April 30, 2024
Kleinfelder Project No. 20234315.001A

Mr. Jake Janicek
Caerus Piceance, LLC
1001 17th Street #1600
Denver, Colorado 80202

SUBJECT: **Site Investigation Report**
Caerus Piceance, LLC
Plug and Abandonment Closure
Remediation Project Number: 31996
696-6A 43 Wellhead (696-5C Pad)
Garfield County, Colorado

Dear Mr. Janicek:

Kleinfelder Inc. (Kleinfelder) performed soil sampling activities at the 696-6A 43 Wellhead on the 696-5C Pad in Garfield County, Colorado under contract by Caerus Piceance LLC (Caerus). Enclosed is the site investigation report for this effort.

Please do not hesitate to contact me at (303) 319-2456 or by email at VDeCianne@kleinfelder.com should you have questions or concerns.

Respectfully submitted,
KLEINFELDER, INC.

Vince DeCianne
VP, Senior Principal Professional

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SITE INVESTIGATION REPORT
CAERUS PICEANCE, LLC
PLUG AND ABANDONMENT CLOSURE
REMEDIATION PROJECT NUMBER: 31996
696-6A 43 WELLHEAD (696-5C PAD)
GARFIELD COUNTY, COLORADO

KLEINFELDER PROJECT NO. 20234315.001A

April 30, 2024

A Report Prepared for:

Caerus Piceance, LLC
1001 17th Street #1600
Denver, CO 80202

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CAERUS PICEANCE, LLC
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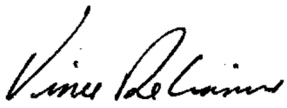
REMEDIATION PROJECT NUMBER: 31996
696-6A 43 WELLHEAD (696-5C PAD)
GARFIELD COUNTY, COLORADO

Prepared by:

Trevor Lakin
Environmental Scientist/ Professional

Reviewed by:



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SITE INVESTIGATION REPORT
CAERUS PICEANCE, LLC
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REMEDIATION PROJECT NUMBER: 31996
696-6A 43 WELLHEAD (696-5C PAD)
GARFIELD COUNTY, COLORADO

1 INTRODUCTION

This document was prepared by Kleinfelder Inc. (Kleinfelder) on behalf of Caerus Piceance, LLC (Caerus) to provide documentation of recent sampling support services conducted for the abandonment of the 696-6A 43 wellhead located on the 696-5C Pad in Garfield County, Colorado (**Figure 1**).

Kleinfelder has been contracted by Caerus to perform soil sampling support services to provide necessary information to complete the Colorado Energy and Carbon Management Commission (ECMC) Form 27 for their upstream oil and gas production facilities located in the Piceance Basin. Caerus is proceeding with the plugging and abandonment (P&A) of the 696-6A 43 natural gas wellhead and removing the associated flowlines.

Caerus submitted Approved ECMC Form 27 Site Investigation and Remediation Workplan (document #40353422) as an initial notification to abandon the 696-6A 43 wellhead (API #045-18395) and associated flowlines. Caerus proposed collection of soil samples from the base of hydrovac potholes and excavations as a part of the P&A assessment of the 696-6A 43 wellhead and associated flowlines. Caerus proposed field screening all hydrovac potholes and excavations following cut and cap activities associated with the wellhead and flowlines. Caerus proposed soil sampling of nearby undisturbed areas to be used as background samples. Kleinfelder collected the soil samples on October 24, 2023, February 21, 2024, and March 27, 2024. Samples were analyzed by Pace Analytical National Laboratory (Pace) and results are reported herein.

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2 SITE LOCATION AND GEOLOGIC SETTING

The 696-5C Pad is located within the Piceance Basin in Garfield County, Colorado (LOT 12, Section 5, Township 6 South, Range 96 West) (**Figure 1**). The Piceance Basin is a geologic structural basin consisting of sandstones and siltstones, containing reserves of coal, natural gas, and oil shale.

No surface water or groundwater were encountered during Kleinfelder's soil sampling activities. Adjacent land use was observed to be agricultural and rangeland. The general soil type within the wellhead P&A and flowline removal area was classified based on Kleinfelder's field observations using the Unified Soil Classification System (USCS) and were observed as organic clays of medium to high plasticity and organic silts. Topographical information is also provided on **Figure 1**.

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3 FIELD ACTIVITIES

As prescribed within the approved ECMC Form 27 Site Investigation and Remediation Workplan, Kleinfelder performed the following field activities at the 696-5C Pad on October 24, 2023, February 21, 2024, and March 27, 2024:

October 24, 2023

- Collected one (1) assessment soil sample from the base of the hydrovac pothole adjacent to the 696-6A 43 wellhead [20231024-696-5C-(FC-WH-43)@4] at 4 feet below ground surface (bgs);
- Field screened soil with visual and olfactory senses and photoionization detector (PID);
- Collected four (4) background soil samples from locations north [20231024-LMBG-(696-5C-N)@1], south [20231024-LMBG-(696-5C-S)@1], east [20231024-LMBG-(696-5C-E)@1], and west [20231024-LMBG-(696-5C-W)@1] of the 696-5C Pad at 1 foot bgs;
- Shipped assessment soil sample to Pace to analyze for the contaminants of concern listed within ECMC Table 915-1; and
- Shipped background soil samples to Pace to analyze for the contaminants of concern listed within ECMC Table 915-1, excluding organics.

February 21, 2024

- Collected one (1) assessment soil sample from the base of the excavation adjacent to the flowline as it ties into the separator [20240221-696-5C-(FC-FL-43)@4] at 4 feet bgs;
- Collected one (1) assessment soil sample from the base of the excavation adjacent to the dumpline as it ties into the separator [20240221-696-5C-(FC-DL-43)@4] at 4 feet bgs;
- Collected one (1) 5-point composite soil sample from the stockpile associated with the flowline and dumpline excavation [20240221-696-5C-(STOCK02)];
- Field screened the base of the excavation adjacent to the former wellhead line [20240221-696-5C-(FC-WH-43)@4] at 4 feet bgs. Hydrocarbon odors and soil staining were not observed. No soil sample was collected for laboratory analysis as a closure sample was previously collected from this location on October 24, 2023, at 4 feet bgs;
- Field screened soil stockpile associated with the wellhead excavation [20240221-696-5C-(WH-STOCK]. Hydrocarbon odors and soil staining were not observed. No soil sample was collected for laboratory analysis;

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- Field screened soil with visual and olfactory senses and PID at all sample locations; and
- Shipped assessment soil samples to Pace to analyze for the contaminants of concern listed within the ECMC Table 915-1.

March 27, 2024

- Field screened at the base of the excavation adjacent to the cut and capped wellhead [20240327-696-5C-(FC-WH-43)@8] at 8 feet bgs;
- Field screened the soil stockpile associated with the wellhead excavation [20240327-696-5C-(WH-STOCK02].
- Hydrocarbon odors and visible soil staining were not observed at either sample location. No soil samples were collected for laboratory analysis as closure samples were previously collected on October 24, 2023, at 4 feet bgs; and
- Field screened soil with visual and olfactory senses and PID at all sample locations.

Prior to Kleinfelder's soil screening and sampling activities on October 24, 2023, February 21, 2024, and March 27, 2024, Caerus identified all sample locations. Hydrovac potholing was performed by MK Hydrovac (MK) at two (2) sample locations as indicated above on October 24, 2023. Soil samples were collected from a stainless-steel hand auger or stainless-steel shovel and placed into laboratory-supplied, 9-ounce jars with Teflon lids per sample. Each sample was collected directly from the hand auger or shovel from the appropriate depth and placed into the glass jars. The composite soil sample was homogenized prior to being placed into the jars. The samples were immediately placed on ice in a cooler. Standard chain-of-custody (COC) procedures were used during sampling and transportation to Pace in Mount Juliet, Tennessee (via FEDEX). Site soil samples were analyzed for contaminants of concern listed in ECMC Table 915-1. Background soil samples were analyzed for contaminants of concern listed in ECMC Table 915-1, excluding organics. Kleinfelder used an EOS Arrow 100 Submeter Global Navigation Satellite System Receiver (GNSS) to record latitude and longitude the sample locations. Sample locations are shown on **Figures 2a** and **2b.**

Sampling equipment (i.e., hand auger cutter head, shovel, etc.) was washed with a solution of Liquinox® detergent, rinsed with tap water, and then distilled water between samples. During soil sampling activities, Kleinfelder documented staining and/or odor observations, if any, and screened the soil with a PID. Kleinfelder placed the soil into a Ziploc® plastic bag directly from the hand auger or shovel for

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screening with the PID. Prior to use, Kleinfelder calibrated the PID, which passed calibration. Soil sample conditions and locations are provided in **Table 1**.

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4 RESULTS

Kleinfelder observed soil conditions within the well P&A areas during the soil sampling activities. Hydrocarbon odors and soil staining were not observed at the sample locations. PID readings were less than one parts per million (ppm). **Table 1** summarizes the samples and associated field observations.

Excluding arsenic, pH, and chromium (VI), the sample analytical results did not exceed the ECMC Table 915-1 Residential Soil Screening Levels (RSSLs) (see **Table 2**).

- Arsenic was detected at concentrations above the ECMC Table 915-1 RSSLs at all sample locations.
- pH was detected at concentrations above the ECMC Table 915-1 RSSLs at all sample locations.
- Chromium (VI) was detected at concentrations above the ECMC Table 915-1 RSSLs at the wellhead sample location [20231024-696-5C-(FC-WH-43)@4].

Analytical results are summarized in **Table 2** and were compared to ECMC Table 915-1 RSSLs as requested by Caerus. Site specific and background laboratory reports are provided in **Appendix A**. Produced fluid laboratory results are provided in **Appendix B**. Sample locations are provided on **Figures 2a** and **2b.**

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5 CONCLUSIONS AND RECOMMENDATIONS

Based on field assessment and desktop review of the area, it is believed there is no reasonable pathway for groundwater within the investigation area. The nearest registered water well is located approximately 6,700 feet southeast of the 696-5C Pad and has a constructed depth of 74 feet and listed yield depth of 15 feet. The 696-5C Pad resides on a promontory ridge 2,700 feet above the water well.

In order to address the arsenic exceedances at all sample locations, Kleinfelder recommends Caerus request an alternative allowable limit of 16.3 mg/kg for arsenic per ECMC Table 915-1 Footnote 1. Analytical results of background samples collected as a part of this project indicate a range of background arsenic concentrations from 5.54 mg/kg to 16.3 mg/kg (**Table 2**). Arsenic concentrations exhibited in all site assessment soil samples collected on October 24, 2023, and February 21, 2024 are less than the background arsenic concentrations.

pH exceeded ECMC Table 915-1 at all site assessment sample locations. To address pH exceedances, Kleinfelder recommends Caerus requests consideration of Rule 915.e.(2) C to remove pH as a constituent of concern. A sample of produced fluid from a storage tank on the 696-5C well pad was utilized for comparison of pH values. Fluids obtained from the tank exhibited pH levels of 7.46 (**Table 2** and **Appendix B**). Caerus believes that a release of fluids from this formation would not lead to elevated pH values exhibited in the site assessment soil samples associated with this project.

Chromium (VI) was detected at concentrations above the ECMC Table 915-1 RSSLs at the wellhead sample location [20231024-696-5C-(FC-FL-43)@4]. The chromium (VI) exceedance is below the Practical Quantitation Limit (PQL) of 1.00 mg/kg which has been substituted for the ECMC Table 915-1 clean up concentration of 0.3 mg/kg as permitted in ECMC Table 915-1 Footnote 9. All soil samples collected on October 24, 2023 and February 21, 2024, are less than the PQL of allowable chromium (VI) concentrations.

Based on all site investigation activities, and assuming the proposed requests for consideration of Rule 915.e.(2)C, Footnote 1, and Footnote 9 are approved, all constituents of concern are compliant with ECMC Table 915-1 RSSLs or alternative screening levels. Kleinfelder recommends Caerus request No Further Action (NFA) associated with the P&A of the 696-6A 43 Wellhead.

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6 LIMITATIONS

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. Although risk can never be eliminated, more detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, our clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including subsurface studies or field tests, should be performed to reduce uncertainties. Acceptance of this report will indicate that Caerus has reviewed the document and determined that it does not need or want a greater level of service than provided.

During the course of the performance of Kleinfelder's services, hazardous materials may have been discovered. Kleinfelder assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Nothing contained in this report should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, or generator, or person who arranges for disposal, transport, storage, or treatment of hazardous materials within the meaning of any governmental statute, regulation, or order. Caerus is solely responsible for directing notification of all governmental agencies, and the public at large, of the existence, release, treatment, or disposal of any hazardous materials observed at the project site, either before or during performance of Kleinfelder's services. Caerus is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder’s services.

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FIGURES

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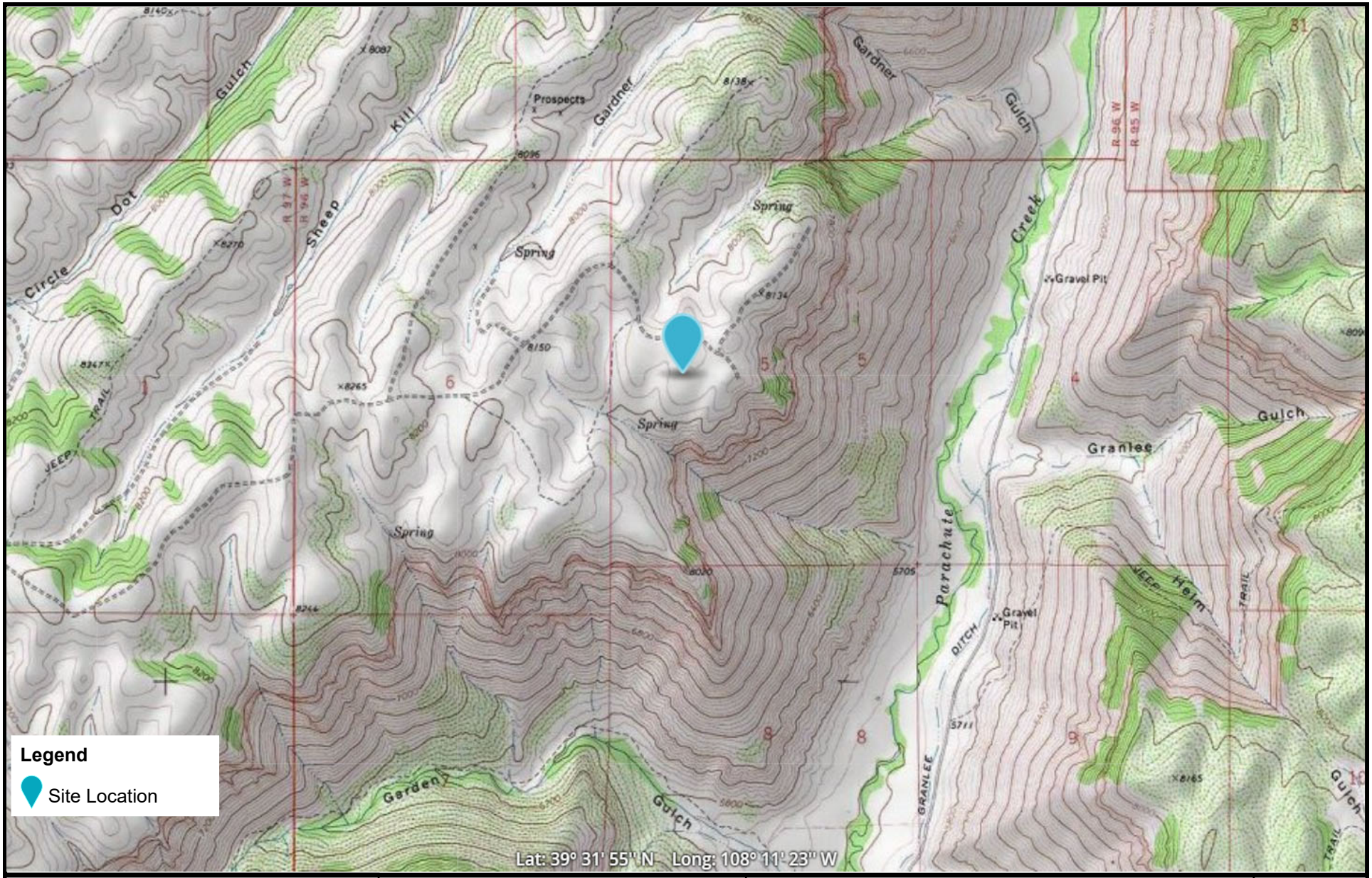

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PROJECT NO.	20234315.001A
DRAWN:	2/27/2024
DRAWN BY:	T. Lakin
CHECKED BY:	J. Veith
FILE NAME:	696-5C Topo Map.pub

Topographical Map

Caerus Piceance, LLC
Remediation Project Number: 31996
696-6A 43 Wellhead (696-5C Pad)
LOT 12 Sec. 5 T6S R96W
Garfield County, Colorado

FIGURE

1

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PROJECT NO.	20234315.001A
DRAWN:	2/27/2024
DRAWN BY:	T. Lakin
CHECKED BY:	J. Veith
FILE NAME:	696-5C Sample Map.pub

