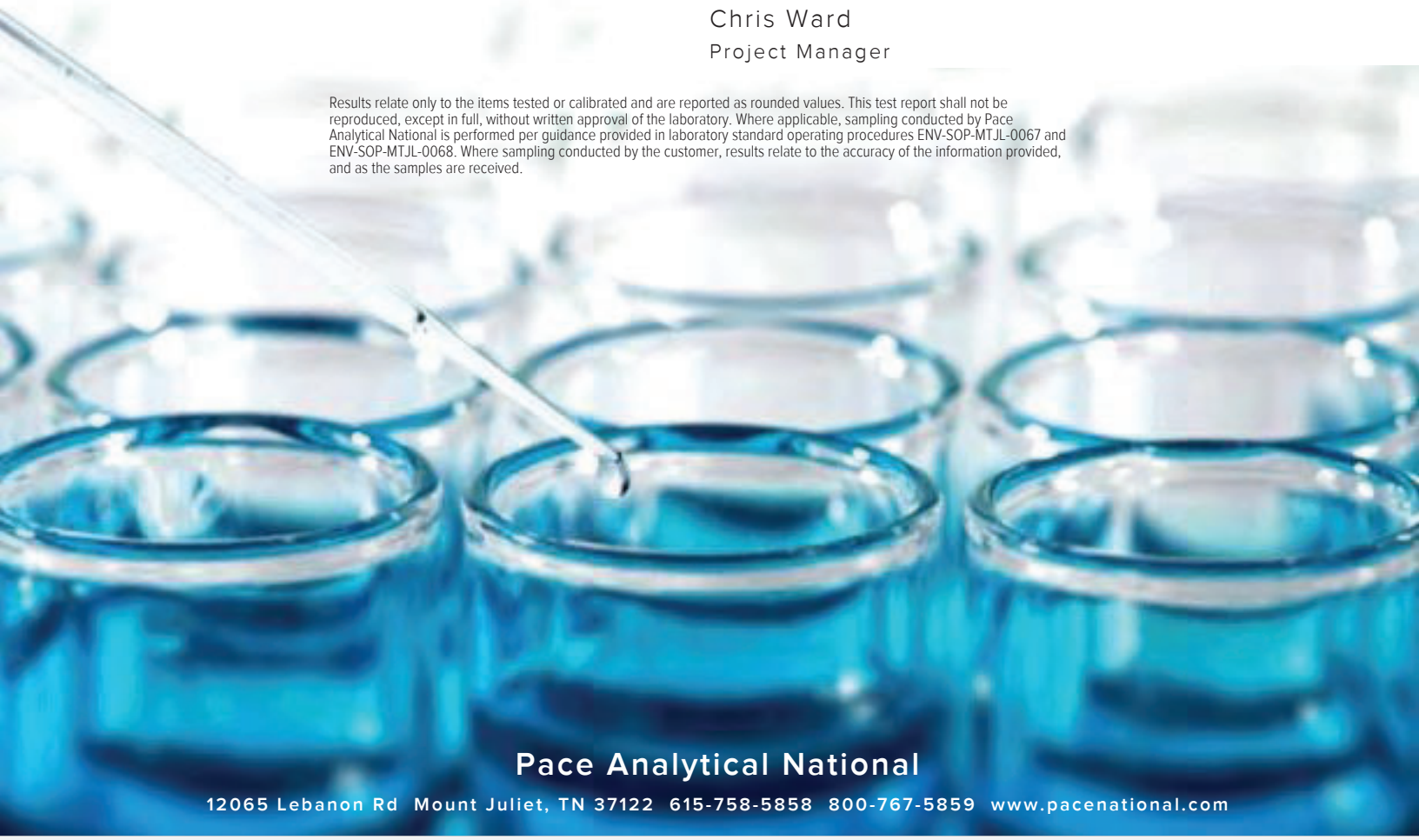
August 29, 2023

Caerus Oil and Gas

Sample Delivery Group:	L1647726
Samples Received:	08/18/2023
Project Number:	
Description:	B9E Dunn #9-1C (B9E) wellhead P&A
Site:	B9E
Report To:	Jake J. / Brett M. / Blair R. / Andy V. 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

TABLE OF CONTENTS

SAMPLE SUMMARY

20230816-B9E-(SB10)@10-12 L1647726-01 Solid

Collected by: Alex Slorby
Collected date/time: 08/16/23 08:10
Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2118219	1	08/25/23 16:53	08/25/23 16:53	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2117267	1	08/19/23 14:00	08/19/23 16:21	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117168	1	08/19/23 17:53	08/28/23 21:10	ZSA	Mt. Juliet, TN

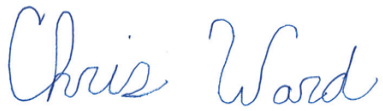
20230816-B9E-(SB10)@15-17 L1647726-02 Solid

Collected by: Alex Slorby
Collected date/time: 08/16/23 08:45
Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2118219	1	08/25/23 16:56	08/25/23 16:56	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2117299	1	08/19/23 16:20	08/19/23 18:01	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117168	1	08/19/23 17:53	08/28/23 21:13	ZSA	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

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.586		1	08/25/2023 16:53	WG2118219

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.47	T8	1	08/19/2023 16:21	WG2117267

Sample Narrative:

L1647726-01 WG2117267: 8.47 at 21.9C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.84		0.518	2.00	1	08/28/2023 21:10	WG2117168

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.285		1	08/25/2023 16:56	WG2118219

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.09	T8	1	08/19/2023 18:01	WG2117299

Sample Narrative:

L1647726-02 WG2117299: 9.09 at 23.3C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	8.40		0.518	2.00	1	08/28/2023 21:13	WG2117168

L1647546-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1647546-05 08/19/23 16:21 • (DUP) R3962894-2 08/19/23 16:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	9.10	9.15	1	0.548		1

Sample Narrative:

OS: 9.1 at 21.4C

DUP: 9.15 at 21.5C

L1647549-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1647549-01 08/19/23 16:21 • (DUP) R3962894-3 08/19/23 16:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.67	8.72	1	0.575		1

Sample Narrative:

OS: 8.67 at 21.4C

DUP: 8.72 at 21.3C

Laboratory Control Sample (LCS)

(LCS) R3962894-1 08/19/23 16:21

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

Sample Narrative:

