April 26, 2024
Kleinfelder Project No.: 24004611.001A

Mr. Blair Rollins
Caerus Piceance, LLC
143 Diamond Avenue
Parachute, Colorado 81635

SUBJECT: **Site Investigation Report**
Remediation Project Number: 31518
Love Ranch 8 Off-Location Flowline Release
Rio Blanco County, Colorado

Dear Mr. Rollins:

Kleinfelder Inc. (Kleinfelder) performed monitoring activities at the Love Ranch 8 Off-Location Flowline Release site in Rio Blanco County, Colorado under contract by Caerus Piceance LLC (Caerus). Enclosed is the report of work complete for this effort.

Please do not hesitate to contact me at (970) 309-6553 or by email at JVeith@kleinfelder.com should you have questions or concerns.

Respectfully submitted,

KLEINFELDER, INC.

Jordan Veith

Jordan Veith
Project Manager I

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

SITE INVESTIGATION REPORT
REMEDIATION PROJECT NUMBER: 31518
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO
KLEINFELDER PROJECT NO. 24004611.001A

April 26, 2024

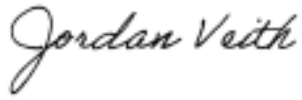
707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601

A Report Prepared for:

Mr. Blair Rollins
Caerus Piceance, LLC
143 Diamond Avenue
Parachute, CO 81635

SITE INVESTIGATION REPORT
REMEDIATION PROJECT NUMBER: 31518
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Prepared by:



Jordan Veith
Project Manager I

Reviewed by:

Vince DeCianne
VP, Senior Principal Professional

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Phone: 303.237.6601

April 26, 2024
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KLEINFELDER
Bright People. Right Solutions.

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SITE INVESTIGATION REPORT
REMEDIATION PROJECT NUMBER: 31518
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

1 INTRODUCTION

This document was prepared by Kleinfelder Inc. (Kleinfelder) on behalf of Caerus Piceance, LLC (Caerus) to provide documentation of recent investigation and sampling support services conducted at the Love Ranch 8 Off-Location Flowline Release Site (the Site) located in Rio Blanco County, Colorado (**Figure 1**).

1.1 BACKGROUND

Kleinfelder has been contracted by Caerus to perform surface water, groundwater, and soil sampling support services to provide necessary information to complete the Colorado Energy and Carbon Management Commission (ECMC) Form 27 for Caerus' upstream oil and gas production facilities located in the Piceance Basin. According to the approved ECMC Form 19 Spill/Release Report (Initial) (document #403391282) and approved Form 19 Spill/Release Report (Supplemental) (document # 403398312) provided to Kleinfelder by Caerus, Caerus identified the Love Ranch 8 Off-Location Flowline Release (the Site) by observing a sheen emanating on Piceance Creek along a known pipeline corridor on May 2, 2023.

1.2 INITIAL RESPONSE ACTIVITIES (MAY 2023 – JULY 2023)

Initial response activities completed at the site are detailed under the Form 27 Site Investigation and Remediation Workplan (Initial) (document #403479868).

1.3 SURFACE WATER MONITORING ACTIVITIES

Previous surface water monitoring and sampling activities are detailed under the Form 27 Site Investigation and Remediation Workplan (Initial) (document #403479868) and Form 27 Site Investigation and Remediation Workplan (Supplemental) (document #403615334) and subsequent attachments.

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Caerus continued monthly surface water monitoring and sampling activities from January through March 2024. A summary of the surface water samples collected by Kleinfelder from January through March 2024 is included in **Table 1.** Laboratory analytical results for Site surface water samples are detailed in **Table 2.**

1.4 GROUNDWATER MONITORING ACTIVITIES

Caerus continued quarterly groundwater monitoring and sampling activities in March 2024, including:

- Sampling the five (5) existing piezometers, and
- Sampling the four (4) existing permanent monitoring wells.