Sample Location Map

Caerus Piceance, LLC
Remediation Project Number: 31996
696-6A 43 Wellhead (696-5C Pad)
LOT 12 Sec. 5 T6S R96W
Garfield County, Colorado

FIGURE

2a

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PROJECT NO.	20234315.001A
DRAWN:	4/2/2024
DRAWN BY:	T. Lakin
CHECKED BY:	J. Veith
FILE NAME:	696-5C Sample Map.pub

Sample Location Map

Caerus Piceance, LLC
Remediation Project Number: 31996
696-6A 43 Wellhead (696-5C Pad)
LOT 12 Sec. 5 T6S R96W
Garfield County, Colorado

FIGURE

2b

TABLES

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TABLE 1 - SOIL SAMPLE SUMMARY
CAERUS PICEANCE, LLC
REMEDIATION PROJECT NUMBER: 31996
696-6A 43 WELLHEAD (696-5C PAD)
LOT 12 SEC. 5 T6S R96W
GARFIELD COUNTY, COLORADO

Sample ID	Sample Matrix	Latitude	Longitude	PID Reading (PPM)	Hydrocarbon Odor Detected (Y/N)	Soil Staining Observed (Y/N)	Comments
20231024-LMBG-(696-5C-N)@1	Soil	39.55628271	-108.13622360	< 1	N	N	None
20231024-LMBG-(696-5C-E)@1	Soil	39.55548663	-108.13510367	< 1	N	N	None
20231024-LMBG-(696-5C-S)@1	Soil	39.55428326	-108.13499726	< 1	N	N	None
20231024-LMBG-(696-5C-W)@1	Soil	39.55423923	-108.13657275	< 1	N	N	None
20231024-696-5C-(FC-WH-43)@4	Soil	39.55489656	-108.13570536	< 1	N	N	None
20240221-696-5C-(FC-FL-43)@4	Soil	39.55462430	-108.13534225	< 1	N	N	None
20240221-696-5C-(FC-DL-43)@4	Soil	39.55460888	-108.13533909	< 1	N	N	None
20240221-696-5C-(STOCK02)	Soil	39.55468739	-108.13535594	< 1	N	N	None
20240221-696-5C-(FC-WH-43)@4	Soil	39.55489656	-108.13570536	< 1	N	N	No soil sample collected for laboratory analysis. Location previously sampled on October 24, 2023 at 4 feet below ground surface (bgs).
20240221-696-5C-(WH-STOCK)	Soil	39.55483984	-108.13569787	< 1	N	N	No soil sample collected for laboratory analysis.
20240327-696-5C-(FC-WH-43)@8	Soil	39.55489656	-108.13570536	< 1	N	N	No soil sample collected for laboratory analysis. Location previously sampled on October 24, 2023 at 4 feet bgs.
20240327-696-5C-(WH-STOCK02)	Soil	39.55497371	-108.13566622	< 1	N	N	No soil sample collected for laboratory analysis.

Notes:
PID = Photo-ionization Detector
PPM = Parts per million

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TABLE 2 - SOIL ANALYTICAL RESULTS
CAERUS PICEANCE LLC
REMEDIATION PROJECT NUMBER: 31996
696-6A 43 WELLHEAD
696-5C PAD
GARFIELD COUNTY, COLORADO

		Sample Objective	Produced Fluid	Background	Background	Background	Background	Assessment	Assessment	Assessment	Assessment
		Location ID	(696-5C-T)	(696 5C-N)	(696 5C-E)	(696 5C-S)	(696 5C-W)	(FC-WH-43)	(FC-FL-43)	(FC-DL-43)	(STOCK02)
		Sample Date	8/4/2023	10/24/2023	10/24/2023	10/24/2023	10/24/2023	10/24/2023	2/21/2024	2/21/2024	2/21/2024
		Sample ID	20230804-LMSOURCE-(696-5C-T)	20231024-LMBG-(696 5C-N)@1	20231024-LMBG-(696 5C-E)@1	20231024-LMBG-(696 5C-S)@1	20231024-LMBG-(696 5C-W)@1	20231024-6965C-(FC-WH-43)@4	20240221-696-5C-(FC-FL-43)@4	20240221-696-5C-(FC-DL-43)@4	20240221-696-5C-(STOCK02)
		Sample Depth (ft bgs)	N/A	1	1	1	1	4	4	4	GS
Contaminant of Concern	**Cleanup Concentration (mg/kg unless otherwise noted)**										
Soil TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons)	500		NM	NM	NM	NM	NM	46.0483 J	54.70	41.32	<8.10 ND
TPH Low Fraction GRO (C6-C10)			NM	NM	NM	NM	NM	0.0483 J	<0.100 ND	0.119	<0.100 ND
DRO (C10-C28)			NM	NM	NM	NM	NM	14.1	26.9	15.4	<4.00 ND
MRO (C28-C36)			NM	NM	NM	NM	NM	31.9	27.7	25.8	<4.00 ND
Soils and Groundwater - liquid hydrocarbons including condensate and oil	Below Visual Detection Limits		Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits
Electrical conductivity (EC) (by saturated paste method)	<4mmhos/cm		NM	0.0801	0.0745	0.114	0.0636	0.173	0.238	0.212	0.171
Sodium adsorption ratio (SAR) (by saturated paste method)	<6 SAR units		NM	0.0817	0.134	1.83	0.121	1.71	1.78	1.32	0.745
pH (by saturated paste method)	6–8.3 pH units		7.46 T8	6.95 T8	7.14 T8	7.54 T8	7.12 T8	8.68 T8	8.38 T8	8.33 T8	8.45 T8
Boron (hot water soluble soil extract)	2 mg/L		NM	0.518	0.609	0.359	0.569	0.526	0.424	0.328	<0.200 ND
Organic Compounds in Soils	**Residential Soil Screening Level Concentrations**	**Protection of Groundwater Soil Screening Level Concentrations Risk Based and MCL Based**									
benzene	1.2	0.0026	NM	NM	NM	NM	NM	<0.000467 U	<0.00100 ND	<0.00100 ND	<0.00100 ND
toluene	490	0.69	NM	NM	NM	NM	NM	<0.00130 U	<0.00500 ND	<0.00500 ND	<0.00500 ND
ethylbenzene	5.8	0.78	NM	NM	NM	NM	NM	<0.000737 U	<0.00250 ND	<0.00250 ND	<0.00250 ND
xylenes (sum of o-, m- and p- isomers = total xylenes)	58	9.9	NM	NM	NM	NM	NM	<0.000880 U	<0.00650 ND	<0.00650 ND	<0.00650 ND
1,2,4-trimethylbenzene	30	0.0081	NM	NM	NM	NM	NM	<0.00158 U	<0.00500 ND	<0.00500 ND	<0.00500 ND
1,3,5-trimethylbenzene	27	0.0087	NM	NM	NM	NM	NM	<0.00200 U	<0.00500 ND	<0.00500 ND	<0.00500 ND
acenaphthene	360	0.55	NM	NM	NM	NM	NM	<0.00209 U	0.0112	<0.00600 ND	0.0401
anthracene	1800	5.8	NM	NM	NM	NM	NM	<0.00230 U	<0.00600 ND	<0.00600 ND	<0.00600 ND
benz(a)anthracene	1.1	0.011	NM	NM	NM	NM	NM	<0.00173 U	<0.00600 ND	<0.00600 ND	<0.00600 ND
benzo(b)fluoranthene	1.1	0.3	NM	NM	NM	NM	NM	<0.00153 U	<0.00600 ND	<0.00600 ND	<0.00600 ND
benzo(k)fluoranthene	11	2.9	NM	NM	NM	NM	NM	<0.00215 U	<0.00600 ND	<0.00600 ND	<0.00600 ND
benzo(a)pyrene	0.11	0.24	NM	NM	NM	NM	NM	<0.00179 U	<0.00600 ND	<0.00600 ND	<0.00600 ND
chrysene	110	9	NM	NM	NM	NM	NM	<0.00232 U	<0.00600 ND	<0.00600 ND	<0.00600 ND
dibenz(a,h)anthracene	0.11	0.096	NM	NM	NM	NM	NM	<0.00172 U	<0.00600 ND	<0.00600 ND	<0.00600 ND
fluoranthene	240	8.9	NM	NM	NM	NM	NM	<0.00227 U	<0.00600 ND	<0.00600 ND	<0.00600 ND
fluorene	240	0.54	NM	NM	NM	NM	NM	<0.00205 U	<0.00600 ND	<0.00600 ND	<0.00600 ND
indeno(1,2,3-cd)pyrene	1.1	0.98	NM	NM	NM	NM	NM	<0.00181 U	<0.00600 ND	<0.00600 ND	<0.00600 ND
pyrene	180	1.3	NM	NM	NM	NM	NM	<0.00200 U	<0.00600 ND	<0.00600 ND	<0.00600 ND
1-methylnaphthalene	18	0.006	NM	NM	NM	NM	NM	<0.00449 U	<0.0200 ND	<0.0200 ND	<0.0200 ND
2-methylnaphthalene	24	0.019	NM	NM	NM	NM	NM	<0.00427 U	<0.0200 ND	<0.0200 ND	<0.0200 ND
naphthalene	2	0.0038	NM	NM	NM	NM	NM	<0.00408 U	<0.0200 ND	<0.0200 ND	<0.0200 ND
Metals in Soils	**Residential Soil Screening Level Concentrations**	**Protection of Groundwater Soil Screening Level Concentrations Risk Based and MCL Based**									
arsenic	0.68	0.29	NM	5.54	7.87	16.3	15.0	12.6	8.07	5.86	7.55
barium	15000	82	NM	291	310	422	360	428	278	255	330
cadmium	71	0.38	NM	0.321 J	0.126 J	0.483 J	0.262 J	0.366 J	<1.00 ND	<1.00 ND	<1.00 ND
chromium (VI)	1.00 *	1.00 *	NM	<0.255 U	<0.255 U	0.276 J J3 J6	<0.255 U	0.391 J	<1.00 ND	<1.00 ND	<1.00 ND
copper	3100	46	NM	19.2	11.6	25.6	21.6	25.0	17.5	16.5	20.9
lead	400	14	NM	17.3	15.0	21.2	19.0	38.9	16.3	12.4	13.7
nickel	1500	26	NM	18.4	19.0	22.3	21.8	24.3	22.3	21.2	23.5
selenium	390	0.26	NM	0.520 J	0.741 J	0.724 J	0.684 J	0.672 J	<2.50 ND	<2.50 ND	<2.50 ND
silver	390	0.8	NM	<0.0865 U	<0.0865 U	<0.0865 U	<0.0865 U	<0.0865 U	<0.500 ND	<0.500 ND	<0.500 ND
zinc	23000	370	NM	51.3	47.2	63.1	58.6	85.7	51.1	50.6	58.8

TABLE 2 NOTES:

Greater than Table 915-1 Residential Soil Screening Level (RSSL) Concentrations

Greater than Table 915-1 Standards, but less than adjusted standards (Highest background level is the adjusted standard for inorganics; 1.25X highest background level for metals).

Greater than Table 915-1 Standards, but less than adjusted formation specific produced water analytical results

* = Actual Table 915-1 Cleanup Concentration is 0.3 mg/kg, however, per Table 915-1 Footnote #9, the Practical Quantitation Limit (PQL) of 1.0 mg/kg may be used as a substitute
B = The same analyte is found in the associated blank.
DL = dumpline
E (sample ID) = East
E (data qualifier) = The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
FC = Facility Closure
FL = Flowline
ft bgs = feet below ground surface
GL = Gas Lift
GS = Ground surface
J = The identification of the analyte is acceptable: the reported value is an estimate
J1 = The identification of the analyte is acceptable; the reported value is an estimate.
J2 = The identification of the analyte is acceptable; the reported value is an estimate.
J3 = The associated batch quality control was outside the established quality control range for precision
J4 = The associated batch QC was outside the established quality control range for accuracy
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 low
J7 = Surrogate recovery cannot be used for control limit evaluation due to dilution
LH = Line Heater
MCL = maximum contaminant level
mg/kg = milligram per kilogram
mg/L = milligram per liter
MH = Meter House
mmhos/cm = millimhos per centimeter
MOI = material of interest
MW = monitoring well
N = North
N/A = Not applicable. No COGCC cleanup concentration provided
ND = Not detected at the Reporting Limit (or MDL where applicable).
NM = Not measured
NW = north wall
NWALL = north wall
O1 = The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference
P1 = RPD value not applicable for sample concentrations less than 5 times the reporting limit
PH = pothole
PIT = Pit
PL = Pipeline
POR = Point of release
S = South
SB = soil boring
SEP = Separator
SP = spring
ST = stream, surface water
STOCK = spoil pile / stockpile
SW = south wall
SWALL = south wall
T = Tank
T8 = Samples received past/too close to holding time expiration
U = Not detected at the Reporting Limit (or MDL where applicable)
V = The sample concentration is too high to evaluate accurate spike recoveries
W = West
WC = waste characterization sample for landfill disposal
WH = wellhead
WW = west wall
WWALL = west wall

APPENDIX A
SOIL LABORATORY ANALYTICAL RESULTS

KLEINFELDER 707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601 f | 303.237.6602

ANALYTICAL REPORT

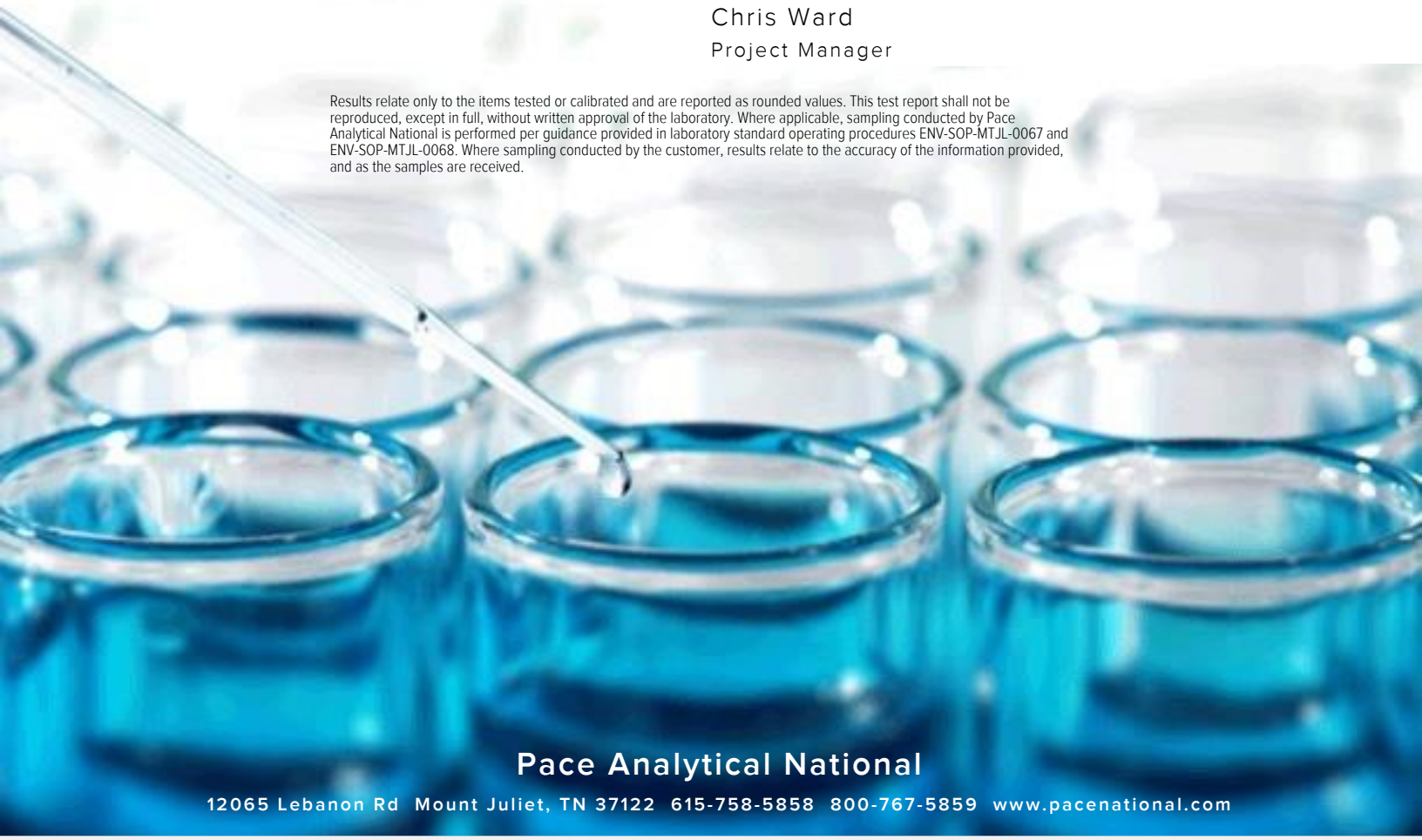
November 03, 2023

Caerus Oil and Gas

Sample Delivery Group:	L1669961
Samples Received:	10/25/2023
Project Number:	
Description:	696 5C P&A Investigation
Site:	696 5C
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