LCS: 10.01 at 21.4C

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

L1647722-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1647722-02 08/19/23 18:01 • (DUP) R3962913-2 08/19/23 18:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	9.05	9.03	1	0.221		1

Sample Narrative:

OS: 9.05 at 23.9C

DUP: 9.03 at 23.7C

L1647731-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1647731-05 08/19/23 18:01 • (DUP) R3962913-3 08/19/23 18:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.77	8.75	1	0.228		1

Sample Narrative:

OS: 8.77 at 22.5C

DUP: 8.75 at 22.7C

Laboratory Control Sample (LCS)

(LCS) R3962913-1 08/19/23 18:01

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

Sample Narrative:

LCS: 10 at 21.2C

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

Method Blank (MB)

(MB) R3966504-1 08/28/23 21:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.518	2.00

Laboratory Control Sample (LCS)

(LCS) R3966504-2 08/28/23 21:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	93.3	93.3	80.0-120	

L1647731-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647731-02 08/28/23 21:32 • (MS) R3966504-5 08/28/23 21:40 • (MSD) R3966504-6 08/28/23 21:42

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	3.78	96.7	90.2	93.0	86.5	1	75.0-125			6.96	20

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.
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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	LAO000356
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.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here: **H138**

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins, Andy Verbonitz	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B9E Dunn #9-1C (B9E) wellhead P&A	State: CO / Garfield; County/City: ; Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: / Email:	Site/Facility ID #: B9E; Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Alex Slorby	Purchase Order # : / Quote #: ; DW PWS ID #: / DW Location Code:
Collected By (signature): Alex Slorby	Turnaround Date Required: Standard Turnaround; Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold:	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day; Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Lab Project Manager:

Analyses

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	SAR, pH	Arsenic	Lab Sample # / Comments:
												L1647726
20230816-B9E-(SB10)@10-12	SL	G			8/16/2023	0810		3	G	X	X	-01
20230816-B9E-(SB10)@15-17	SL	G			8/16/2023	0845		3	G	X	X	-02

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:
Please store all extra material for additional analysis.

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: ___oC
Cooler 1 Therm Corr. Factor: ___oC
Cooler 1 Corrected Temp: ___oC
Comments:

Relinquished by/Company: (Signature) Alex Slorby	Date/Time: 8/17/2023 1200	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time: 8/17/23 1230	Received by/Company: (Signature)	Date/Time: 8-18-23 0800
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

ANALYTICAL REPORT

August 28, 2023

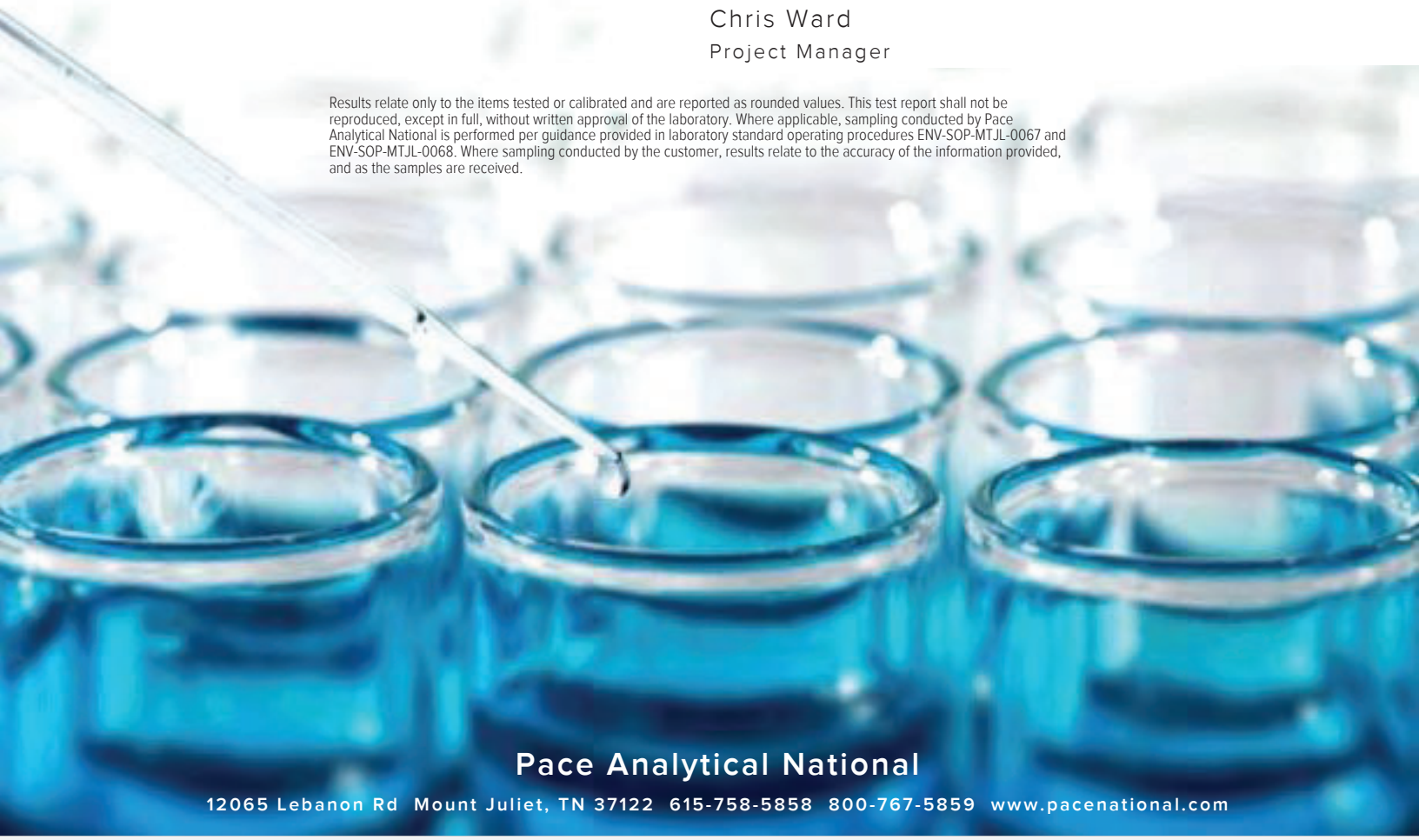
Caerus Oil and Gas

Sample Delivery Group:	L1647730
Samples Received:	08/18/2023
Project Number:	
Description:	B9E Dunn #9-1C (B9E)
Site:	B9E
Report To:	Jake J. / Brett M. / Blair R. 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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

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SAMPLE SUMMARY

20230816-B9E-(SB12)@10-12 L1647730-01 Solid

Collected by: Alex Slorby
Collected date/time: 08/16/23 10:10
Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2118219	1	08/25/23 17:09	08/25/23 17:09	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2117299	1	08/19/23 16:20	08/19/23 18:01	NTG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2118051	5	08/21/23 10:44	08/22/23 12:48	SJM	Mt. Juliet, TN

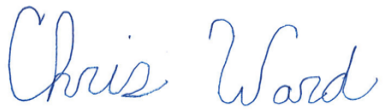
20230816-B9E-(SB12)@15-17 L1647730-02 Solid

Collected by: Alex Slorby
Collected date/time: 08/16/23 10:20
Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2118219	1	08/25/23 17:12	08/25/23 17:12	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2117299	1	08/19/23 16:20	08/19/23 18:01	NTG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2118051	5	08/21/23 10:44	08/22/23 12:51	SJM	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

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.690		1	08/25/2023 17:09	WG2118219

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.00	T8	1	08/19/2023 18:01	WG2117299

Sample Narrative:

L1647730-01 WG2117299: 9 at 23.1C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.17		0.100	1.00	5	08/22/2023 12:48	WG2118051

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.93		1	08/25/2023 17:12	WG2118219

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.85	T8	1	08/19/2023 18:01	WG2117299

Sample Narrative:

L1647730-02 WG2117299: 8.85 at 23C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	10.3		0.100	1.00	5	08/22/2023 12:51	WG2118051

L1647722-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1647722-02 08/19/23 18:01 • (DUP) R3962913-2 08/19/23 18:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	9.05	9.03	1	0.221		1

Sample Narrative:

OS: 9.05 at 23.9C

DUP: 9.03 at 23.7C

L1647731-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1647731-05 08/19/23 18:01 • (DUP) R3962913-3 08/19/23 18:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.77	8.75	1	0.228		1

Sample Narrative:

OS: 8.77 at 22.5C

DUP: 8.75 at 22.7C

Laboratory Control Sample (LCS)

(LCS) R3962913-1 08/19/23 18:01

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

Sample Narrative:

LCS: 10 at 21.2C

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

Method Blank (MB)

(MB) R3963862-1 08/22/23 12:21

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) R3963862-2 08/22/23 12:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	106	106	80.0-120	

L1647733-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647733-06 08/22/23 12:28 • (MS) R3963862-5 08/22/23 12:38 • (MSD) R3963862-6 08/22/23 12:41

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	4.69	103	109	98.7	104	5	75.0-125			5.43	20

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
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	LAO000356
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.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here: H139

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins, Andy Verbonitz	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B9E Dunn #9-1C (B9E) wellhead P&A	State: CO / Garfield; County/City: ; Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: Email:	Site/Facility ID #: B9E; Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Alex Slorby	Purchase Order # : Quote #: ; DW PWS ID #: DW Location Code:
Collected By (signature): Alex Slorby	Turnaround Date Required: Standard Turnaround; Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold:	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day; Field Filtered (if applicable): [ ] Yes [ ] No; Analysis: _____

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	SAR, pH	Arsenic	Analyses	Lab Profile/Line: / Lab Sample # / Comments:
20230816-B9E-(SB12)@10-12	SL	G			8/16/2023	1010		3	G	X	X		L1647730-01
20230816-B9E-(SB12)@15-17	SL	G			8/16/2023	1020		3	G	X	X		L1647730-02

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

LAB USE ONLY:
Lab Sample # / Comments:
L1647730-01
-02

Customer Remarks / Special Conditions / Possible Hazards:
Please store all extra material for additional analysis.

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: _____oC
Comments:

Relinquished by/Company: (Signature) Alex Slorby	Date/Time: 8/17/2023 1200	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time: 8/17 1230	Received by/Company: (Signature)	Date/Time: 8.18.23 0900
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