20231024-LMBG-(6965C-N)@1 L1669961-01 Solid

Collected by: Trevor Lakin | Collected date/time: 10/24/23 13:47 | Received date/time: 10/25/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2160156	1	11/02/23 14:27	11/02/23 14:27	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2159126	1	10/27/23 07:38	10/30/23 11:18	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2159434	1	10/30/23 09:07	10/30/23 11:39	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2160690	1	10/31/23 13:15	11/01/23 11:27	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2160157	1	10/31/23 08:29	10/31/23 20:13	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2159071	5	10/27/23 11:28	10/31/23 00:13	SJM	Mt. Juliet, TN

20231024-LMBG-(6965C-E)@1 L1669961-02 Solid

Collected by: Trevor Lakin | Collected date/time: 10/24/23 14:02 | Received date/time: 10/25/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2160156	1	11/02/23 14:07	11/02/23 14:07	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2159126	1	10/27/23 07:38	10/30/23 11:23	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2159434	1	10/30/23 09:07	10/30/23 11:39	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2160690	1	10/31/23 13:15	11/01/23 11:27	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2160157	1	10/31/23 08:29	10/31/23 20:16	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2159071	5	10/27/23 11:28	10/31/23 00:17	SJM	Mt. Juliet, TN

20231024-LMBG-(6965C-S)@1 L1669961-03 Solid

Collected by: Trevor Lakin | Collected date/time: 10/24/23 14:17 | Received date/time: 10/25/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2160156	1	11/02/23 15:16	11/02/23 15:16	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2159132	1	10/27/23 07:42	10/31/23 08:28	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2159434	1	10/30/23 09:07	10/30/23 11:39	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2160690	1	10/31/23 13:15	11/01/23 11:27	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2160157	1	10/31/23 08:29	10/31/23 20:18	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2159071	5	10/27/23 11:28	10/31/23 00:21	SJM	Mt. Juliet, TN

20231024-LMBG-(6965C-W)@1 L1669961-04 Solid

Collected by: Trevor Lakin | Collected date/time: 10/24/23 14:33 | Received date/time: 10/25/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2160156	1	11/02/23 14:21	11/02/23 14:21	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2159126	1	10/27/23 07:38	10/30/23 11:29	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2159434	1	10/30/23 09:07	10/30/23 11:39	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2160690	1	10/31/23 13:15	11/01/23 11:27	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2160157	1	10/31/23 08:29	10/31/23 20:21	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2159071	5	10/27/23 11:28	10/31/23 00:24	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	0.0817		1	11/02/2023 14:27	WG2160156

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	10/30/2023 11:18	WG2159126

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	6.95	T8	1	10/30/2023 11:39	WG2159434

Sample Narrative:

L1669961-01 WG2159434: 6.95 at 21.2C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	80.1		10.0	1	11/01/2023 11:27	WG2160690

Sample Narrative:

L1669961-01 WG2160690: 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	0.518		0.0167	0.200	1	10/31/2023 20:13	WG2160157

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.54		0.100	1.00	5	10/31/2023 00:13	WG2159071
Barium	291		0.152	2.50	5	10/31/2023 00:13	WG2159071
Cadmium	0.321	J	0.0855	1.00	5	10/31/2023 00:13	WG2159071
Copper	19.2		0.132	5.00	5	10/31/2023 00:13	WG2159071
Lead	17.3		0.0990	2.00	5	10/31/2023 00:13	WG2159071
Nickel	18.4		0.197	2.50	5	10/31/2023 00:13	WG2159071
Selenium	0.520	J	0.180	2.50	5	10/31/2023 00:13	WG2159071
Silver	U		0.0865	0.500	5	10/31/2023 00:13	WG2159071
Zinc	51.3		0.740	25.0	5	10/31/2023 00:13	WG2159071

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.134		1	11/02/2023 14:07	WG2160156

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	10/30/2023 11:23	WG2159126

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	7.14	T8	1	10/30/2023 11:39	WG2159434

Sample Narrative:

L1669961-02 WG2159434: 7.14 at 21.2C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	74.5		10.0	1	11/01/2023 11:27	WG2160690

Sample Narrative:

L1669961-02 WG2160690: 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	0.609		0.0167	0.200	1	10/31/2023 20:16	WG2160157

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.87		0.100	1.00	5	10/31/2023 00:17	WG2159071
Barium	310		0.152	2.50	5	10/31/2023 00:17	WG2159071
Cadmium	0.126	J	0.0855	1.00	5	10/31/2023 00:17	WG2159071
Copper	11.6		0.132	5.00	5	10/31/2023 00:17	WG2159071
Lead	15.0		0.0990	2.00	5	10/31/2023 00:17	WG2159071
Nickel	19.0		0.197	2.50	5	10/31/2023 00:17	WG2159071
Selenium	0.741	J	0.180	2.50	5	10/31/2023 00:17	WG2159071
Silver	U		0.0865	0.500	5	10/31/2023 00:17	WG2159071
Zinc	47.2		0.740	25.0	5	10/31/2023 00:17	WG2159071

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	1.83		1	11/02/2023 15:16	WG2160156

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	0.276	J J3 J6	0.255	1.00	1	10/31/2023 08:28	WG2159132

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	7.54	T8	1	10/30/2023 11:39	WG2159434

Sample Narrative:

L1669961-03 WG2159434: 7.54 at 20.9C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	114		10.0	1	11/01/2023 11:27	WG2160690

Sample Narrative:

L1669961-03 WG2160690: 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	0.359		0.0167	0.200	1	10/31/2023 20:18	WG2160157

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	16.3		0.100	1.00	5	10/31/2023 00:21	WG2159071
Barium	422		0.152	2.50	5	10/31/2023 00:21	WG2159071
Cadmium	0.483	J	0.0855	1.00	5	10/31/2023 00:21	WG2159071
Copper	25.6		0.132	5.00	5	10/31/2023 00:21	WG2159071
Lead	21.2		0.0990	2.00	5	10/31/2023 00:21	WG2159071
Nickel	22.3		0.197	2.50	5	10/31/2023 00:21	WG2159071
Selenium	0.724	J	0.180	2.50	5	10/31/2023 00:21	WG2159071
Silver	U		0.0865	0.500	5	10/31/2023 00:21	WG2159071
Zinc	63.1		0.740	25.0	5	10/31/2023 00:21	WG2159071

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.121		1	11/02/2023 14:21	WG2160156

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	10/30/2023 11:29	WG2159126

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	7.12	T8	1	10/30/2023 11:39	WG2159434

Sample Narrative:

L1669961-04 WG2159434: 7.12 at 21.1C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	63.6		10.0	1	11/01/2023 11:27	WG2160690

Sample Narrative:

L1669961-04 WG2160690: 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	0.569		0.0167	0.200	1	10/31/2023 20:21	WG2160157

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	15.0		0.100	1.00	5	10/31/2023 00:24	WG2159071
Barium	360		0.152	2.50	5	10/31/2023 00:24	WG2159071
Cadmium	0.262	J	0.0855	1.00	5	10/31/2023 00:24	WG2159071
Copper	21.6		0.132	5.00	5	10/31/2023 00:24	WG2159071
Lead	19.0		0.0990	2.00	5	10/31/2023 00:24	WG2159071
Nickel	21.8		0.197	2.50	5	10/31/2023 00:24	WG2159071
Selenium	0.684	J	0.180	2.50	5	10/31/2023 00:24	WG2159071
Silver	U		0.0865	0.500	5	10/31/2023 00:24	WG2159071
Zinc	58.6		0.740	25.0	5	10/31/2023 00:24	WG2159071

Method Blank (MB)

(MB) R3992819-1 10/30/23 09:53

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

L1669245-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1669245-02 10/30/23 10:42 • (DUP) R3992819-7 10/30/23 10:57

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	0.402	0.296	1	30.3	J P1	20

L1670082-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1670082-01 10/30/23 11:34 • (DUP) R3992819-8 10/30/23 11:39

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) R3992819-2 10/30/23 10:00

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.9	109	80.0-120	

L1669182-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1669182-01 10/30/23 10:11 • (MS) R3992819-3 10/30/23 10:16 • (MSD) R3992819-4 10/30/23 10:21

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	7.61	16.1	38.0	80.4	1	75.0-125	J6	J3	71.5	20

L1669182-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1669182-01 10/30/23 10:11 • (MS) R3992819-5 10/30/23 10:26

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	641	U	1010	158	50	75.0-125	J5

Method Blank (MB)

(MB) R3993316-1 10/31/23 08:16

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

L1670064-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1670064-01 10/31/23 09:20 • (DUP) R3993316-7 10/31/23 09:25

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

L1670064-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1670064-07 10/31/23 11:08 • (DUP) R3993316-8 10/31/23 11:15

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) R3993316-2 10/31/23 08:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	9.90	99.0	80.0-120	

L1669961-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1669961-03 10/31/23 08:28 • (MS) R3993316-3 10/31/23 08:33 • (MSD) R3993316-4 10/31/23 08:39

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	0.276	15.2	7.39	74.5	35.6	1	75.0-125	J6	J3 J6	69.0	20

L1669961-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1669961-03 10/31/23 08:28 • (MS) R3993316-5 10/31/23 08:44

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	641	0.276	726	113	50	75.0-125	

L1669190-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1669190-02 10/30/23 11:39 • (DUP) R3992725-2 10/30/23 11:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	5.84	5.83	1	0.171		1

Sample Narrative:

OS: 5.84 at 21.2C

DUP: 5.83 at 21.1C

L1669961-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1669961-04 10/30/23 11:39 • (DUP) R3992725-3 10/30/23 11:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	7.12	7.10	1	0.281		1

Sample Narrative:

OS: 7.12 at 21.1C

DUP: 7.1 at 20.8C

Laboratory Control Sample (LCS)

(LCS) R3992725-1 10/30/23 11:39

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 20.7C

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

Method Blank (MB)

(MB) R3993822-1 11/01/23 11:27

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

L1669961-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1669961-04 11/01/23 11:27 • (DUP) R3993822-3 11/01/23 11:27

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	63.6	65.9	1	3.55		20

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

L1669983-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1669983-04 11/01/23 11:27 • (DUP) R3993822-4 11/01/23 11:27

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	58.3	57.8	1	0.861		20

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

Laboratory Control Sample (LCS)

(LCS) R3993822-2 11/01/23 11:27

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	327	348	106	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3993854-1 10/31/23 20:02

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) R3993854-2 10/31/23 20:04 • (LCSD) R3993854-3 10/31/23 20:07

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	1.08	1.09	108	109	80.0-120			0.661	20

Method Blank (MB)

(MB) R3993151-1 10/30/23 23:28

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) R3993151-2 10/30/23 23:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	93.6	93.6	80.0-120	
Barium	100	90.0	90.0	80.0-120	
Cadmium	100	97.6	97.6	80.0-120	
Copper	100	90.2	90.2	80.0-120	
Lead	100	91.1	91.1	80.0-120	
Nickel	100	92.8	92.8	80.0-120	
Selenium	100	95.4	95.4	80.0-120	
Silver	20.0	19.1	95.5	80.0-120	
Zinc	100	89.3	89.3	80.0-120	

L1670358-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1670358-04 10/30/23 23:35 • (MS) R3993151-5 10/30/23 23:45 • (MSD) R3993151-6 10/30/23 23:48

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	4.80	91.9	96.4	87.1	91.6	5	75.0-125			4.73	20
Barium	100	161	258	276	97.3	116	5	75.0-125			6.87	20
Cadmium	100	0.495	96.4	100	95.9	99.7	5	75.0-125			3.86	20
Copper	100	11.4	96.8	102	85.4	90.6	5	75.0-125			5.30	20
Lead	100	10.0	102	105	91.6	94.9	5	75.0-125			3.21	20
Nickel	100	17.1	106	114	88.5	96.4	5	75.0-125			7.29	20
Selenium	100	0.475	92.3	96.4	91.9	96.0	5	75.0-125		E	4.35	20
Silver	20.0	U	18.8	19.5	94.2	97.3	5	75.0-125			3.19	20
Zinc	100	48.9	131	142	82.6	92.9	5	75.0-125			7.59	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
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
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.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
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.

Caerus Oil and Gas
143 Diamond Avenue
Parachute, CO 81635

Billing Information: SAME AS LEFT

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

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

Report to: Jake Janicek

Email To: jjanicek@caerusoilandgas.com

Project Description: 696 5C P&A Investigation (NRGIL)

City/State Collected: Piceance Crk, CO

Please Circle: PT MT CT ET

SDG # L1669961

F001

Phone: (970) 778-2314

Client Project # —

Lab Project # —

Collected by (print): Trevor Lakin

Site/Facility ID # 696 5C

P.O. # —

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote # —

Date Results Needed: Standard TAT

Acctnum:
Template:
Prelogin:
PM:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	COGCC Table 915-1 minus organics	EC, pH, SAR	Arsenic, Boron	COGCC Table 910-1	Remarks	Sample # (lab only)
0231024-LMBG-(696 5C-N)@1	Grab	SS	1ft	10/24/23	13:47	4	X					-01
0231024-LMBG-(696 5C-E)@1					14:02	4	X					-02
0231024-LMBG-(696 5C-S)@1					14:17	4	X					-03
0231024-LMBG(696 5C-W)@1					14:33	4	X					-04

10/25

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	10/24/23	16:30		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: CCAB °C / 1.5+0 Bottles Received: 10
	102423	1700		
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/25/23 Time: 0900
			Christopher L. Gallen	

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

ANALYTICAL REPORT

November 08, 2023

Revised Report

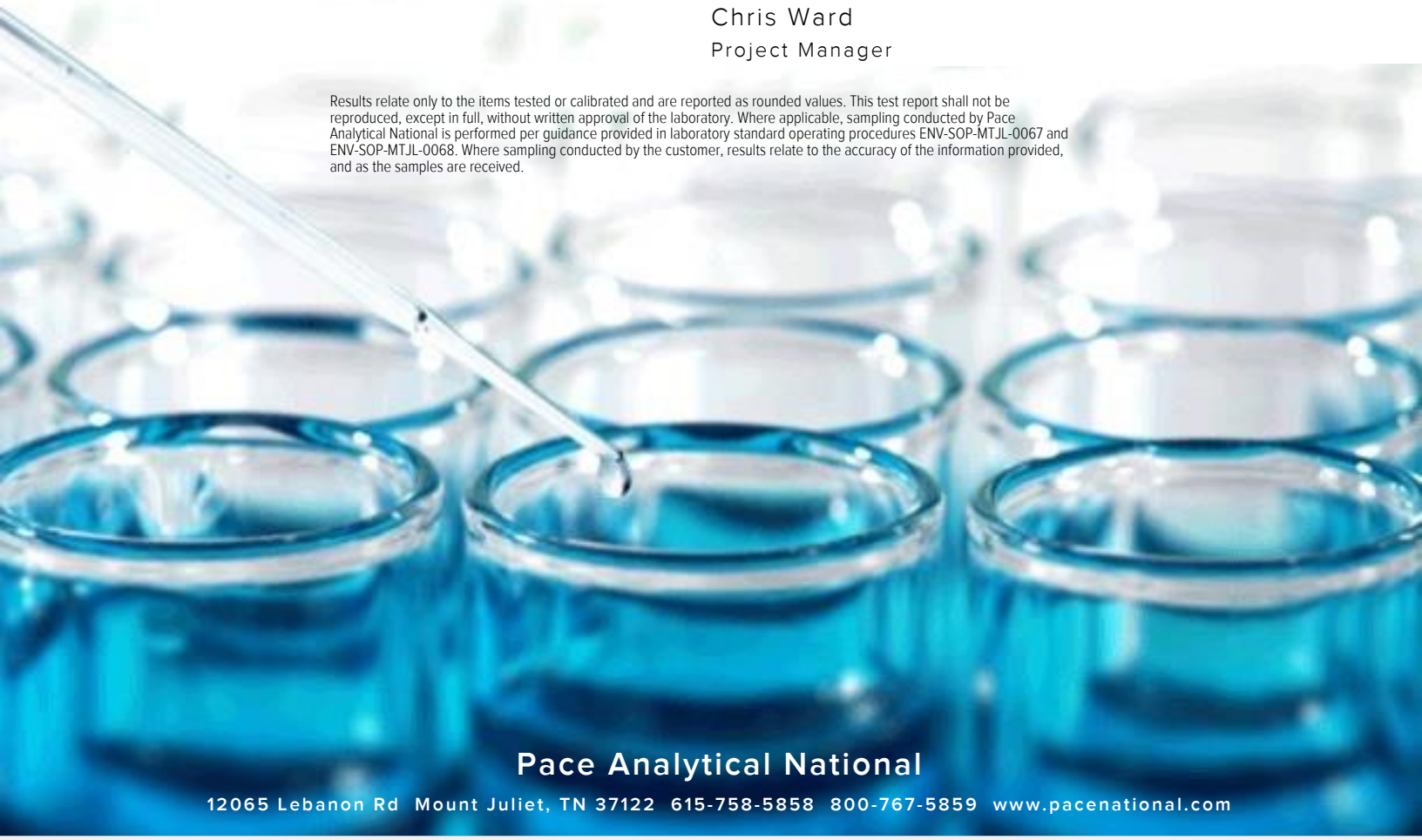
Caerus Oil and Gas

Sample Delivery Group:	L1669964
Samples Received:	10/25/2023
Project Number:	
Description:	696 5C P&A Investigation (43)
Site:	696 5C
Report To:	Jake J. / Brett M. / Blair R. / Andy V. 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By:

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

20231024-696-5C-(FC-WH-43)@4 L1669964-01 Solid

Collected by: Trevor Lakin
Collected date/time: 10/24/23 13:23
Received date/time: 10/25/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2160156	1	11/02/23 14:44	11/02/23 14:44	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2159132	1	10/27/23 12:48	10/31/23 08:54	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2160446	1	10/30/23 08:56	10/30/23 12:14	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2160690	1	10/31/23 13:15	11/01/23 11:27	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2160157	1	10/31/23 08:29	10/31/23 20:24	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2159071	5	10/27/23 11:28	10/31/23 00:27	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2161122	1	10/26/23 09:09	10/31/23 19:18	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2160366	1	10/26/23 09:09	10/30/23 06:35	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2160400	1	11/01/23 15:35	11/01/23 23:15	ICD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2160396	1	10/31/23 16:50	11/01/23 06:27	JCH	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

Report Revision History

Level II Report - Version 1: 11/03/23 09:47

Project Narrative

Report reissued for updated sample ID

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	1.71		1	11/02/2023 14:44	WG2160156

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	0.391	J	0.255	1.00	1	10/31/2023 08:54	WG2159132

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.68	T8	1	10/30/2023 12:14	WG2160446

Sample Narrative:

L1669964-01 WG2160446: 8.68 at 21.6C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	173		10.0	1	11/01/2023 11:27	WG2160690

Sample Narrative:

L1669964-01 WG2160690: 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	0.526		0.0167	0.200	1	10/31/2023 20:24	WG2160157

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	12.6		0.100	1.00	5	10/31/2023 00:27	WG2159071
Barium	428		0.152	2.50	5	10/31/2023 00:27	WG2159071
Cadmium	0.366	J	0.0855	1.00	5	10/31/2023 00:27	WG2159071
Copper	25.0		0.132	5.00	5	10/31/2023 00:27	WG2159071
Lead	38.9		0.0990	2.00	5	10/31/2023 00:27	WG2159071
Nickel	24.3		0.197	2.50	5	10/31/2023 00:27	WG2159071
Selenium	0.672	J	0.180	2.50	5	10/31/2023 00:27	WG2159071
Silver	U		0.0865	0.500	5	10/31/2023 00:27	WG2159071
Zinc	85.7		0.740	25.0	5	10/31/2023 00:27	WG2159071

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0483	J	0.0217	0.100	1	10/31/2023 19:18	WG2161122
(S) a,a,a-Trifluorotoluene(FID)	*98.3*			*77.0-120*		*10/31/2023 19:18*	WG2161122

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/30/2023 06:35	WG2160366
Toluene	U		0.00130	0.00500	1	10/30/2023 06:35	WG2160366
Ethylbenzene	U		0.000737	0.00250	1	10/30/2023 06:35	WG2160366
Xylenes, Total	U		0.000880	0.00650	1	10/30/2023 06:35	WG2160366
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/30/2023 06:35	WG2160366
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/30/2023 06:35	WG2160366
(S) Toluene-d8	*107*			*75.0-131*		*10/30/2023 06:35*	WG2160366
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*10/30/2023 06:35*	WG2160366
(S) 1,2-Dichloroethane-d4	*96.6*			*70.0-130*		*10/30/2023 06:35*	WG2160366

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	14.1		1.61	4.00	1	11/01/2023 23:15	WG2160400
C28-C36 Motor Oil Range	31.9		0.274	4.00	1	11/01/2023 23:15	WG2160400
(S) o-Terphenyl	*38.9*			*18.0-148*		*11/01/2023 23:15*	WG2160400

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	11/01/2023 06:27	WG2160396
Anthracene	U		0.00230	0.00600	1	11/01/2023 06:27	WG2160396
Benzo(a)anthracene	U		0.00173	0.00600	1	11/01/2023 06:27	WG2160396
Benzo(b)fluoranthene	U		0.00153	0.00600	1	11/01/2023 06:27	WG2160396
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/01/2023 06:27	WG2160396
Benzo(a)pyrene	U		0.00179	0.00600	1	11/01/2023 06:27	WG2160396
Chrysene	U		0.00232	0.00600	1	11/01/2023 06:27	WG2160396
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/01/2023 06:27	WG2160396
Fluoranthene	U		0.00227	0.00600	1	11/01/2023 06:27	WG2160396
Fluorene	U		0.00205	0.00600	1	11/01/2023 06:27	WG2160396
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/01/2023 06:27	WG2160396
1-Methylnaphthalene	U		0.00449	0.0200	1	11/01/2023 06:27	WG2160396
2-Methylnaphthalene	U		0.00427	0.0200	1	11/01/2023 06:27	WG2160396
Naphthalene	U		0.00408	0.0200	1	11/01/2023 06:27	WG2160396
Pyrene	U		0.00200	0.00600	1	11/01/2023 06:27	WG2160396
(S) p-Terphenyl-d14	*82.5*			*23.0-120*		*11/01/2023 06:27*	WG2160396
(S) Nitrobenzene-d5	*55.3*			*14.0-149*		*11/01/2023 06:27*	WG2160396
(S) 2-Fluorobiphenyl	*48.1*			*34.0-125*		*11/01/2023 06:27*	WG2160396

Method Blank (MB)

(MB) R3993316-1 10/31/23 08:16

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

L1670064-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1670064-01 10/31/23 09:20 • (DUP) R3993316-7 10/31/23 09:25

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

L1670064-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1670064-07 10/31/23 11:08 • (DUP) R3993316-8 10/31/23 11:15

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) R3993316-2 10/31/23 08:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	9.90	99.0	80.0-120	

L1669961-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1669961-03 10/31/23 08:28 • (MS) R3993316-3 10/31/23 08:33 • (MSD) R3993316-4 10/31/23 08:39

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	0.276	15.2	7.39	74.5	35.6	1	75.0-125	J6	J3 J6	69.0	20

L1669961-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1669961-03 10/31/23 08:28 • (MS) R3993316-5 10/31/23 08:44

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	641	0.276	726	113	50	75.0-125	

L1669983-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1669983-04 10/30/23 12:14 • (DUP) R3992734-2 10/30/23 12:14

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	6.53	6.50	1	0.460		1

Sample Narrative:

OS: 6.53 at 21.5C

DUP: 6.5 at 21.5C

L1669985-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1669985-06 10/30/23 12:14 • (DUP) R3992734-3 10/30/23 12:14

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	8.41	8.40	1	0.119		1

Sample Narrative:

OS: 8.41 at 21.3C

DUP: 8.4 at 21.4C

Laboratory Control Sample (LCS)

(LCS) R3992734-1 10/30/23 12:14

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

Sample Narrative:

LCS: 10.02 at 20.2C

Method Blank (MB)

(MB) R3993822-1 11/01/23 11:27

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

L1669961-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1669961-04 11/01/23 11:27 • (DUP) R3993822-3 11/01/23 11:27

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	63.6	65.9	1	3.55		20

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

L1669983-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1669983-04 11/01/23 11:27 • (DUP) R3993822-4 11/01/23 11:27

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	58.3	57.8	1	0.861		20

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

Laboratory Control Sample (LCS)

(LCS) R3993822-2 11/01/23 11:27

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	327	348	106	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3993854-1 10/31/23 20:02

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) R3993854-2 10/31/23 20:04 • (LCSD) R3993854-3 10/31/23 20:07

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	1.08	1.09	108	109	80.0-120			0.661	20

Method Blank (MB)

(MB) R3993151-1 10/30/23 23:28

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) R3993151-2 10/30/23 23:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	93.6	93.6	80.0-120	
Barium	100	90.0	90.0	80.0-120	
Cadmium	100	97.6	97.6	80.0-120	
Copper	100	90.2	90.2	80.0-120	
Lead	100	91.1	91.1	80.0-120	
Nickel	100	92.8	92.8	80.0-120	
Selenium	100	95.4	95.4	80.0-120	
Silver	20.0	19.1	95.5	80.0-120	
Zinc	100	89.3	89.3	80.0-120	

L1670358-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1670358-04 10/30/23 23:35 • (MS) R3993151-5 10/30/23 23:45 • (MSD) R3993151-6 10/30/23 23:48

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	4.80	91.9	96.4	87.1	91.6	5	75.0-125			4.73	20
Barium	100	161	258	276	97.3	116	5	75.0-125			6.87	20
Cadmium	100	0.495	96.4	100	95.9	99.7	5	75.0-125			3.86	20
Copper	100	11.4	96.8	102	85.4	90.6	5	75.0-125			5.30	20
Lead	100	10.0	102	105	91.6	94.9	5	75.0-125			3.21	20
Nickel	100	17.1	106	114	88.5	96.4	5	75.0-125			7.29	20
Selenium	100	0.475	92.3	96.4	91.9	96.0	5	75.0-125		E	4.35	20
Silver	20.0	U	18.8	19.5	94.2	97.3	5	75.0-125			3.19	20
Zinc	100	48.9	131	142	82.6	92.9	5	75.0-125			7.59	20

Method Blank (MB)

(MB) R3993889-2 10/31/23 13:32

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3993889-1 10/31/23 12:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.62	102	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*102*	*77.0-120*	

Method Blank (MB)

(MB) R3993321-2 10/29/23 23:12

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Toluene	U		0.00130	0.00500
Ethylbenzene	U		0.000737	0.00250
Xylenes, Total	U		0.000880	0.00650
1,2,4-Trimethylbenzene	0.00235	J	0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	*108*			*75.0-131*
(S) 4-Bromofluorobenzene	*103*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*95.0*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3993321-1 10/29/23 21:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.122	97.6	70.0-123	
Toluene	0.125	0.136	109	75.0-121	
Ethylbenzene	0.125	0.145	116	74.0-126	
Xylenes, Total	0.375	0.437	117	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.132	106	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.128	102	73.0-127	
(S) Toluene-d8			*107*	*75.0-131*	
(S) 4-Bromofluorobenzene			*100*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*99.1*	*70.0-130*	

L1669964-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1669964-01 10/30/23 06:35 • (MS) R3993321-3 10/30/23 07:51 • (MSD) R3993321-4 10/30/23 08:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	U	0.123	0.128	98.4	102	1	10.0-149			3.98	37
Toluene	0.125	U	0.133	0.141	106	113	1	10.0-156			5.84	38
Ethylbenzene	0.125	U	0.147	0.151	118	121	1	10.0-160			2.68	38
Xylenes, Total	0.375	U	0.446	0.468	119	125	1	10.0-160			4.81	38
1,2,4-Trimethylbenzene	0.125	U	0.132	0.138	106	110	1	10.0-160			4.44	36
1,3,5-Trimethylbenzene	0.125	U	0.132	0.142	106	114	1	10.0-160			7.30	38
(S) Toluene-d8					*108*	*107*		*75.0-131*				
(S) 4-Bromofluorobenzene					*102*	*102*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*99.3*	*95.4*		*70.0-130*				

Method Blank (MB)

(MB) R3994233-1 11/01/23 22:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	1.39	J	0.274	4.00
(S) o-Terphenyl	*68.0*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3994233-2 11/01/23 22:50

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	37.6	75.2	50.0-150	
(S) o-Terphenyl			*49.7*	*18.0-148*	

L1669712-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1669712-04 11/01/23 23:27 • (MS) R3994233-3 11/01/23 23:39 • (MSD) R3994233-4 11/01/23 23:51

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 %
C10-C28 Diesel Range	50.0	2.24	37.1	38.7	69.7	72.9	1	50.0-150			4.22	20
(S) o-Terphenyl					*34.4*	*41.7*		*18.0-148*				

Method Blank (MB)

(MB) R3993861-2 11/01/23 02:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00209	0.00600
Anthracene	U		0.00230	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
Naphthalene	U		0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	*81.7*			*23.0-120*
(S) Nitrobenzene-d5	*78.5*			*14.0-149*
(S) 2-Fluorobiphenyl	*76.0*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R3993861-1 11/01/23 01:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0545	68.1	50.0-120	
Anthracene	0.0800	0.0556	69.5	50.0-126	
Benzo(a)anthracene	0.0800	0.0615	76.9	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0598	74.8	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0561	70.1	49.0-125	
Benzo(a)pyrene	0.0800	0.0562	70.3	42.0-120	
Chrysene	0.0800	0.0637	79.6	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0679	84.9	47.0-125	
Fluoranthene	0.0800	0.0612	76.5	49.0-129	
Fluorene	0.0800	0.0605	75.6	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0660	82.5	46.0-125	
1-Methylnaphthalene	0.0800	0.0573	71.6	51.0-121	
2-Methylnaphthalene	0.0800	0.0603	75.4	50.0-120	
Naphthalene	0.0800	0.0558	69.8	50.0-120	
Pyrene	0.0800	0.0624	78.0	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R3993861-1 11/01/23 01:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*77.0*	*23.0-120*	
(S) Nitrobenzene-d5			*61.2*	*14.0-149*	
(S) 2-Fluorobiphenyl			*64.4*	*34.0-125*	

L1669712-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1669712-04 11/01/23 03:15 • (MS) R3993861-3 11/01/23 03:33 • (MSD) R3993861-4 11/01/23 03:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0788	U	0.0537	0.0405	68.1	51.9	1	14.0-127		J3	28.0	27
Anthracene	0.0788	0.00507	0.0570	0.0427	65.9	48.2	1	10.0-145			28.7	30
Benzo(a)anthracene	0.0788	0.0196	0.0649	0.0457	57.5	33.5	1	10.0-139		J3	34.7	30
Benzo(b)fluoranthene	0.0788	0.0261	0.0635	0.0437	47.5	22.6	1	10.0-140		J3	36.9	36
Benzo(k)fluoranthene	0.0788	0.0119	0.0672	0.0490	70.2	47.6	1	10.0-137		J3	31.3	31
Benzo(a)pyrene	0.0788	0.0198	0.0677	0.0500	60.8	38.7	1	10.0-141			30.1	31
Chrysene	0.0788	0.0221	0.0709	0.0528	61.9	39.4	1	10.0-145			29.3	30
Dibenz(a,h)anthracene	0.0788	0.00268	0.0763	0.0553	93.4	67.5	1	10.0-132		J3	31.9	31
Fluoranthene	0.0788	0.0560	0.0636	0.0437	9.64	0.000	1	10.0-153	J6	J3 J6	37.1	33
Fluorene	0.0788	U	0.0609	0.0449	77.3	57.6	1	11.0-130		J3	30.2	29
Indeno(1,2,3-cd)pyrene	0.0788	0.0164	0.0706	0.0503	68.8	43.5	1	10.0-137		J3	33.6	32
1-Methylnaphthalene	0.0788	U	0.0569	0.0433	72.2	55.5	1	10.0-142			27.1	28
2-Methylnaphthalene	0.0788	U	0.0605	0.0463	76.8	59.4	1	10.0-137			26.6	28
Naphthalene	0.0788	U	0.0548	0.0435	69.5	55.8	1	10.0-135			23.0	27
Pyrene	0.0788	0.0458	0.0661	0.0452	25.8	0.000	1	10.0-148		J3 J6	37.6	35
(S) p-Terphenyl-d14					*85.5*	*78.1*		*23.0-120*				
(S) Nitrobenzene-d5					*80.8*	*72.2*		*14.0-149*				
(S) 2-Fluorobiphenyl					*76.6*	*70.4*		*34.0-125*				

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.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Caerus Oil and Gas
143 Diamond Avenue
Parachute, CO 81635

Billing Information: SAME AS LEFT

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

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

Report to: Jake Janicek

Email To: jjanicek@caerusoilandgas.com

Project Description: 696 5C PAA Investigation (43)

City/State Collected: Piceance Crk, CO

Please Circle: PT MT CT ET

SDG # L1666464

F002

Phone: (970) 778-2314

Client Project # -

Lab Project # -

Collected by (print): Trevor Lakin

Site/Facility ID # 696 5C

P.O. # -

Collected by (signature): [signature]

Immediately Packed on Ice N ____ Y X

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

Quote # -

Date Results Needed: Standard TAT

Acctnum:
Template:
Prelogin:
PM:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	COGCC Table 915-1	EC, pH, SAR	Arsenic, Boron	COGCC Table 910-1	Remarks	Sample # (lab only)
231024-696 5C-(FC-WH-43)	G4 Grab	SS	4ft	10/24/23	13:23	4	X					-01

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
[signature]	10/24/23	16:30	[signature]		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp 0.8 °C Bottles Received:	
[signature]	10/24/23	1700		1.5 4	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
			Christopher R. Gallimore	10/25/23	0900