ANALYTICAL REPORT

August 28, 2023

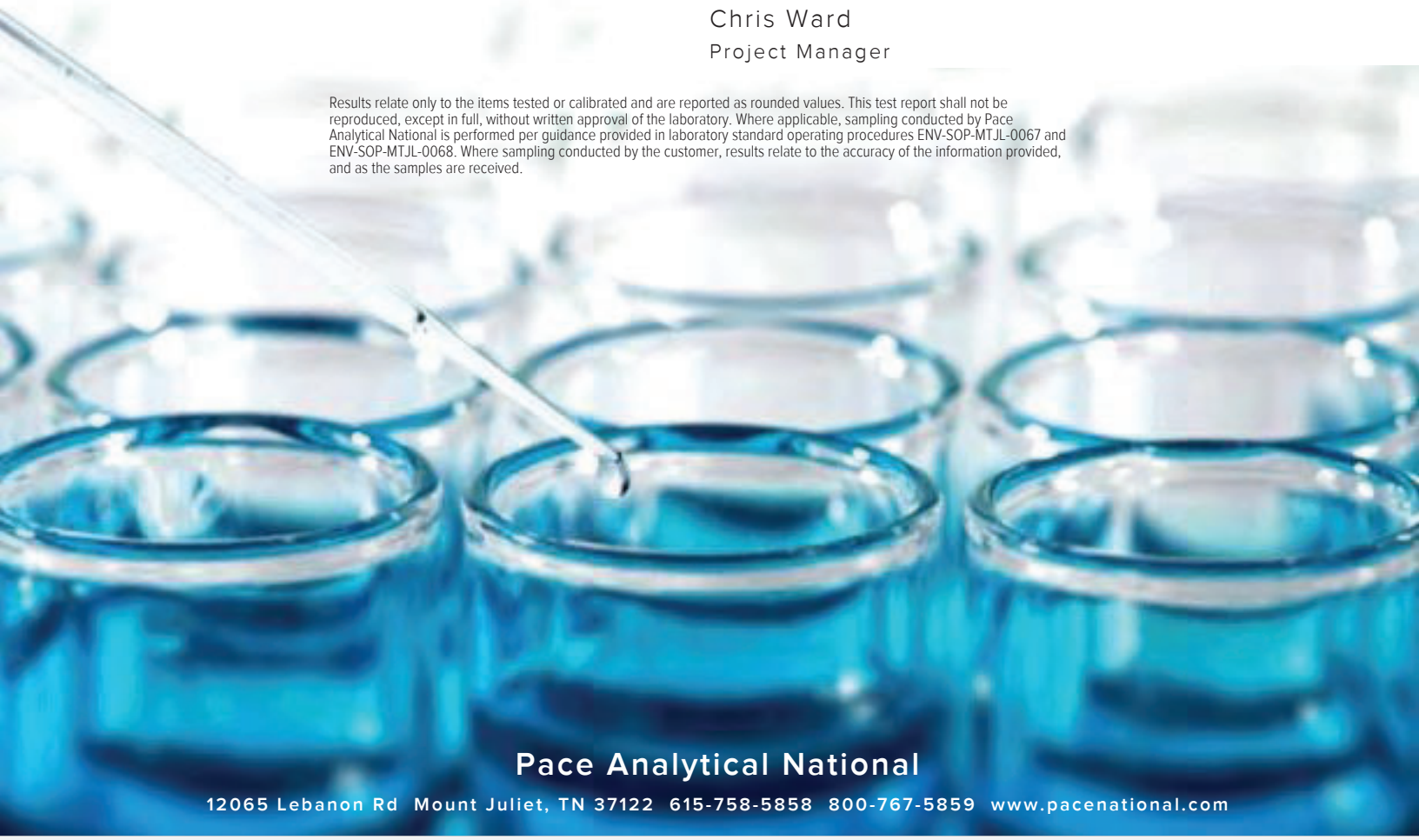
Caerus Oil and Gas

Sample Delivery Group:	L1647718
Samples Received:	08/18/2023
Project Number:	
Description:	B9E Background Sampling
Site:	B9E
Report To:	Jake J. / Brett M. / Blair R. / Andy V. 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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SAMPLE SUMMARY

20230815-MCBG-(B9E-SB08)@8-10 L1647718-01 Solid

Collected by: Alex Slorby
Collected date/time: 08/15/23 10:40
Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2118219	1	08/25/23 16:33	08/25/23 16:33	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2117734	1	08/23/23 06:34	08/24/23 01:02	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2117267	1	08/19/23 14:00	08/19/23 16:21	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2117092	1	08/19/23 08:20	08/19/23 09:56	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2118227	1	08/21/23 18:16	08/24/23 22:41	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117165	5	08/22/23 02:56	08/27/23 22:49	LD	Mt. Juliet, TN

20230815-MCBG-(B9E-SB08)@13-15 L1647718-02 Solid

Collected by: Alex Slorby
Collected date/time: 08/15/23 10:50
Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2118219	1	08/25/23 16:36	08/25/23 16:36	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2117734	1	08/23/23 06:34	08/24/23 01:28	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2117267	1	08/19/23 14:00	08/19/23 16:21	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2117092	1	08/19/23 08:20	08/19/23 09:56	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2118227	1	08/21/23 18:16	08/24/23 22:43	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117165	5	08/22/23 02:56	08/27/23 22:52	LD	Mt. Juliet, TN

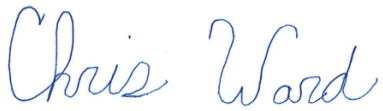
20230815-MCBG-(B9E-SB08)@18-20 L1647718-03 Solid

Collected by: Alex Slorby
Collected date/time: 08/15/23 11:05
Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2118219	1	08/25/23 16:39	08/25/23 16:39	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2117734	1	08/23/23 06:34	08/24/23 01:39	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2117267	1	08/19/23 14:00	08/19/23 16:21	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2117092	1	08/19/23 08:20	08/19/23 09:56	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2118227	1	08/21/23 18:16	08/24/23 22:46	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117165	5	08/22/23 02:56	08/27/23 22:56	LD	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

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	2.15		1	08/25/2023 16:33	WG2118219

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	08/24/2023 01:02	WG2117734

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	9.22	T8	1	08/19/2023 16:21	WG2117267

Sample Narrative:

L1647718-01 WG2117267: 9.22 at 21.9C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	262		10.0	1	08/19/2023 09:56	WG2117092

Sample Narrative:

L1647718-01 WG2117092: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.169	J	0.0167	0.200	1	08/24/2023 22:41	WG2118227

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	11.0		0.100	1.00	5	08/27/2023 22:49	WG2117165
Barium	92.1		0.152	2.50	5	08/27/2023 22:49	WG2117165
Cadmium	0.263	J	0.0855	1.00	5	08/27/2023 22:49	WG2117165
Copper	8.74		0.132	5.00	5	08/27/2023 22:49	WG2117165
Lead	9.63		0.0990	2.00	5	08/27/2023 22:49	WG2117165
Nickel	10.2		0.197	2.50	5	08/27/2023 22:49	WG2117165
Selenium	0.458	J	0.180	2.50	5	08/27/2023 22:49	WG2117165
Silver	U		0.0865	0.500	5	08/27/2023 22:49	WG2117165
Zinc	23.8	J	0.740	25.0	5	08/27/2023 22:49	WG2117165

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	2.57		1	08/25/2023 16:36	WG2118219

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	08/24/2023 01:28	WG2117734

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.22	T8	1	08/19/2023 16:21	WG2117267

Sample Narrative:

L1647718-02 WG2117267: 8.22 at 21.9C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	83.1		10.0	1	08/19/2023 09:56	WG2117092

Sample Narrative:

L1647718-02 WG2117092: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.0526	J	0.0167	0.200	1	08/24/2023 22:43	WG2118227

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.28		0.100	1.00	5	08/27/2023 22:52	WG2117165
Barium	35.8		0.152	2.50	5	08/27/2023 22:52	WG2117165
Cadmium	U		0.0855	1.00	5	08/27/2023 22:52	WG2117165
Copper	8.58		0.132	5.00	5	08/27/2023 22:52	WG2117165
Lead	6.82		0.0990	2.00	5	08/27/2023 22:52	WG2117165
Nickel	3.00		0.197	2.50	5	08/27/2023 22:52	WG2117165
Selenium	0.190	J	0.180	2.50	5	08/27/2023 22:52	WG2117165
Silver	U		0.0865	0.500	5	08/27/2023 22:52	WG2117165
Zinc	16.6	J	0.740	25.0	5	08/27/2023 22:52	WG2117165

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	1.80		1	08/25/2023 16:39	WG2118219

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	08/24/2023 01:39	WG2117734

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.00	T8	1	08/19/2023 16:21	WG2117267

Sample Narrative:

L1647718-03 WG2117267: 8 at 21.8C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	90.8		10.0	1	08/19/2023 09:56	WG2117092

Sample Narrative:

L1647718-03 WG2117092: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.0436	J	0.0167	0.200	1	08/24/2023 22:46	WG2118227

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.36		0.100	1.00	5	08/27/2023 22:56	WG2117165
Barium	28.2		0.152	2.50	5	08/27/2023 22:56	WG2117165
Cadmium	U		0.0855	1.00	5	08/27/2023 22:56	WG2117165
Copper	2.67	B J	0.132	5.00	5	08/27/2023 22:56	WG2117165
Lead	6.30		0.0990	2.00	5	08/27/2023 22:56	WG2117165
Nickel	4.69		0.197	2.50	5	08/27/2023 22:56	WG2117165
Selenium	0.181	J	0.180	2.50	5	08/27/2023 22:56	WG2117165
Silver	U		0.0865	0.500	5	08/27/2023 22:56	WG2117165
Zinc	18.1	J	0.740	25.0	5	08/27/2023 22:56	WG2117165

QUALITY CONTROL SUMMARY

L1647718-01,02,03

Method Blank (MB)

(MB) R3964727-1 08/24/23 00:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexavalent Chromium	U		0.255	1.00

L1647718-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1647718-02 08/24/23 01:28 • (DUP) R3964727-7 08/24/23 01:34

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	U	U	1	0.000		20

L1647731-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1647731-03 08/24/23 02:31 • (DUP) R3964727-8 08/24/23 02:36

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3964727-2 08/24/23 00:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	9.69	96.9	80.0-120	

L1647718-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647718-01 08/24/23 01:02 • (MS) R3964727-4 08/24/23 01:13 • (MSD) R3964727-5 08/24/23 01:18

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 %
Hexavalent Chromium	20.0	U	17.7	17.1	88.3	85.6	1	75.0-125			3.07	20

L1647718-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1647718-01 08/24/23 01:02 • (MS) R3964727-6 08/24/23 01:23

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	643	U	637	99.0	50	75.0-125	

L1647546-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1647546-05 08/19/23 16:21 • (DUP) R3962894-2 08/19/23 16:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	9.10	9.15	1	0.548		1

Sample Narrative:

OS: 9.1 at 21.4C

DUP: 9.15 at 21.5C

L1647549-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1647549-01 08/19/23 16:21 • (DUP) R3962894-3 08/19/23 16:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.67	8.72	1	0.575		1

Sample Narrative:

OS: 8.67 at 21.4C

DUP: 8.72 at 21.3C

Laboratory Control Sample (LCS)

(LCS) R3962894-1 08/19/23 16:21

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

Sample Narrative:

LCS: 10.01 at 21.4C

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

Method Blank (MB)

(MB) R3962835-1 08/19/23 09:56

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

L1647722-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1647722-02 08/19/23 09:56 • (DUP) R3962835-3 08/19/23 09:56

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	93.4	92.7	1	0.752		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1647733-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1647733-05 08/19/23 09:56 • (DUP) R3962835-4 08/19/23 09:56

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	27.9	28.0	1	0.429		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3962835-2 08/19/23 09:56

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	732	728	99.5	85.0-115	

Sample Narrative:
LCS: at 25C

QUALITY CONTROL SUMMARY

L1647718-01,02,03

Method Blank (MB)

(MB) R3965265-1 08/24/23 22:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0167	0.200

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

(LCS) R3965265-2 08/24/23 22:35 • (LCSD) R3965265-3 08/24/23 22:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.09	1.09	109	109	80.0-120			0.769	20

QUALITY CONTROL SUMMARY

L1647718-01,02,03

Method Blank (MB)

(MB) R3965971-1 08/27/23 21:54

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Copper	0.336	J	0.133	5.00
Lead	0.200	J	0.0990	2.00
Nickel	U		0.197	2.50
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500
Zinc	U		0.740	25.0

Laboratory Control Sample (LCS)

(LCS) R3965971-2 08/27/23 21:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	96.0	96.0	80.0-120	
Barium	100	89.1	89.1	80.0-120	
Cadmium	100	93.0	93.0	80.0-120	
Copper	100	87.0	87.0	80.0-120	
Lead	100	88.2	88.2	80.0-120	
Nickel	100	95.2	95.2	80.0-120	
Selenium	100	99.2	99.2	80.0-120	
Silver	20.0	19.1	95.3	80.0-120	
Zinc	100	91.4	91.4	80.0-120	

L1647711-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647711-01 08/27/23 22:01 • (MS) R3965971-5 08/27/23 22:11 • (MSD) R3965971-6 08/27/23 22:14

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	0.218	83.5	74.6	83.3	74.4	5	75.0-125		J6	11.3	20
Barium	100	77.3	248	188	170	111	5	75.0-125	J5	J3	27.3	20
Cadmium	100	U	102	92.9	102	92.9	5	75.0-125			9.78	20
Copper	100	21.5	127	119	106	97.1	5	75.0-125			7.13	20
Lead	100	4.61	107	92.4	103	87.8	5	75.0-125			14.7	20
Nickel	100	15.4	130	108	115	92.8	5	75.0-125			18.6	20
Selenium	100	U	92.0	80.9	92.0	80.9	5	75.0-125			12.9	20
Silver	20.0	U	21.1	19.2	105	95.9	5	75.0-125			9.33	20
Zinc	100	73.7	248	180	174	106	5	75.0-125	J5	J3	31.9	20

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
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
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	LAO000356
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.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

H135

ALL BOLD OUTLINED AREAS

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins, Andy Verbonitz	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B9E Background Sampling	State: CO / Garfield County/City: Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: Email:	Site/Facility ID #: B9E; Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Alex Slorby	Purchase Order # : Quote #: DW PWS ID #: DW Location Code:
Collected By (signature): Alex Slorby	Turnaround Date Required: Standard Turnaround; Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold:	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day; Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Lab Project Manager:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	EC, SAR, pH	Table 915-1 Metals	Boron - Hot Water Soluble	CR6IC	Lab Sample # / Comments:
20230815-MCBG-(B9E-SB08)@8-10	SL	G			8/15/2023	1040		3	G	X	X	X	X	L1647718-01
20230815-MCBG-(B9E-SB08)@13-15	SL	G			8/15/2023	1050		3	G	X	X	X	X	-02
20230815-MCBG-(B9E-SB08)@18-20	SL	G			8/15/2023	1105		3	G	X	X	X	X	-03

Lab Profile/Line:

Lab Sample Receipt Checklist:	
Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips: _____	
Sample pH Acceptable	Y N NA
pH Strips: _____	
Sulfide Present	Y N NA
Lead Acetate Strips: _____	

Customer Remarks / Special Conditions / Possible Hazards:
Please store all extra material for additional analysis.