Hold: Condition: NCF / OK

ANALYTICAL REPORT

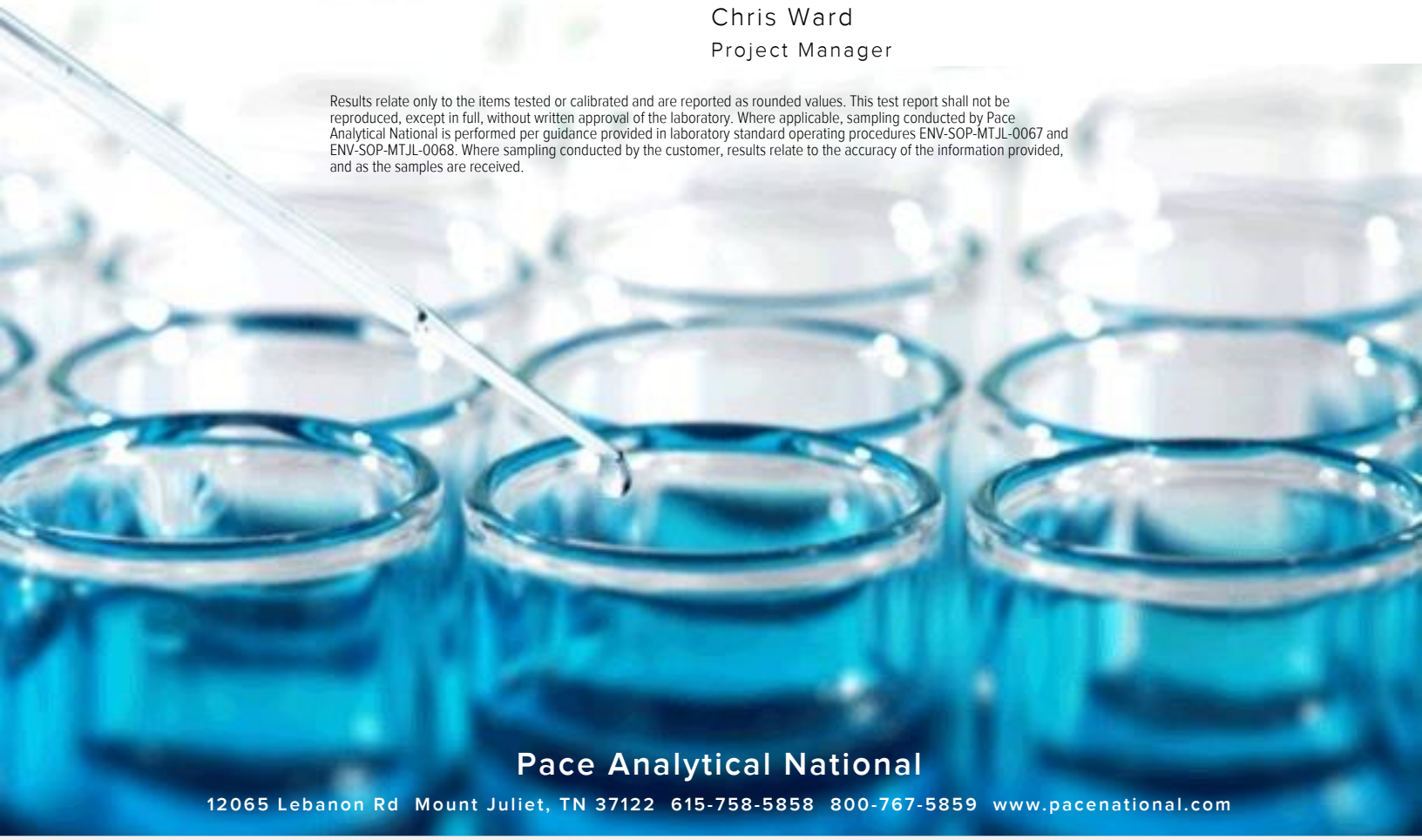
November 16, 2023

Caerus Oil and Gas

Sample Delivery Group:	L1674896
Samples Received:	10/25/2023
Project Number:	
Description:	696 5C P&A Investigation (43)
Site:	696 5C
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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Al: Accreditations & Locations 8

Sc: Sample Chain of Custody 9

SAMPLE SUMMARY

20231024-696 5C-(FC-WH-43)@4 L1674896-01 Solid

Collected by: Trevor Lakin
Collected date/time: 10/24/23 13:23
Received date/time: 10/25/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 7199	WG2171258	1	11/15/23 09:48	11/16/23 01:55	VSS	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

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Hexavalent Chromium	ND		1.00	1	11/16/2023 01:55	WG2171258

Method Blank (MB)

(MB) R4000504-1 11/16/23 01:37

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

L1675362-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1675362-01 11/16/23 02:10 • (DUP) R4000504-3 11/16/23 02:15

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

L1675363-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1675363-05 11/16/23 03:18 • (DUP) R4000504-8 11/16/23 03:23

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

Laboratory Control Sample (LCS)

(LCS) R4000504-2 11/16/23 01:44

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.7	107	80.0-120	

L1675362-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1675362-02 11/16/23 02:21 • (MS) R4000504-7 11/16/23 02:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	643	ND	819	127	50	75.0-125	J5

L1675362-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1675362-02 11/16/23 02:21 • (MS) R4000504-5 11/16/23 02:41 • (MSD) R4000504-6 11/16/23 02:47

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	ND	14.7	12.6	73.5	62.8	1	75.0-125	J6	J6	15.8	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.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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
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.

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.

Caerus Oil and Gas
143 Diamond Avenue
Parachute, CO 81635

Billing Information: SAME AS LEFT

Pres Chk

Report to: Jake Janicek

Email To: jjanicek@caerusoilandgas.com

Project Description: 696 5C Pad Investigation (43)

City/State Collected: Piceance Crk, CO

Please Circle: PT MT CT ET

Phone: (970) 778-2314

Client Project # -

Lab Project # -

Collected by (print): Trevor Lakin

Site/Facility ID # 696 5C

P.O. # -

Collected by (signature):

Quote # -

Immediately Packed on Ice N ___ Y X

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

Date Results Needed: Standard TAT

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	COGCC Table 915-1	EC, pH, SAR	Arsenic, Boron	COGCC Table 910-1	Remarks	Sample # (lab only)
0231024-696 5C-(FC-WH-43)-94	Grab	SS	4/5ft	10/24/23	13:23	4	X					-01

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

Relinquished by : (Signature) — Date: 10/24/23 — Time: 16:30 — Received by: (Signature)

Relinquished by : (Signature) — Date: 10/24/23 — Time: 1700 — Received by: (Signature)

Relinquished by : (Signature) — Date: — Time: — Received for lab by: (Signature) Christopher R. Gallegos — Date: 10/25/23 — Time: 0900

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp CORR 1.5°C — Bottles Received: 4

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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

Chain of Custody Page ___ of ___

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National Center for Testing & Innovation

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

SDG # L1674896

F002
L1674896

11/8/23

Acctnum:
Template:
Prelogin:
PM:
PB:
Shipped Via:

L1669964 *CAERUSPCO* EX

R2/R3/R4/RX/EX

Please relog to a new SDG for CR6IC

_ _

Thanks,

** *Chris
Ward (He/him/his)

*Project Manager2_*

_***Pace Analytical National**
*

12065 Lebanon Road | Mt. Juliet, TN 37122**

Chris.ward@pacelabs.com
| www.pacenational.com

615.773.9712

MAKE YOUR PAYMENTS ONLINE

Time estimate: oh **Time spent:** oh

Members

CW Chris Ward (responsible)

ANALYTICAL REPORT

February 29, 2024

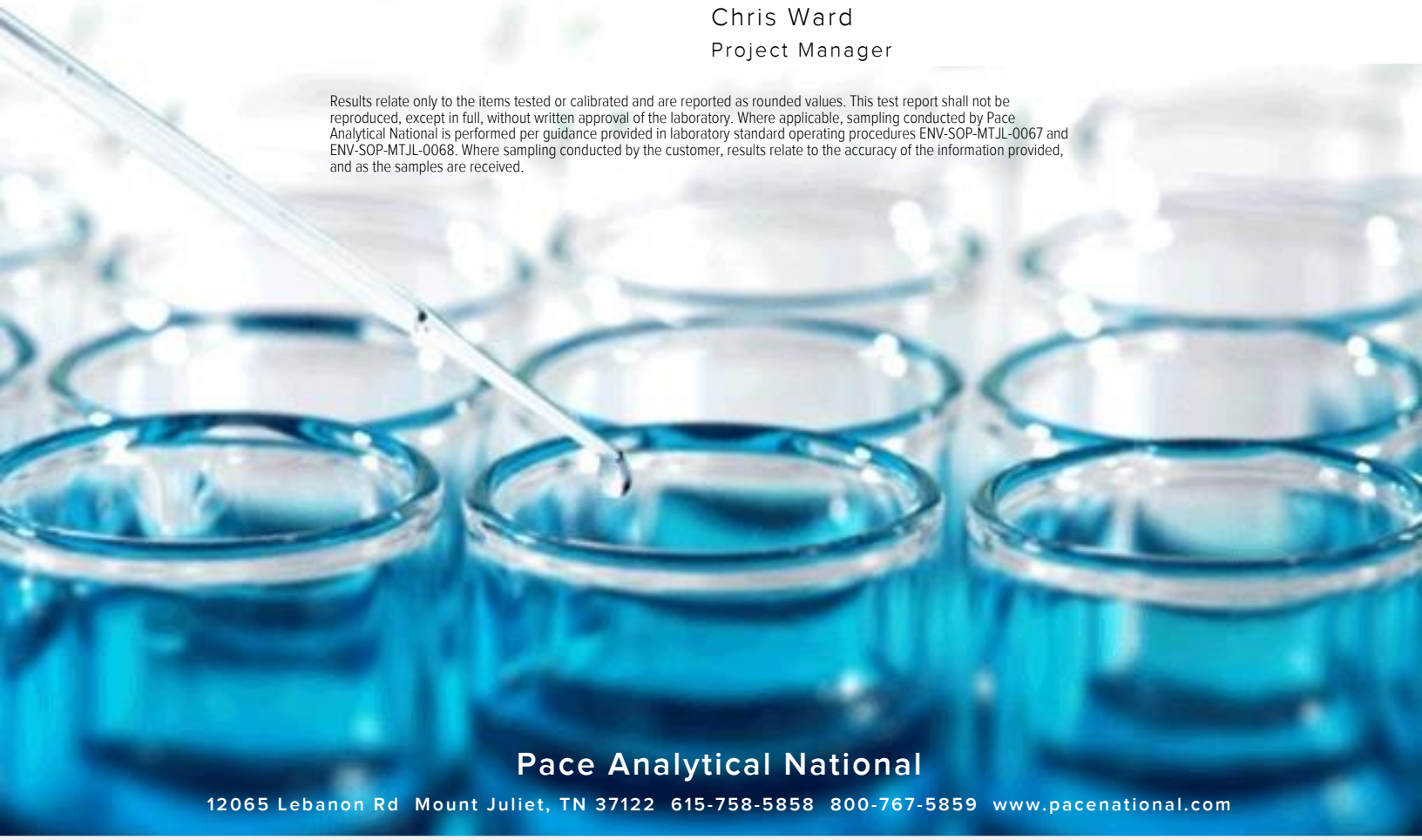
1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Caerus Oil and Gas

Sample Delivery Group:	L1708373
Samples Received:	02/22/2024
Project Number:	
Description:	696-5C P+A Investigation
Site:	696-5C
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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Volatile Organic Compounds (GC/MS) by Method 8260B 17

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Sc: Sample Chain of Custody 23

20240221-696-5C-(FC-DL-43)@4 L1708373-01 Solid

Collected by: Trevor Lakin | Collected date/time: 02/21/24 09:46 | Received date/time: 02/22/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2235121	1	02/29/24 09:23	02/29/24 09:23	DJS	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2231642	1	02/25/24 22:28	02/26/24 08:17	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2232693	1	02/23/24 14:15	02/24/24 09:40	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2233512	1	02/24/24 17:40	02/28/24 15:10	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2235122	1	02/28/24 08:34	02/28/24 16:34	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2233236	5	02/24/24 15:32	02/25/24 20:05	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2234541	1	02/26/24 12:59	02/27/24 00:47	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2234504	1	02/26/24 12:59	02/26/24 22:00	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2233259	1	02/26/24 13:49	02/27/24 11:21	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2233155	1	02/24/24 14:55	02/25/24 15:11	LS	Mt. Juliet, TN

20240221-696-5C-(FC-FL-43)@4 L1708373-02 Solid

Collected by: Trevor Lakin | Collected date/time: 02/21/24 10:01 | Received date/time: 02/22/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2235121	1	02/29/24 09:26	02/29/24 09:26	DJS	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2231642	1	02/25/24 22:28	02/26/24 08:23	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2232693	1	02/23/24 14:15	02/24/24 09:40	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2233512	1	02/24/24 17:40	02/28/24 15:10	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2235122	1	02/28/24 08:34	02/28/24 16:36	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2233236	5	02/24/24 15:32	02/25/24 20:30	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2234541	1	02/26/24 12:59	02/27/24 01:10	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2234504	1	02/26/24 12:59	02/26/24 22:19	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2233259	1	02/26/24 13:49	02/27/24 11:08	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2233155	1	02/24/24 14:55	02/25/24 15:29	LS	Mt. Juliet, TN

20240221-696-5C-(STOCK02) L1708373-03 Solid

Collected by: Trevor Lakin | Collected date/time: 02/21/24 10:16 | Received date/time: 02/22/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2235121	1	02/29/24 09:29	02/29/24 09:29	DJS	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2231642	1	02/25/24 22:28	02/26/24 08:29	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2232693	1	02/23/24 14:15	02/24/24 09:40	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2233512	1	02/24/24 17:40	02/28/24 15:10	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2235122	1	02/28/24 08:34	02/28/24 16:38	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2233236	5	02/24/24 15:32	02/25/24 20:33	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2234541	1	02/26/24 12:59	02/27/24 01:33	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2234504	1	02/26/24 12:59	02/26/24 22:39	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2233259	1	02/26/24 13:49	02/27/24 03:48	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2233155	1	02/24/24 14:55	02/25/24 15:47	LS	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	1.32		1	02/29/2024 09:23	WG2235121

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Hexavalent Chromium	ND		1.00	1	02/26/2024 08:17	WG2231642

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	8.33	T8	1	02/24/2024 09:40	WG2232693

Sample Narrative:

L1708373-01 WG2232693: 8.33 at 19C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	212		10.0	1	02/28/2024 15:10	WG2233512

Sample Narrative:

L1708373-01 WG2233512: at 25C

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/l		mg/l			
Hot Water Sol. Boron	0.328		0.200	1	02/28/2024 16:34	WG2235122

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	5.86		1.00	5	02/25/2024 20:05	WG2233236
Barium	255		2.50	5	02/25/2024 20:05	WG2233236
Cadmium	ND		1.00	5	02/25/2024 20:05	WG2233236
Copper	16.5		5.00	5	02/25/2024 20:05	WG2233236
Lead	12.4		2.00	5	02/25/2024 20:05	WG2233236
Nickel	21.2		2.50	5	02/25/2024 20:05	WG2233236
Selenium	ND		2.50	5	02/25/2024 20:05	WG2233236
Silver	ND		0.500	5	02/25/2024 20:05	WG2233236
Zinc	50.6		25.0	5	02/25/2024 20:05	WG2233236

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	0.119		0.100	1	02/27/2024 00:47	WG2234541
(S) a,a,a-Trifluorotoluene(FID)	*91.6*		*77.0-120*		*02/27/2024 00:47*	WG2234541

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	02/26/2024 22:00	WG2234504
Toluene	ND		0.00500	1	02/26/2024 22:00	WG2234504
Ethylbenzene	ND		0.00250	1	02/26/2024 22:00	WG2234504
Xylenes, Total	ND		0.00650	1	02/26/2024 22:00	WG2234504
1,2,4-Trimethylbenzene	ND		0.00500	1	02/26/2024 22:00	WG2234504
1,3,5-Trimethylbenzene	ND		0.00500	1	02/26/2024 22:00	WG2234504
(S) Toluene-d8	*103*		*75.0-131*		*02/26/2024 22:00*	WG2234504
(S) 4-Bromofluorobenzene	*96.2*		*67.0-138*		*02/26/2024 22:00*	WG2234504
(S) 1,2-Dichloroethane-d4	*89.2*		*70.0-130*		*02/26/2024 22:00*	WG2234504

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	15.4		4.00	1	02/27/2024 11:21	WG2233259
C28-C36 Motor Oil Range	25.8		4.00	1	02/27/2024 11:21	WG2233259
(S) o-Terphenyl	*33.1*		*18.0-148*		*02/27/2024 11:21*	WG2233259

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	02/25/2024 15:11	WG2233155
Anthracene	ND		0.00600	1	02/25/2024 15:11	WG2233155
Benzo(a)anthracene	ND		0.00600	1	02/25/2024 15:11	WG2233155
Benzo(b)fluoranthene	ND		0.00600	1	02/25/2024 15:11	WG2233155
Benzo(k)fluoranthene	ND		0.00600	1	02/25/2024 15:11	WG2233155
Benzo(a)pyrene	ND		0.00600	1	02/25/2024 15:11	WG2233155
Chrysene	ND		0.00600	1	02/25/2024 15:11	WG2233155
Dibenz(a,h)anthracene	ND		0.00600	1	02/25/2024 15:11	WG2233155
Fluoranthene	ND		0.00600	1	02/25/2024 15:11	WG2233155
Fluorene	ND		0.00600	1	02/25/2024 15:11	WG2233155
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	02/25/2024 15:11	WG2233155
1-Methylnaphthalene	ND		0.0200	1	02/25/2024 15:11	WG2233155
2-Methylnaphthalene	ND		0.0200	1	02/25/2024 15:11	WG2233155
Naphthalene	ND		0.0200	1	02/25/2024 15:11	WG2233155
Pyrene	ND		0.00600	1	02/25/2024 15:11	WG2233155
(S) p-Terphenyl-d14	*63.7*		*23.0-120*		*02/25/2024 15:11*	WG2233155
(S) Nitrobenzene-d5	*65.9*		*14.0-149*		*02/25/2024 15:11*	WG2233155
(S) 2-Fluorobiphenyl	*57.1*		*34.0-125*		*02/25/2024 15:11*	WG2233155

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.78		1	02/29/2024 09:26	WG2235121

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	02/26/2024 08:23	WG2231642

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.38	T8	1	02/24/2024 09:40	WG2232693

Sample Narrative:

L1708373-02 WG2232693: 8.38 at 19.1C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	238		10.0	1	02/28/2024 15:10	WG2233512

Sample Narrative:

L1708373-02 WG2233512: at 25C

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.424		0.200	1	02/28/2024 16:36	WG2235122

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	8.07		1.00	5	02/25/2024 20:30	WG2233236
Barium	278		2.50	5	02/25/2024 20:30	WG2233236
Cadmium	ND		1.00	5	02/25/2024 20:30	WG2233236
Copper	17.5		5.00	5	02/25/2024 20:30	WG2233236
Lead	16.3		2.00	5	02/25/2024 20:30	WG2233236
Nickel	22.3		2.50	5	02/25/2024 20:30	WG2233236
Selenium	ND		2.50	5	02/25/2024 20:30	WG2233236
Silver	ND		0.500	5	02/25/2024 20:30	WG2233236
Zinc	51.1		25.0	5	02/25/2024 20:30	WG2233236

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	02/27/2024 01:10	WG2234541
(S) a,a,a-Trifluorotoluene(FID)	*93.2*		*77.0-120*		*02/27/2024 01:10*	WG2234541

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	02/26/2024 22:19	WG2234504
Toluene	ND		0.00500	1	02/26/2024 22:19	WG2234504
Ethylbenzene	ND		0.00250	1	02/26/2024 22:19	WG2234504
Xylenes, Total	ND		0.00650	1	02/26/2024 22:19	WG2234504
1,2,4-Trimethylbenzene	ND		0.00500	1	02/26/2024 22:19	WG2234504
1,3,5-Trimethylbenzene	ND		0.00500	1	02/26/2024 22:19	WG2234504
(S) Toluene-d8	*102*		*75.0-131*		*02/26/2024 22:19*	WG2234504
(S) 4-Bromofluorobenzene	*93.1*		*67.0-138*		*02/26/2024 22:19*	WG2234504
(S) 1,2-Dichloroethane-d4	*89.3*		*70.0-130*		*02/26/2024 22:19*	WG2234504

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	26.9		4.00	1	02/27/2024 11:08	WG2233259
C28-C36 Motor Oil Range	27.7		4.00	1	02/27/2024 11:08	WG2233259
(S) o-Terphenyl	*36.2*		*18.0-148*		*02/27/2024 11:08*	WG2233259

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.0112		0.00600	1	02/25/2024 15:29	WG2233155
Anthracene	ND		0.00600	1	02/25/2024 15:29	WG2233155
Benzo(a)anthracene	ND		0.00600	1	02/25/2024 15:29	WG2233155
Benzo(b)fluoranthene	ND		0.00600	1	02/25/2024 15:29	WG2233155
Benzo(k)fluoranthene	ND		0.00600	1	02/25/2024 15:29	WG2233155
Benzo(a)pyrene	ND		0.00600	1	02/25/2024 15:29	WG2233155
Chrysene	ND		0.00600	1	02/25/2024 15:29	WG2233155
Dibenz(a,h)anthracene	ND		0.00600	1	02/25/2024 15:29	WG2233155
Fluoranthene	ND		0.00600	1	02/25/2024 15:29	WG2233155
Fluorene	ND		0.00600	1	02/25/2024 15:29	WG2233155
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	02/25/2024 15:29	WG2233155
1-Methylnaphthalene	ND		0.0200	1	02/25/2024 15:29	WG2233155
2-Methylnaphthalene	ND		0.0200	1	02/25/2024 15:29	WG2233155
Naphthalene	ND		0.0200	1	02/25/2024 15:29	WG2233155
Pyrene	ND		0.00600	1	02/25/2024 15:29	WG2233155
(S) p-Terphenyl-d14	*71.5*		*23.0-120*		*02/25/2024 15:29*	WG2233155
(S) Nitrobenzene-d5	*59.3*		*14.0-149*		*02/25/2024 15:29*	WG2233155
(S) 2-Fluorobiphenyl	*59.3*		*34.0-125*		*02/25/2024 15:29*	WG2233155

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.745		1	02/29/2024 09:29	WG2235121

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	02/26/2024 08:29	WG2231642

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.45	T8	1	02/24/2024 09:40	WG2232693

Sample Narrative:

L1708373-03 WG2232693: 8.45 at 19.3C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	171		10.0	1	02/28/2024 15:10	WG2233512

Sample Narrative:

L1708373-03 WG2233512: at 25C

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		0.200	1	02/28/2024 16:38	WG2235122

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.55		1.00	5	02/25/2024 20:33	WG2233236
Barium	330		2.50	5	02/25/2024 20:33	WG2233236
Cadmium	ND		1.00	5	02/25/2024 20:33	WG2233236
Copper	20.9		5.00	5	02/25/2024 20:33	WG2233236
Lead	13.7		2.00	5	02/25/2024 20:33	WG2233236
Nickel	23.5		2.50	5	02/25/2024 20:33	WG2233236
Selenium	ND		2.50	5	02/25/2024 20:33	WG2233236
Silver	ND		0.500	5	02/25/2024 20:33	WG2233236
Zinc	58.8		25.0	5	02/25/2024 20:33	WG2233236

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	02/27/2024 01:33	WG2234541
(S) a,a,a-Trifluorotoluene(FID)	*92.7*		*77.0-120*		*02/27/2024 01:33*	WG2234541

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	02/26/2024 22:39	WG2234504
Toluene	ND		0.00500	1	02/26/2024 22:39	WG2234504
Ethylbenzene	ND		0.00250	1	02/26/2024 22:39	WG2234504
Xylenes, Total	ND		0.00650	1	02/26/2024 22:39	WG2234504
1,2,4-Trimethylbenzene	ND		0.00500	1	02/26/2024 22:39	WG2234504
1,3,5-Trimethylbenzene	ND		0.00500	1	02/26/2024 22:39	WG2234504
(S) Toluene-d8	*104*		*75.0-131*		*02/26/2024 22:39*	WG2234504
(S) 4-Bromofluorobenzene	*96.3*		*67.0-138*		*02/26/2024 22:39*	WG2234504
(S) 1,2-Dichloroethane-d4	*89.1*		*70.0-130*		*02/26/2024 22:39*	WG2234504

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	02/27/2024 03:48	WG2233259
C28-C36 Motor Oil Range	ND		4.00	1	02/27/2024 03:48	WG2233259
(S) o-Terphenyl	*31.4*		*18.0-148*		*02/27/2024 03:48*	WG2233259

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.0401		0.00600	1	02/25/2024 15:47	WG2233155
Anthracene	ND		0.00600	1	02/25/2024 15:47	WG2233155
Benzo(a)anthracene	ND		0.00600	1	02/25/2024 15:47	WG2233155
Benzo(b)fluoranthene	ND		0.00600	1	02/25/2024 15:47	WG2233155
Benzo(k)fluoranthene	ND		0.00600	1	02/25/2024 15:47	WG2233155
Benzo(a)pyrene	ND		0.00600	1	02/25/2024 15:47	WG2233155
Chrysene	ND		0.00600	1	02/25/2024 15:47	WG2233155
Dibenz(a,h)anthracene	ND		0.00600	1	02/25/2024 15:47	WG2233155
Fluoranthene	ND		0.00600	1	02/25/2024 15:47	WG2233155
Fluorene	ND		0.00600	1	02/25/2024 15:47	WG2233155
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	02/25/2024 15:47	WG2233155
1-Methylnaphthalene	ND		0.0200	1	02/25/2024 15:47	WG2233155
2-Methylnaphthalene	ND		0.0200	1	02/25/2024 15:47	WG2233155
Naphthalene	ND		0.0200	1	02/25/2024 15:47	WG2233155
Pyrene	ND		0.00600	1	02/25/2024 15:47	WG2233155
(S) p-Terphenyl-d14	*78.6*		*23.0-120*		*02/25/2024 15:47*	WG2233155
(S) Nitrobenzene-d5	*77.2*		*14.0-149*		*02/25/2024 15:47*	WG2233155
(S) 2-Fluorobiphenyl	*47.5*		*34.0-125*		*02/25/2024 15:47*	WG2233155

Method Blank (MB)

(MB) R4038197-1 02/26/24 06:23

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

L1707915-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1707915-05 02/26/24 08:05 • (DUP) R4038197-7 02/26/24 08:11

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

L1708578-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1708578-01 02/26/24 08:35 • (DUP) R4038197-8 02/26/24 08:54

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

Laboratory Control Sample (LCS)

(LCS) R4038197-2 02/26/24 06:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	11.2	112	80.0-120	

L1707915-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707915-02 02/26/24 07:09 • (MS) R4038197-4 02/26/24 07:21 • (MSD) R4038197-5 02/26/24 07:40

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	ND	4.34	7.70	21.7	38.5	1	75.0-125	J6	J3 J6	55.8	20

L1707915-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1707915-02 02/26/24 07:09 • (MS) R4038197-6 02/26/24 07:46

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	631	ND	592	93.8	50	75.0-125	

L1708209-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1708209-01 02/24/24 09:40 • (DUP) R4037827-2 02/24/24 09:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.72	7.71	1	0.130		1

Sample Narrative:

OS: 7.72 at 19.9C

DUP: 7.71 at 19.9C

L1708332-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1708332-05 02/24/24 09:40 • (DUP) R4037827-3 02/24/24 09:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.30	8.32	1	0.241		1

Sample Narrative:

OS: 8.3 at 19.5C

DUP: 8.32 at 19.5C

Laboratory Control Sample (LCS)

(LCS) R4037827-1 02/24/24 09:40

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.99	99.9	99.0-101	

Sample Narrative:

LCS: 9.99 at 19.9C

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

Method Blank (MB)

(MB) R4039388-1 02/28/24 15:10

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

Sample Narrative:
BLANK: at 25C

L1708373-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1708373-02 02/28/24 15:10 • (DUP) R4039388-3 02/28/24 15:10

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	238	238	1	0.210		20

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

L1708786-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1708786-05 02/28/24 15:10 • (DUP) R4039388-4 02/28/24 15:10

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	839	832	1	0.838		20

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

Laboratory Control Sample (LCS)

(LCS) R4039388-2 02/28/24 15:10

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	327	330	101	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4039488-1 02/28/24 16:29

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) R4039488-2 02/28/24 16:31 • (LCSD) R4039488-3 02/28/24 16:33

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	1.12	1.14	112	114	80.0-120			2.15	20

Method Blank (MB)

(MB) R4038047-1 02/25/24 19:43

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) R4038047-2 02/25/24 19:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	100	100	80.0-120	
Barium	100	96.1	96.1	80.0-120	
Cadmium	100	102	102	80.0-120	
Copper	100	101	101	80.0-120	
Lead	100	104	104	80.0-120	
Nickel	100	102	102	80.0-120	
Selenium	100	98.6	98.6	80.0-120	
Silver	20.0	20.3	101	80.0-120	
Zinc	100	95.4	95.4	80.0-120	

L1708377-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1708377-03 02/25/24 19:49 • (MS) R4038047-5 02/25/24 19:59 • (MSD) R4038047-6 02/25/24 20:02

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	99.8	2.57	96.8	98.0	94.2	95.5	5	75.0-125			1.25	20
Barium	99.8	85.1	177	187	91.4	102	5	75.0-125			5.56	20
Cadmium	99.8	ND	99.0	98.0	99.0	97.9	5	75.0-125			1.07	20
Copper	99.8	ND	99.9	97.0	97.4	94.5	5	75.0-125			2.98	20
Lead	99.8	3.42	97.6	99.8	94.2	96.3	5	75.0-125			2.16	20
Nickel	99.8	4.06	99.7	101	95.7	96.7	5	75.0-125			1.06	20
Selenium	99.8	ND	95.4	96.3	95.1	96.0	5	75.0-125			0.964	20
Silver	20.0	ND	19.6	19.4	97.8	97.2	5	75.0-125			0.580	20
Zinc	99.8	ND	103	103	93.3	92.6	5	75.0-125			0.680	20

Method Blank (MB)

(MB) R4039047-2 02/26/24 23:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*96.2*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R4039047-1 02/26/24 22:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	5.05	101	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*106*	*77.0-120*	

Method Blank (MB)

(MB) R4039762-3 02/26/24 21:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Toluene	U		0.00130	0.00500
Ethylbenzene	U		0.000737	0.00250
Xylenes, Total	U		0.000880	0.00650
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	*103*			*75.0-131*
(S) 4-Bromofluorobenzene	*94.6*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*85.4*			*70.0-130*

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

(LCS) R4039762-1 02/26/24 19:24 • (LCSD) R4039762-2 02/26/24 19:44

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.108	0.112	86.4	89.6	70.0-123			3.64	20
Toluene	0.125	0.115	0.113	92.0	90.4	75.0-121			1.75	20
Ethylbenzene	0.125	0.120	0.116	96.0	92.8	74.0-126			3.39	20
Xylenes, Total	0.375	0.345	0.340	92.0	90.7	72.0-127			1.46	20
1,2,4-Trimethylbenzene	0.125	0.117	0.115	93.6	92.0	70.0-126			1.72	20
1,3,5-Trimethylbenzene	0.125	0.116	0.113	92.8	90.4	73.0-127			2.62	20
(S) Toluene-d8				*97.7*	*97.1*	*75.0-131*				
(S) 4-Bromofluorobenzene				*101*	*99.3*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*100*	*102*	*70.0-130*				

L1708350-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1708350-04 02/26/24 21:40 • (MS) R4039762-4 02/27/24 04:11 • (MSD) R4039762-5 02/27/24 04:31

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.148	0.00178	0.121	0.124	95.4	97.8	1	10.0-149			2.45	37
Toluene	0.148	ND	0.132	0.144	104	114	1	10.0-156			8.70	38
Ethylbenzene	0.148	0.0243	0.149	0.169	99.8	116	1	10.0-160			12.6	38
Xylenes, Total	0.443	0.0168	0.382	0.416	97.4	106	1	10.0-160			8.52	38
1,2,4-Trimethylbenzene	0.148	0.0101	0.142	0.163	106	122	1	10.0-160			13.8	36
1,3,5-Trimethylbenzene	0.148	0.0218	0.159	0.183	110	129	1	10.0-160			14.0	38
(S) Toluene-d8					*103*	*105*		*75.0-131*				
(S) 4-Bromofluorobenzene					*94.1*	*93.0*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*96.9*	*91.3*		*70.0-130*				

Method Blank (MB)

(MB) R4038610-1 02/27/24 01:23

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	*33.5*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4038610-2 02/27/24 01:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	30.3	60.6	50.0-150	
(S) o-Terphenyl			*57.1*	*18.0-148*	

L1708363-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1708363-04 02/27/24 02:42 • (MS) R4038610-3 02/27/24 02:55 • (MSD) R4038610-4 02/27/24 03:08

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 %
C10-C28 Diesel Range	48.5	ND	35.6	26.6	73.4	54.4	1	50.0-150		J3	28.9	20
(S) o-Terphenyl					*63.8*	*48.2*		*18.0-148*				

Method Blank (MB)

(MB) R4038386-2 02/25/24 14:18

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00209	0.00600
Anthracene	U		0.00230	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
Naphthalene	U		0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	*92.0*			*23.0-120*
(S) Nitrobenzene-d5	*84.8*			*14.0-149*
(S) 2-Fluorobiphenyl	*87.4*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R4038386-1 02/25/24 14:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0596	74.5	50.0-120	
Anthracene	0.0800	0.0714	89.3	50.0-126	
Benzo(a)anthracene	0.0800	0.0723	90.4	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0655	81.9	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0664	83.0	49.0-125	
Benzo(a)pyrene	0.0800	0.0608	76.0	42.0-120	
Chrysene	0.0800	0.0715	89.4	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0681	85.1	47.0-125	
Fluoranthene	0.0800	0.0737	92.1	49.0-129	
Fluorene	0.0800	0.0674	84.3	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0673	84.1	46.0-125	
1-Methylnaphthalene	0.0800	0.0693	86.6	51.0-121	
2-Methylnaphthalene	0.0800	0.0712	89.0	50.0-120	
Naphthalene	0.0800	0.0652	81.5	50.0-120	
Pyrene	0.0800	0.0681	85.1	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4038386-1 02/25/24 14:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*86.3*	*23.0-120*	
(S) Nitrobenzene-d5			*90.9*	*14.0-149*	
(S) 2-Fluorobiphenyl			*78.7*	*34.0-125*	

L1708380-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1708380-04 02/25/24 16:40 • (MS) R4038386-3 02/25/24 16:58 • (MSD) R4038386-4 02/25/24 17:15

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 %
Acenaphthene	0.0784	ND	0.0599	0.0334	76.4	42.6	1	14.0-127		J3	56.8	27
Anthracene	0.0784	ND	0.0681	0.0415	86.9	52.9	1	10.0-145		J3	48.5	30
Benzo(a)anthracene	0.0784	ND	0.0679	0.0407	86.6	51.9	1	10.0-139		J3	50.1	30
Benzo(b)fluoranthene	0.0784	ND	0.0600	0.0344	76.5	43.9	1	10.0-140		J3	54.2	36
Benzo(k)fluoranthene	0.0784	ND	0.0622	0.0382	79.3	48.7	1	10.0-137		J3	47.8	31
Benzo(a)pyrene	0.0784	ND	0.0625	0.0390	79.7	49.7	1	10.0-141		J3	46.3	31
Chrysene	0.0784	ND	0.0656	0.0443	83.7	56.5	1	10.0-145		J3	38.8	30
Dibenz(a,h)anthracene	0.0784	ND	0.0628	0.0422	80.1	53.8	1	10.0-132		J3	39.2	31
Fluoranthene	0.0784	ND	0.0707	0.0398	90.2	50.8	1	10.0-153		J3	55.9	33
Fluorene	0.0784	ND	0.0699	0.0363	89.2	46.3	1	11.0-130		J3	63.3	29
Indeno(1,2,3-cd)pyrene	0.0784	ND	0.0613	0.0374	78.2	47.7	1	10.0-137		J3	48.4	32
1-Methylnaphthalene	0.0784	ND	0.0647	0.0476	82.5	60.7	1	10.0-142		J3	30.5	28
2-Methylnaphthalene	0.0784	ND	0.0652	0.0497	83.2	63.4	1	10.0-137			27.0	28
Naphthalene	0.0784	ND	0.0598	0.0497	76.3	63.4	1	10.0-135			18.4	27
Pyrene	0.0784	ND	0.0654	0.0367	83.4	46.8	1	10.0-148		J3	56.2	35
(S) p-Terphenyl-d14					*84.6*	*77.4*		*23.0-120*				
(S) Nitrobenzene-d5					*86.7*	*91.4*		*14.0-149*				
(S) 2-Fluorobiphenyl					*80.9*	*65.5*		*34.0-125*				

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.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
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.