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: _____oC
Comments:

Relinquished by/Company: (Signature) Alex Slorby	Date/Time: 8/17/2023 1200	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time: 8/17/23 1230	Received by/Company: (Signature) (B)	Date/Time: 8.18.23 0800
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

ANALYTICAL REPORT

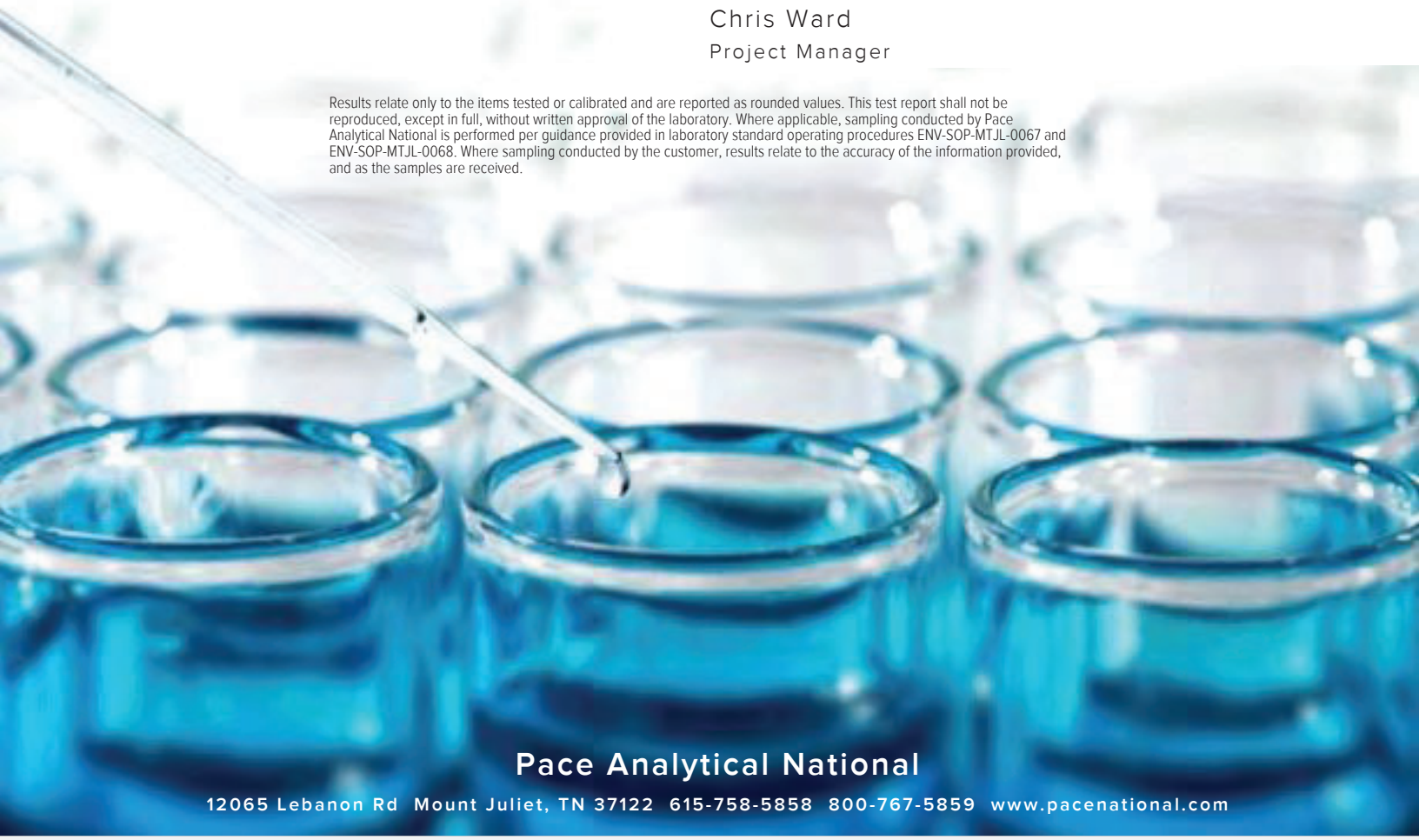
August 28, 2023

Caerus Oil and Gas

Sample Delivery Group:	L1647722
Samples Received:	08/18/2023
Project Number:	
Description:	B9E Background Sampling
Site:	B9E
Report To:	Jake J. / Brett M. / Blair R. / Andy V. 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

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SAMPLE SUMMARY

20230815-MCBG-(B9E-SB09)@8-10 L1647722-01 Solid

Collected by: Alex Slorby
Collected date/time: 08/15/23 12:05
Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2118219	1	08/25/23 16:42	08/25/23 16:42	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2117734	1	08/23/23 06:34	08/24/23 01:54	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2117299	1	08/19/23 16:20	08/19/23 18:01	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2117092	1	08/19/23 08:20	08/19/23 09:56	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2118227	1	08/21/23 18:16	08/24/23 22:52	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117165	5	08/22/23 02:56	08/27/23 22:59	LD	Mt. Juliet, TN

20230815-MCBG-(B9E-SB09)@13-15 L1647722-02 Solid

Collected by: Alex Slorby
Collected date/time: 08/15/23 12:20
Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2118219	1	08/25/23 16:44	08/25/23 16:44	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2117734	1	08/23/23 06:34	08/24/23 02:00	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2117299	1	08/19/23 16:20	08/19/23 18:01	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2117092	1	08/19/23 08:20	08/19/23 09:56	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2118227	1	08/21/23 18:16	08/24/23 22:54	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117165	5	08/22/23 02:56	08/27/23 23:02	LD	Mt. Juliet, TN

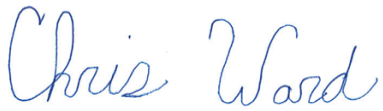
20230815-MCBG-(B9E-SB09)@18-20 L1647722-03 Solid