Caerus Oil and Gas
143 Diamond Avenue
Parachute, CO 81635

Billing Information: SAME AS LEFT

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

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

Report to: Jake Janicek

Email To: jjanicek@caerusoilandgas.com

Project Description: 696-5C P+A Investigation

City/State Collected: Piceance Crk, CO

Please Circle: PT MT CT ET

Phone: (970) 778-2314

Client Project # /

Lab Project # /

SDG # 170837

H071

Collected by (print): Trevor Lakin

Site/Facility ID # 696-5C

P.O. # /

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote # /

Date Results Needed: Standard TAT

Acctnum:
Template:
Prelogin:
PM:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	COGCC Table 915-1	EC, pH, SAR	Arsenic, Boron	COGCC Table 910-1	Remarks	Sample # (lab only)
20240221-696-5C-(FC-DL-43)@4	Grab	SS	4ft	2/21/24	9:46	4	X					-01
20240221-696-5C-(FC-FL-43)@4	Grab	SS	4ft	2/21/24	10:01	4	X					-02
20240221-696-5C-(STOCK@2)	Comp	SS	-	2/21/24	10:16	4	X					-03

2/21/24

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

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

Tracking # 6426 8306 8150

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	2/21/24	13:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 11.4 °C	Bottles Received: 12
	2/21/24	1600		0.9+0.2=1.1	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 2/22/24	Time: 920

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

APPENDIX B
PRODUCED FLUID LABORATORY ANALYTICAL RESULTS

KLEINFELDER 707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601 f | 303.237.6602

ANALYTICAL REPORT

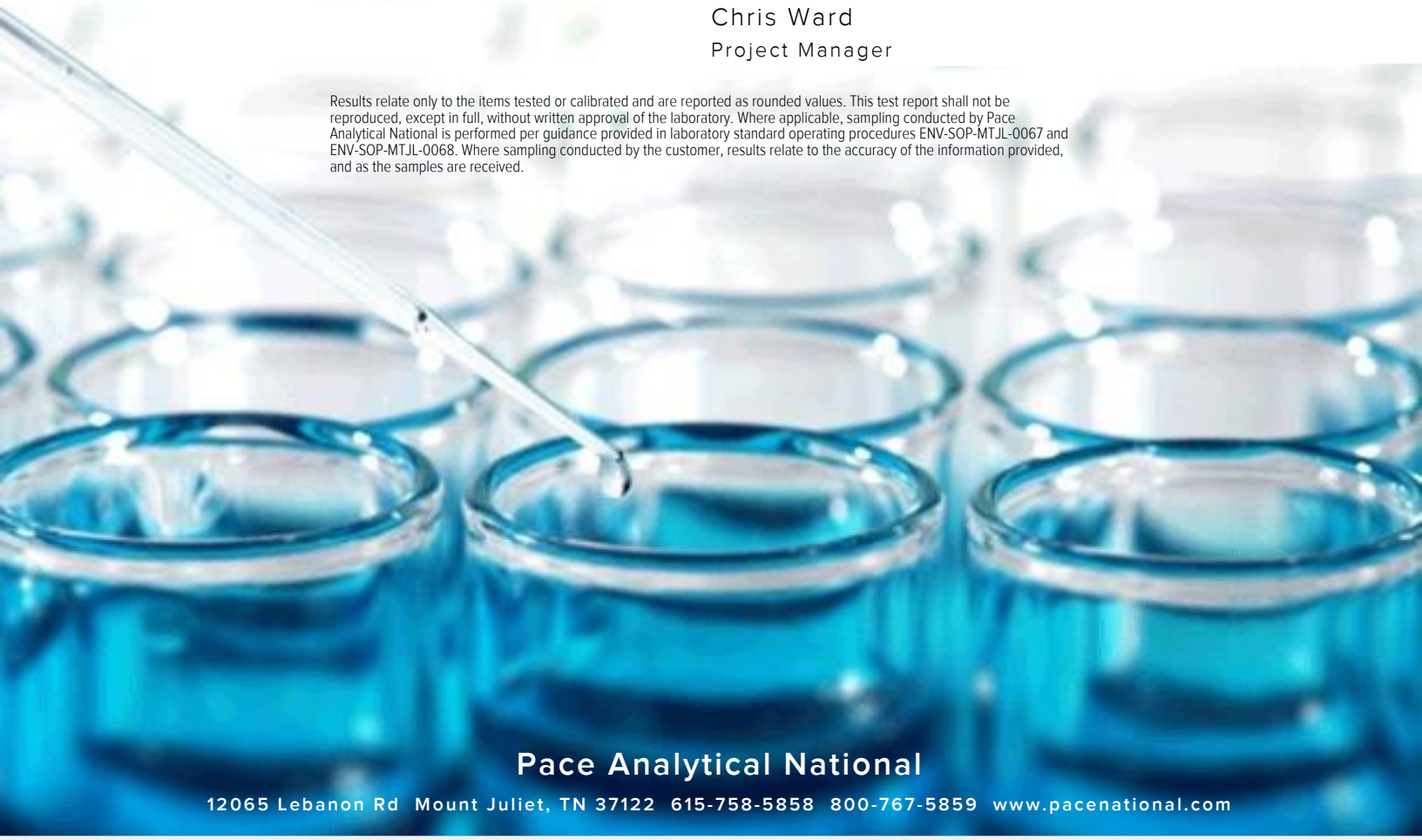
August 14, 2023

Caerus Oil and Gas

Sample Delivery Group:	L1642938
Samples Received:	08/05/2023
Project Number:	
Description:	5C 696
Site:	5C 696
Report To:	Brett Middleton 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By:

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

20230804-LMSOURCE-(696-5C-T) L1642938-01 WW

Collected by: Ahmed Shah
Collected date/time: 08/04/23 12:45
Received date/time: 08/05/23 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Cr C-2011	WG2107461	1	08/08/23 05:40	08/08/23 05:40	SET	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2112699	1	08/12/23 12:45	08/12/23 12:45	MCC	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

Sample Delivery Group (SDG) Narrative

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

Lab Sample ID	Project Sample ID	Method
L1642938-01	20230804-LMSOURCE-(696-5C-I)	3500Cr C-2011

Wet Chemistry by Method 3500Cr C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Hexavalent Chromium	U		0.000150	0.000500	1	08/08/2023 05:40	WG2107461

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.46	T8	1	08/12/2023 12:45	WG2112699

Sample Narrative:

L1642938-01 WG2112699: 7.46 at 21.3C

Method Blank (MB)

(MB) R3957846-1 08/08/23 01:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hexavalent Chromium	U		0.000150	0.000500

L1641890-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1641890-01 08/08/23 04:02 • (DUP) R3957846-5 08/08/23 04:13

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

L1642167-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1642167-01 08/08/23 04:35 • (DUP) R3957846-6 08/08/23 04:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	0.000475	0.000460	1	3.23	J	20

Laboratory Control Sample (LCS)

(LCS) R3957846-2 08/08/23 01:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	0.00200	0.00208	104	90.0-110	

L1641602-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1641602-03 08/08/23 03:08 • (MS) R3957846-3 08/08/23 03:19 • (MSD) R3957846-4 08/08/23 03:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	0.0500	U	0.0497	0.0491	99.3	98.2	1	90.0-110			1.11	20

L1642686-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1642686-02 08/08/23 05:08 • (MS) R3957846-7 08/08/23 05:18

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	0.0500	U	0.0505	101	1	90.0-110	

L1641405-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1641405-01 08/12/23 12:45 • (DUP) R3959832-2 08/12/23 12:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.64	7.63	1	0.131		1

Sample Narrative:

OS: 7.64 at 20.5C

DUP: 7.63 at 20.5C

L1642938-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1642938-01 08/12/23 12:45 • (DUP) R3959832-3 08/12/23 12:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.46	7.45	1	0.134		1

Sample Narrative:

OS: 7.46 at 21.3C

DUP: 7.45 at 21.4C

Laboratory Control Sample (LCS)

(LCS) R3959832-1 08/12/23 12:45

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 23C

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
J	The identification of the analyte is acceptable; the reported value is an estimate.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

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

Company: Caerus Oil and Gas LLC

Billing Information: Info on file

Address: Info on file

Report To: Jake Janicek, Brett Middleton, Blair Rollins

Email To: Info on file

Copy To: Chris McKisson, remediation@confluence-cc.com

Site Collection Info/Address:

Customer Project Name/Number: P27 595

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 _____

B114

Phone:
Email:

Site/Facility ID #: P27 595

Compliance Monitoring? [ ] Yes [X] No

Collected By (print): Ahmed Shah

Purchase Order #:
Quote #:

DW PWS ID #:
DW Location Code:

Collected By (signature):

Turnaround Date Required: Standard TAT

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)

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)	Table 915-1 VOCs	TPH (ORO, GRO, DRO)	Table 915-1 Metals	Table 915-1 PAHs	pH	Boron (Hot Water Soluble)	Hexavalent Chromium	Xylenes	Arsenic
20230804-LMSOURCE-(696-5C-T)	WW	G	8/4/2023	1245				3	P					X		X		

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:

L1642936 -01

Customer Remarks / Special Conditions / Possible Hazards:

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)	Date/Time: 8/4/2023 1515	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time: 1600	Received by/Company: (Signature)	Date/Time:
		Received by/Company: (Signature) 9 10	Date/Time: 8.5.23 8:43

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: ____

Sample Receipt Checklist

COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N

If Applicable
VOA Zero Headspace: Y N
Pres.Correct/Check: Y N

LL042938

Tracking Numbers	Temperature
5582 7564 7478	GBAS 3.2 to 3.2
5582 7564 7489	GBAS 4.2 to 4.2

CHAIN-OF-CUSTODY Analytical Request Document

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

Company: Caerus Oil and Gas LLC

Billing Information: Info on file

Address: Info on file

Report To: Jake Janicek, Brett Middleton, Blair Rollins

Email To: Info on file

Copy To: Chris McKisson, remediation@confluence-cc.com

Site Collection Info/Address:

Customer Project Name/Number: 5C 696

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 #: 5C 696

Compliance Monitoring? [ ] Yes [X] No

Collected By (print): Ahmed Shah

Purchase Order # :
Quote #:

DW PWS ID #:
DW Location Code:

Collected By (signature):

Turnaround Date Required: Standard TAT

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)	Table 915-1 VOCs	TPH (ORO, GRO, DRO)	Table 915-1 Metals	Table 915-1 PAHs	pH	Boron (Hot Water Soluble)	Hexavalent Chromium	Xylenes	Arsenic	
20230804-LMSOURCE-(696-5C-T)	WW	G	8/4/2023	1245				3	P					X		X			