Collected by: Alex Slorby
Collected date/time: 08/15/23 12:30
Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2118219	1	08/25/23 16:47	08/25/23 16:47	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2117734	1	08/23/23 06:34	08/24/23 02:05	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2117299	1	08/19/23 16:20	08/19/23 18:01	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2117092	1	08/19/23 08:20	08/19/23 09:56	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2118227	1	08/21/23 18:16	08/24/23 22:57	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117158	5	08/19/23 16:52	08/24/23 21:31	LD	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

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	2.20		1	08/25/2023 16:42	WG2118219

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	08/24/2023 01:54	WG2117734

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.65	T8	1	08/19/2023 18:01	WG2117299

Sample Narrative:

L1647722-01 WG2117299: 8.65 at 23.8C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	58.1		10.0	1	08/19/2023 09:56	WG2117092

Sample Narrative:

L1647722-01 WG2117092: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.127	J	0.0167	0.200	1	08/24/2023 22:52	WG2118227

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	8.31		0.100	1.00	5	08/27/2023 22:59	WG2117165
Barium	40.3		0.152	2.50	5	08/27/2023 22:59	WG2117165
Cadmium	U		0.0855	1.00	5	08/27/2023 22:59	WG2117165
Copper	2.23	B J	0.132	5.00	5	08/27/2023 22:59	WG2117165
Lead	5.48		0.0990	2.00	5	08/27/2023 22:59	WG2117165
Nickel	1.83	J	0.197	2.50	5	08/27/2023 22:59	WG2117165
Selenium	0.381	J	0.180	2.50	5	08/27/2023 22:59	WG2117165
Silver	U		0.0865	0.500	5	08/27/2023 22:59	WG2117165
Zinc	9.25	J	0.740	25.0	5	08/27/2023 22:59	WG2117165

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.93		1	08/25/2023 16:44	WG2118219

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	08/24/2023 02:00	WG2117734

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	9.05	T8	1	08/19/2023 18:01	WG2117299

Sample Narrative:

L1647722-02 WG2117299: 9.05 at 23.9C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	93.4		10.0	1	08/19/2023 09:56	WG2117092

Sample Narrative:

L1647722-02 WG2117092: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.0725	J	0.0167	0.200	1	08/24/2023 22:54	WG2118227

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.65		0.100	1.00	5	08/27/2023 23:02	WG2117165
Barium	35.3		0.152	2.50	5	08/27/2023 23:02	WG2117165
Cadmium	0.107	J	0.0855	1.00	5	08/27/2023 23:02	WG2117165
Copper	3.10	B J	0.132	5.00	5	08/27/2023 23:02	WG2117165
Lead	5.99		0.0990	2.00	5	08/27/2023 23:02	WG2117165
Nickel	4.84		0.197	2.50	5	08/27/2023 23:02	WG2117165
Selenium	0.277	J	0.180	2.50	5	08/27/2023 23:02	WG2117165
Silver	U		0.0865	0.500	5	08/27/2023 23:02	WG2117165
Zinc	17.2	J	0.740	25.0	5	08/27/2023 23:02	WG2117165

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	1.78		1	08/25/2023 16:47	WG2118219

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	08/24/2023 02:05	WG2117734

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.43	T8	1	08/19/2023 18:01	WG2117299

Sample Narrative:

L1647722-03 WG2117299: 8.43 at 23.6C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	56.4		10.0	1	08/19/2023 09:56	WG2117092

Sample Narrative:

L1647722-03 WG2117092: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.0499	J	0.0167	0.200	1	08/24/2023 22:57	WG2118227

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	9.77		0.100	1.00	5	08/24/2023 21:31	WG2117158
Barium	41.3		0.152	2.50	5	08/24/2023 21:31	WG2117158
Cadmium	U		0.0855	1.00	5	08/24/2023 21:31	WG2117158
Copper	6.55		0.132	5.00	5	08/24/2023 21:31	WG2117158
Lead	7.06		0.0990	2.00	5	08/24/2023 21:31	WG2117158
Nickel	4.46		0.197	2.50	5	08/24/2023 21:31	WG2117158
Selenium	0.267	J	0.180	2.50	5	08/24/2023 21:31	WG2117158
Silver	U		0.0865	0.500	5	08/24/2023 21:31	WG2117158
Zinc	22.5	J	0.740	25.0	5	08/24/2023 21:31	WG2117158

QUALITY CONTROL SUMMARY

L1647722-01,02,03

Method Blank (MB)

(MB) R3964727-1 08/24/23 00:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexavalent Chromium	U		0.255	1.00

L1647718-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1647718-02 08/24/23 01:28 • (DUP) R3964727-7 08/24/23 01:34

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	U	U	1	0.000		20

L1647731-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1647731-03 08/24/23 02:31 • (DUP) R3964727-8 08/24/23 02:36

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3964727-2 08/24/23 00:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	9.69	96.9	80.0-120	

L1647718-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647718-01 08/24/23 01:02 • (MS) R3964727-4 08/24/23 01:13 • (MSD) R3964727-5 08/24/23 01:18

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 %
Hexavalent Chromium	20.0	U	17.7	17.1	88.3	85.6	1	75.0-125			3.07	20

L1647718-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1647718-01 08/24/23 01:02 • (MS) R3964727-6 08/24/23 01:23

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	643	U	637	99.0	50	75.0-125	

L1647722-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1647722-02 08/19/23 18:01 • (DUP) R3962913-2 08/19/23 18:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	9.05	9.03	1	0.221		1

Sample Narrative:

OS: 9.05 at 23.9C

DUP: 9.03 at 23.7C

L1647731-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1647731-05 08/19/23 18:01 • (DUP) R3962913-3 08/19/23 18:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.77	8.75	1	0.228		1

Sample Narrative:

OS: 8.77 at 22.5C

DUP: 8.75 at 22.7C

Laboratory Control Sample (LCS)

(LCS) R3962913-1 08/19/23 18:01

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

Sample Narrative:

LCS: 10 at 21.2C

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

Method Blank (MB)

(MB) R3962835-1 08/19/23 09:56

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

L1647722-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1647722-02 08/19/23 09:56 • (DUP) R3962835-3 08/19/23 09:56

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	93.4	92.7	1	0.752		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1647733-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1647733-05 08/19/23 09:56 • (DUP) R3962835-4 08/19/23 09:56

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	27.9	28.0	1	0.429		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3962835-2 08/19/23 09:56

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	732	728	99.5	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

QUALITY CONTROL SUMMARY

L1647722-01,02,03

Method Blank (MB)

(MB) R3965265-1 08/24/23 22:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0167	0.200

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

(LCS) R3965265-2 08/24/23 22:35 • (LCSD) R3965265-3 08/24/23 22:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.09	1.09	109	109	80.0-120			0.769	20

Method Blank (MB)

(MB) R3965242-1 08/24/23 20:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Copper	U		0.133	5.00
Lead	U		0.0990	2.00
Nickel	U		0.197	2.50
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500
Zinc	U		0.740	25.0

Laboratory Control Sample (LCS)

(LCS) R3965242-2 08/24/23 20:43

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	101	101	80.0-120	
Barium	100	97.6	97.6	80.0-120	
Cadmium	100	98.3	98.3	80.0-120	
Copper	100	90.9	90.9	80.0-120	
Lead	100	100	100	80.0-120	
Nickel	100	98.3	98.3	80.0-120	
Selenium	100	103	103	80.0-120	
Silver	20.0	19.5	97.5	80.0-120	
Zinc	100	94.9	94.9	80.0-120	

L1646994-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1646994-01 08/24/23 20:47 • (MS) R3965242-5 08/24/23 20:57 • (MSD) R3965242-6 08/24/23 21:00

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	4.07	92.3	89.9	88.2	85.9	5	75.0-125			2.62	20
Barium	100	239	320	333	81.2	94.2	5	75.0-125			3.95	20
Cadmium	100	0.243	92.4	90.6	92.2	90.4	5	75.0-125			2.00	20
Copper	100	10.2	93.8	93.1	83.6	82.9	5	75.0-125			0.778	20
Lead	100	13.4	105	106	91.6	92.3	5	75.0-125			0.679	20
Nickel	100	14.5	101	97.0	86.7	82.5	5	75.0-125			4.29	20
Selenium	100	0.463	98.6	96.1	98.1	95.6	5	75.0-125			2.55	20
Silver	20.0	U	18.3	18.1	91.3	90.5	5	75.0-125			0.912	20
Zinc	100	55.1	138	135	82.7	79.6	5	75.0-125			2.31	20

QUALITY CONTROL SUMMARY

L1647722-01,02

Method Blank (MB)

(MB) R3965971-1 08/27/23 21:54

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Copper	0.336	J	0.133	5.00
Lead	0.200	J	0.0990	2.00
Nickel	U		0.197	2.50
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500
Zinc	U		0.740	25.0

Laboratory Control Sample (LCS)

(LCS) R3965971-2 08/27/23 21:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	96.0	96.0	80.0-120	
Barium	100	89.1	89.1	80.0-120	
Cadmium	100	93.0	93.0	80.0-120	
Copper	100	87.0	87.0	80.0-120	
Lead	100	88.2	88.2	80.0-120	
Nickel	100	95.2	95.2	80.0-120	
Selenium	100	99.2	99.2	80.0-120	
Silver	20.0	19.1	95.3	80.0-120	
Zinc	100	91.4	91.4	80.0-120	

L1647711-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647711-01 08/27/23 22:01 • (MS) R3965971-5 08/27/23 22:11 • (MSD) R3965971-6 08/27/23 22:14

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	0.218	83.5	74.6	83.3	74.4	5	75.0-125		J6	11.3	20
Barium	100	77.3	248	188	170	111	5	75.0-125	J5	J3	27.3	20
Cadmium	100	U	102	92.9	102	92.9	5	75.0-125			9.78	20
Copper	100	21.5	127	119	106	97.1	5	75.0-125			7.13	20
Lead	100	4.61	107	92.4	103	87.8	5	75.0-125			14.7	20
Nickel	100	15.4	130	108	115	92.8	5	75.0-125			18.6	20
Selenium	100	U	92.0	80.9	92.0	80.9	5	75.0-125			12.9	20
Silver	20.0	U	21.1	19.2	105	95.9	5	75.0-125			9.33	20
Zinc	100	73.7	248	180	174	106	5	75.0-125	J5	J3	31.9	20

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
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
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	LAO000356
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.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

H136

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins, Andy Verbonitz	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B9E Background Sampling	State: CO / Garfield; County/City: ; Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET

Container Preservative Type **

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) [illegible], (5) [illegible], (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium hydroxide, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Phone: Email:	Site/Facility ID #: B9E	Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Alex Slorby	Purchase Order # : Quote #:	DW PWS ID #: DW Location Code:
Collected By (signature): Alex Slorby	Turnaround Date Required: Standard Turnaround	Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	EC, SAR, pH	Table 915-1 Metals	Boron - Hot Water Soluble	CR6IC						Lab Sample # / Comments:
20230815-MCBG-(B9E-SB09)@8-10	SL	G			8/15/2023	1205		3	G	X	X	X	X						L1677722-01
20230815-MCBG-(B9E-SB09)@13-15	SL	G			8/15/2023	1220		3	G	X	X	X	X						L1677722-02
20230815-MCBG-(B9E-SB09)@18-20	SL	G			8/15/2023	1230		3	G	X	X	X	X						L1677722-03

Analyses

Lab Profile/Line:

Lab Sample Receipt Checklist:
Custody Seals Present/Intact Y N NA
Custody Signatures Present Y N NA
Collector Signature Present Y N NA
Bottles Intact Y N NA
Correct Bottles Y N NA
Sufficient Volume Y N NA
Samples Received on Ice Y N NA
VOA - Headspace Acceptable Y N NA
USDA Regulated Soils Y N NA
Samples in Holding Time Y N NA
Residual Chlorine Present Y N NA
Cl Strips: _____
Sample pH Acceptable Y N NA
pH Strips: _____
Sulfide Present Y N NA
Lead Acetate Strips: _____

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:	Type of Ice Used: Wet Blue Dry None	SHORT HOLDS PRESENT (<72 hours): Y N N/A
Please store all extra material for additional analysis.	Packing Material Used:	Lab Tracking #:
	Radchem sample(s) screened (<500 cpm): Y N NA	Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: __oC
Comments:

Relinquished by/Company: (Signature) Alex Slorby	Date/Time: 8/17/2023 1200	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time: 8/17 1235	Received by/Company: (Signature)	Date/Time: 8.17.23 0700
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____