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:
```

Customer Remarks / Special Conditions / Possible Hazards:

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)	Date/Time: 8/4/2023	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
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

June 06, 2024

Revised Report

Caerus Oil and Gas

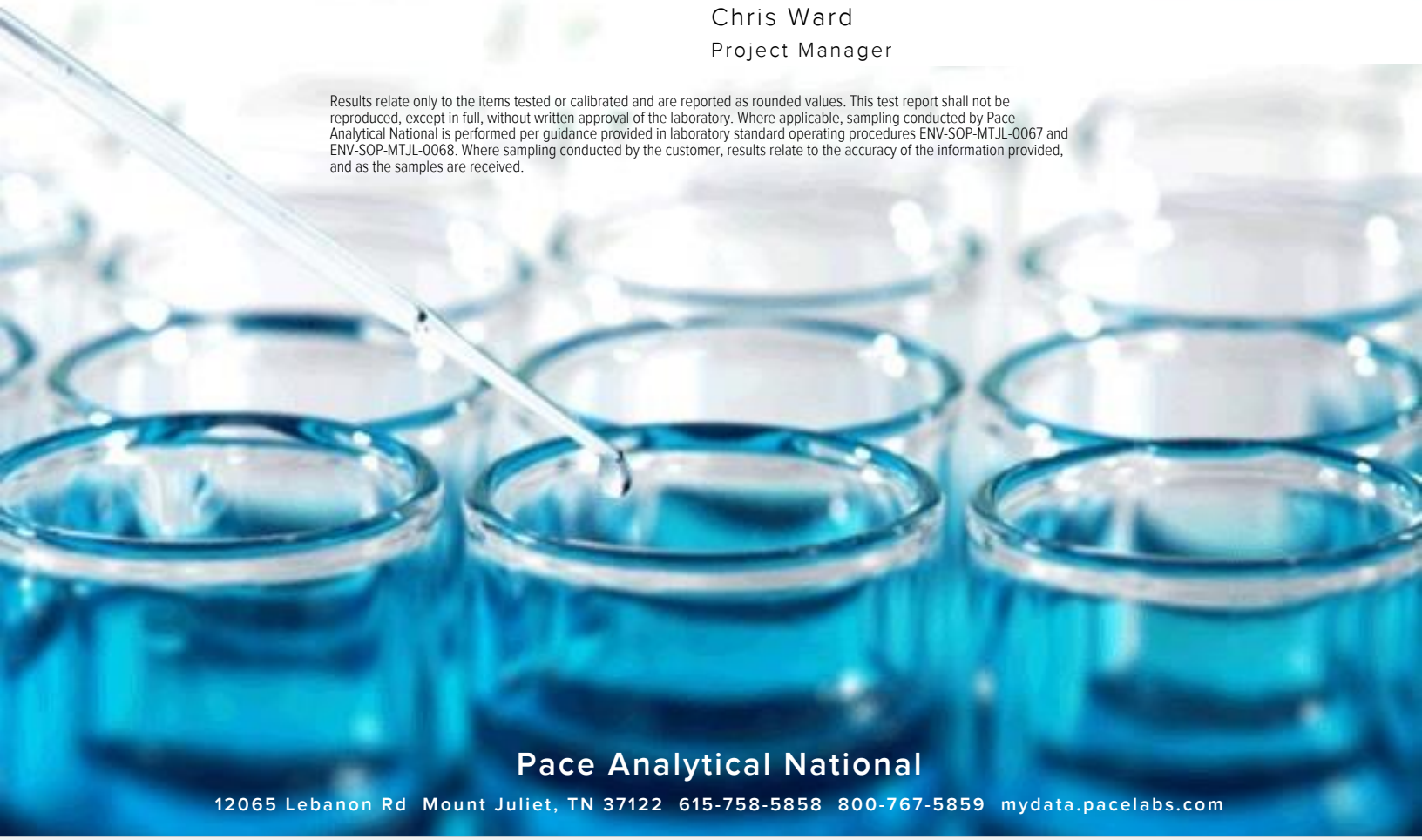
Sample Delivery Group:	L1669964
Samples Received:	10/25/2023
Project Number:	
Description:	696 5C P&A Investigation (43)
Site:	696 5C
Report To:	Jake J. / Brett M. / Blair R. / Andy V. 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By:

Chris Ward

Project Manager

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



Pace Analytical National

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

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Wet Chemistry by Method 7199 7

Wet Chemistry by Method 9045D 8

Wet Chemistry by Method 9050AMod 9

Metals (ICP) by Method 6010B-NE493 Ch 2 10

Metals (ICPMS) by Method 6020 11

Volatile Organic Compounds (GC) by Method 8015D/GRO 12

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Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM 15

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Sc: Sample Chain of Custody 19

SAMPLE SUMMARY

20231024-696-5C-(FC-WH-43)@4 L1669964-01 Solid

Collected by: Trevor Lakin
Collected date/time: 10/24/23 13:23
Received date/time: 10/25/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2160156	1	11/02/23 14:44	11/02/23 14:44	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2159132	1	10/27/23 12:48	10/31/23 08:54	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2160446	1	10/30/23 08:56	10/30/23 12:14	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2160690	1	10/31/23 13:15	11/01/23 11:27	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2160157	1	10/31/23 08:29	10/31/23 20:24	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2159071	5	10/27/23 11:28	10/31/23 00:27	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2161122	1	10/26/23 09:09	10/31/23 19:18	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2160366	1	10/26/23 09:09	10/30/23 06:35	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2160400	1	11/01/23 15:35	11/01/23 23:15	ICD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2160396	1	10/31/23 16:50	11/01/23 06:27	JCH	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

Report Revision History

Level II Report - Version 1: 11/03/23 09:47
Level II Report - Version 2: 11/08/23 14:56

Project Narrative

Report reissued for updated sample ID
Reissued 6/06 for RDL reporting

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	1.71		1	11/02/2023 14:44	WG2160156

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Hexavalent Chromium	ND		1.00	1	10/31/2023 08:54	WG2159132

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	8.68	T8	1	10/30/2023 12:14	WG2160446

Sample Narrative:

L1669964-01 WG2160446: 8.68 at 21.6C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	173		10.0	1	11/01/2023 11:27	WG2160690

Sample Narrative:

L1669964-01 WG2160690: at 25C

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/l		mg/l			
Hot Water Sol. Boron	0.526		0.200	1	10/31/2023 20:24	WG2160157

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	12.6		1.00	5	10/31/2023 00:27	WG2159071
Barium	428		2.50	5	10/31/2023 00:27	WG2159071
Cadmium	ND		1.00	5	10/31/2023 00:27	WG2159071
Copper	25.0		5.00	5	10/31/2023 00:27	WG2159071
Lead	38.9		2.00	5	10/31/2023 00:27	WG2159071
Nickel	24.3		2.50	5	10/31/2023 00:27	WG2159071
Selenium	ND		2.50	5	10/31/2023 00:27	WG2159071
Silver	ND		0.500	5	10/31/2023 00:27	WG2159071
Zinc	85.7		25.0	5	10/31/2023 00:27	WG2159071

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	ND		0.100	1	10/31/2023 19:18	WG2161122
(S) a,a,a-Trifluorotoluene(FID)	*98.3*		*77.0-120*		*10/31/2023 19:18*	WG2161122

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	10/30/2023 06:35	WG2160366
Toluene	ND		0.00500	1	10/30/2023 06:35	WG2160366
Ethylbenzene	ND		0.00250	1	10/30/2023 06:35	WG2160366
Xylenes, Total	ND		0.00650	1	10/30/2023 06:35	WG2160366
1,2,4-Trimethylbenzene	ND		0.00500	1	10/30/2023 06:35	WG2160366
1,3,5-Trimethylbenzene	ND		0.00500	1	10/30/2023 06:35	WG2160366
(S) Toluene-d8	*107*		*75.0-131*		*10/30/2023 06:35*	WG2160366
(S) 4-Bromofluorobenzene	*101*		*67.0-138*		*10/30/2023 06:35*	WG2160366
(S) 1,2-Dichloroethane-d4	*96.6*		*70.0-130*		*10/30/2023 06:35*	WG2160366

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	14.1		4.00	1	11/01/2023 23:15	WG2160400
C28-C36 Motor Oil Range	31.9		4.00	1	11/01/2023 23:15	WG2160400
(S) o-Terphenyl	*38.9*		*18.0-148*		*11/01/2023 23:15*	WG2160400

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	11/01/2023 06:27	WG2160396
Anthracene	ND		0.00600	1	11/01/2023 06:27	WG2160396
Benzo(a)anthracene	ND		0.00600	1	11/01/2023 06:27	WG2160396
Benzo(b)fluoranthene	ND		0.00600	1	11/01/2023 06:27	WG2160396
Benzo(k)fluoranthene	ND		0.00600	1	11/01/2023 06:27	WG2160396
Benzo(a)pyrene	ND		0.00600	1	11/01/2023 06:27	WG2160396
Chrysene	ND		0.00600	1	11/01/2023 06:27	WG2160396
Dibenz(a,h)anthracene	ND		0.00600	1	11/01/2023 06:27	WG2160396
Fluoranthene	ND		0.00600	1	11/01/2023 06:27	WG2160396
Fluorene	ND		0.00600	1	11/01/2023 06:27	WG2160396
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	11/01/2023 06:27	WG2160396
1-Methylnaphthalene	ND		0.0200	1	11/01/2023 06:27	WG2160396
2-Methylnaphthalene	ND		0.0200	1	11/01/2023 06:27	WG2160396
Naphthalene	ND		0.0200	1	11/01/2023 06:27	WG2160396
Pyrene	ND		0.00600	1	11/01/2023 06:27	WG2160396
(S) p-Terphenyl-d14	*82.5*		*23.0-120*		*11/01/2023 06:27*	WG2160396
(S) Nitrobenzene-d5	*55.3*		*14.0-149*		*11/01/2023 06:27*	WG2160396
(S) 2-Fluorobiphenyl	*48.1*		*34.0-125*		*11/01/2023 06:27*	WG2160396

Method Blank (MB)

(MB) R3993316-1 10/31/23 08:16

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

L1670064-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1670064-01 10/31/23 09:20 • (DUP) R3993316-7 10/31/23 09:25

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

L1670064-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1670064-07 10/31/23 11:08 • (DUP) R3993316-8 10/31/23 11:15

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

Laboratory Control Sample (LCS)

(LCS) R3993316-2 10/31/23 08:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	9.90	99.0	80.0-120	

L1669961-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1669961-03 10/31/23 08:28 • (MS) R3993316-3 10/31/23 08:33 • (MSD) R3993316-4 10/31/23 08:39

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	ND	15.2	7.39	74.5	35.6	1	75.0-125	J6	J3 J6	69.0	20

L1669961-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1669961-03 10/31/23 08:28 • (MS) R3993316-5 10/31/23 08:44

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	641	ND	726	113	50	75.0-125	

L1669983-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1669983-04 10/30/23 12:14 • (DUP) R3992734-2 10/30/23 12:14

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	6.53	6.50	1	0.460		1

Sample Narrative:

OS: 6.53 at 21.5C

DUP: 6.5 at 21.5C

L1669985-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1669985-06 10/30/23 12:14 • (DUP) R3992734-3 10/30/23 12:14

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	8.41	8.40	1	0.119		1

Sample Narrative:

OS: 8.41 at 21.3C

DUP: 8.4 at 21.4C

Laboratory Control Sample (LCS)

(LCS) R3992734-1 10/30/23 12:14

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

Sample Narrative:

LCS: 10.02 at 20.2C

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

Method Blank (MB)

(MB) R3993822-1 11/01/23 11:27

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

L1669961-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1669961-04 11/01/23 11:27 • (DUP) R3993822-3 11/01/23 11:27

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	63.6	65.9	1	3.55		20

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

L1669983-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1669983-04 11/01/23 11:27 • (DUP) R3993822-4 11/01/23 11:27

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	58.3	57.8	1	0.861		20

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

Laboratory Control Sample (LCS)

(LCS) R3993822-2 11/01/23 11:27

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	327	348	106	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3993854-1 10/31/23 20:02

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) R3993854-2 10/31/23 20:04 • (LCSD) R3993854-3 10/31/23 20:07

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	1.08	1.09	108	109	80.0-120			0.661	20

QUALITY CONTROL SUMMARY

L1669964-01

Method Blank (MB)

(MB) R3993151-1 10/30/23 23:28

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) R3993151-2 10/30/23 23:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	93.6	93.6	80.0-120	
Barium	100	90.0	90.0	80.0-120	
Cadmium	100	97.6	97.6	80.0-120	
Copper	100	90.2	90.2	80.0-120	
Lead	100	91.1	91.1	80.0-120	
Nickel	100	92.8	92.8	80.0-120	
Selenium	100	95.4	95.4	80.0-120	
Silver	20.0	19.1	95.5	80.0-120	
Zinc	100	89.3	89.3	80.0-120	

L1670358-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1670358-04 10/30/23 23:35 • (MS) R3993151-5 10/30/23 23:45 • (MSD) R3993151-6 10/30/23 23:48

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	4.80	91.9	96.4	87.1	91.6	5	75.0-125			4.73	20
Barium	100	161	258	276	97.3	116	5	75.0-125			6.87	20
Cadmium	100	ND	96.4	100	95.9	99.7	5	75.0-125			3.86	20
Copper	100	11.4	96.8	102	85.4	90.6	5	75.0-125			5.30	20
Lead	100	10.0	102	105	91.6	94.9	5	75.0-125			3.21	20
Nickel	100	17.1	106	114	88.5	96.4	5	75.0-125			7.29	20
Selenium	100	ND	92.3	96.4	91.9	96.0	5	75.0-125		E	4.35	20
Silver	20.0	ND	18.8	19.5	94.2	97.3	5	75.0-125			3.19	20
Zinc	100	48.9	131	142	82.6	92.9	5	75.0-125			7.59	20

Method Blank (MB)

(MB) R3993889-2 10/31/23 13:32

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3993889-1 10/31/23 12:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.62	102	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*102*	*77.0-120*	

Method Blank (MB)

(MB) R3993321-2 10/29/23 23:12

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Toluene	U		0.00130	0.00500
Ethylbenzene	U		0.000737	0.00250
Xylenes, Total	U		0.000880	0.00650
1,2,4-Trimethylbenzene	0.00235	J	0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	*108*			*75.0-131*
(S) 4-Bromofluorobenzene	*103*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*95.0*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3993321-1 10/29/23 21:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.122	97.6	70.0-123	
Toluene	0.125	0.136	109	75.0-121	
Ethylbenzene	0.125	0.145	116	74.0-126	
Xylenes, Total	0.375	0.437	117	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.132	106	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.128	102	73.0-127	
(S) Toluene-d8			*107*	*75.0-131*	
(S) 4-Bromofluorobenzene			*100*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*99.1*	*70.0-130*	

L1669964-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1669964-01 10/30/23 06:35 • (MS) R3993321-3 10/30/23 07:51 • (MSD) R3993321-4 10/30/23 08:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	ND	0.123	0.128	98.4	102	1	10.0-149			3.98	37
Toluene	0.125	ND	0.133	0.141	106	113	1	10.0-156			5.84	38
Ethylbenzene	0.125	ND	0.147	0.151	118	121	1	10.0-160			2.68	38
Xylenes, Total	0.375	ND	0.446	0.468	119	125	1	10.0-160			4.81	38
1,2,4-Trimethylbenzene	0.125	ND	0.132	0.138	106	110	1	10.0-160			4.44	36
1,3,5-Trimethylbenzene	0.125	ND	0.132	0.142	106	114	1	10.0-160			7.30	38
(S) Toluene-d8					*108*	*107*		*75.0-131*				
(S) 4-Bromofluorobenzene					*102*	*102*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*99.3*	*95.4*		*70.0-130*				

Method Blank (MB)

(MB) R3994233-1 11/01/23 22:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	1.39	J	0.274	4.00
(S) o-Terphenyl	*68.0*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3994233-2 11/01/23 22:50

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	37.6	75.2	50.0-150	
(S) o-Terphenyl			*49.7*	*18.0-148*	

L1669712-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1669712-04 11/01/23 23:27 • (MS) R3994233-3 11/01/23 23:39 • (MSD) R3994233-4 11/01/23 23:51

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 %
C10-C28 Diesel Range	50.0	ND	37.1	38.7	69.7	72.9	1	50.0-150			4.22	20
(S) o-Terphenyl					*34.4*	*41.7*		*18.0-148*				

Method Blank (MB)

(MB) R3993861-2 11/01/23 02:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00209	0.00600
Anthracene	U		0.00230	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
Naphthalene	U		0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	*81.7*			*23.0-120*
(S) Nitrobenzene-d5	*78.5*			*14.0-149*
(S) 2-Fluorobiphenyl	*76.0*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R3993861-1 11/01/23 01:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0545	68.1	50.0-120	
Anthracene	0.0800	0.0556	69.5	50.0-126	
Benzo(a)anthracene	0.0800	0.0615	76.9	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0598	74.8	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0561	70.1	49.0-125	
Benzo(a)pyrene	0.0800	0.0562	70.3	42.0-120	
Chrysene	0.0800	0.0637	79.6	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0679	84.9	47.0-125	
Fluoranthene	0.0800	0.0612	76.5	49.0-129	
Fluorene	0.0800	0.0605	75.6	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0660	82.5	46.0-125	
1-Methylnaphthalene	0.0800	0.0573	71.6	51.0-121	
2-Methylnaphthalene	0.0800	0.0603	75.4	50.0-120	
Naphthalene	0.0800	0.0558	69.8	50.0-120	
Pyrene	0.0800	0.0624	78.0	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R3993861-1 11/01/23 01:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*77.0*	*23.0-120*	
(S) Nitrobenzene-d5			*61.2*	*14.0-149*	
(S) 2-Fluorobiphenyl			*64.4*	*34.0-125*	

L1669712-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1669712-04 11/01/23 03:15 • (MS) R3993861-3 11/01/23 03:33 • (MSD) R3993861-4 11/01/23 03:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0788	ND	0.0537	0.0405	68.1	51.9	1	14.0-127		J3	28.0	27
Anthracene	0.0788	ND	0.0570	0.0427	65.9	48.2	1	10.0-145			28.7	30
Benzo(a)anthracene	0.0788	0.0196	0.0649	0.0457	57.5	33.5	1	10.0-139		J3	34.7	30
Benzo(b)fluoranthene	0.0788	0.0261	0.0635	0.0437	47.5	22.6	1	10.0-140		J3	36.9	36
Benzo(k)fluoranthene	0.0788	0.0119	0.0672	0.0490	70.2	47.6	1	10.0-137		J3	31.3	31
Benzo(a)pyrene	0.0788	0.0198	0.0677	0.0500	60.8	38.7	1	10.0-141			30.1	31
Chrysene	0.0788	0.0221	0.0709	0.0528	61.9	39.4	1	10.0-145			29.3	30
Dibenz(a,h)anthracene	0.0788	ND	0.0763	0.0553	93.4	67.5	1	10.0-132		J3	31.9	31
Fluoranthene	0.0788	0.0560	0.0636	0.0437	9.64	0.000	1	10.0-153	J6	J3 J6	37.1	33
Fluorene	0.0788	ND	0.0609	0.0449	77.3	57.6	1	11.0-130		J3	30.2	29
Indeno(1,2,3-cd)pyrene	0.0788	0.0164	0.0706	0.0503	68.8	43.5	1	10.0-137		J3	33.6	32
1-Methylnaphthalene	0.0788	ND	0.0569	0.0433	72.2	55.5	1	10.0-142			27.1	28
2-Methylnaphthalene	0.0788	ND	0.0605	0.0463	76.8	59.4	1	10.0-137			26.6	28
Naphthalene	0.0788	ND	0.0548	0.0435	69.5	55.8	1	10.0-135			23.0	27
Pyrene	0.0788	0.0458	0.0661	0.0452	25.8	0.000	1	10.0-148		J3 J6	37.6	35
(S) p-Terphenyl-d14					*85.5*	*78.1*		*23.0-120*				
(S) Nitrobenzene-d5					*80.8*	*72.2*		*14.0-149*				
(S) 2-Fluorobiphenyl					*76.6*	*70.4*		*34.0-125*				

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.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
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.

Caerus Oil and Gas
143 Diamond Avenue
Parachute, CO 81635

Billing Information: SAME AS LEFT

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

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

Report to: Jake Janicek

Email To: jjanicek@caerusoilandgas.com

Project Description: 696 5C PAA Investigation (43)

City/State Collected: Piceance Crk, CO

Please Circle: PT MT CT ET

SDG # L1666464

F002

Phone: (970) 778-2314

Client Project # -

Lab Project # -

Collected by (print): Trevor Lakin

Site/Facility ID # 696 5C

P.O. # -

Collected by (signature): [signature]

Immediately Packed on Ice N ____ Y X

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

Quote # -

Date Results Needed: Standard TAT

Acctnum:
Template:
Prelogin:
PM:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	COGCC Table 915-1	EC, pH, SAR	Arsenic, Boron	COGCC Table 910-1	Remarks	Sample # (lab only)
231024-696 5C-(FC-WH-43)	G4 Grab	SS	4ft	10/24/23	13:23	4	X					-01

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
[signature]	10/24/23	16:30	[signature]		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp 0.8 °C Bottles Received:	
[signature]	10/24/23	1700		1.5 4	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
			Christopher R. Gallimore	10/25/23	0900

Hold: Condition: NCF / OK