Additional details on these activities are explained in Section 3 of this report. A summary of the groundwater samples collected by Kleinfelder in March 2024 is listed in **Table 3.** Laboratory analytical results for Site groundwater samples are detailed in **Table 4.**

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2 SITE LOCATION, GEOLOGIC, AND HYDROGEOLOGIC SETTING

The Love Ranch 8 Off-Location Flowline Release Site (Site) is located in Rio Blanco County, Colorado (SWNW, Section 9, Township 2 South, Range 97 West) near the northeastern edge of the Piceance Basin, a large structural basin in the Uinta-Piceance geologic province of Colorado and Utah consisting of sandstones and siltstones, containing reserves of coal, natural gas, and oil shale. The Site location and topographical information are shown on **Figure 1**.

The main geologic units in this area (from youngest to oldest) are the Uinta formation, Green River Formation, Wasatch formation, Mesa Verde Group, and Mancos Shale. The Green River Formation is visible along the slopes and ridges on either side of the Piceance Creek valley. The Green River Formation is an Eocene lacustrine formation associated with lake deposits from Lake Uinta, which once covered large areas of northwestern Colorado, northeastern Utah, and southwestern Wyoming. The Green River Formation includes siltstones, sandstones, mudstones, and oil shale, as well as various lacustrine limestones, dolomites, and saline evaporites. The only significant North American deposit of the sodium bicarbonate (i.e., baking soda) mineral Nahcolite is located within Green River deposits. Nahcolite is mined in the region and processed at a facility in the Piceance Creek valley.

The Site is located in a wide, flat valley bottom in the vicinity of Piceance Creek, as shown on **Figure 1**. **Figure 2** shows the localized Site surficial geology, which consists of Quaternary (Holocene) Piney Creek Alluvium. The Piney Creek Alluvium generally consists of mildly calcareous unconsolidated silts, clays, and sands.

Piceance Creek flows from south to north in this valley toward its confluence with the White River, approximately 9 miles north of the Site. Piceance Creek is a meandering perennial stream. The Site is in a high altitude semi-arid region, and runoff is generally associated with snowmelt or summertime short-duration, high-intensity thunderstorms. Maximum flows in Piceance Creek typically occur during spring snowmelt runoff with peak flow commonly occurring in April to May of each year and the lowest flow in the fall, typically in October to November.

In addition to Piceance Creek, there is also a small irrigation ditch to the west of the creek in the valley near where the Site is located. The ditch is used by a local rancher for irrigation. The valley is irrigated to allow for cattle grazing.

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Groundwater can be as shallow as a few feet below ground surface (bgs) in the central part of the valley near Piceance Creek. Groundwater depth varies by at least a few feet seasonally as evidenced by the changes in depth to groundwater between May and July as measured at the piezometers installed in at the Site in May 2023. The locations of the piezometers are shown on the groundwater potentiometric surface map for March 2024 (**Figure 3**). The groundwater flow direction is generally to the north-northwest in the vicinity of the site, generally similar to the Piceance Creek flow direction. Considering the shallow depth to groundwater, it may be in hydraulic connection with Piceance Creek, though there is currently insufficient site-specific data (e.g., flux study) to confirm whether Piceance Creek is a gaining or losing stream in the area of the Site or whether this could vary seasonally.

Four permanent groundwater monitoring wells (MW01 – MW04) were installed by Caerus in September 2023 as part of the Site investigation activities to provide additional data on the localized potentiometric surface, groundwater flow direction, groundwater gradient, and groundwater conditions surrounding the Site. The four permanent groundwater monitoring wells have been precisely surveyed and are shown on **Figure 3**.

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3 FIELD ACTIVITIES

Surface water monitoring activities completed by Caerus beginning on May 2, 2023, and continuing through September 25, 2023, were previously described and reported under the Form 27 Site Investigation and Remediation Workplan (Initial) (document #403479868) and Form 27 Site Investigation and Remediation Workplan (Supplemental) (document #403615334) and subsequent attachments. Caerus contracted Kleinfelder to continue surface water monitoring activities on a monthly basis from January through March 2024. Caerus directed Kleinfelder to complete additional quarterly groundwater monitoring sampling at the Site in March 2024**.** Caerus initiated the field activities summarized in this section to monitor the release at the Site.

3.1 CONTINUED SURFACE WATER MONITORING – JANUARY THROUGH MARCH 2024

Caerus continued monthly surface water monitoring and sampling at six (6) defined points at the Site. The surface water samples up-gradient from the release are denoted with "UG" in the sample identification name. Surface water sample results down gradient from the release are denoted with "DG" in the sample identification name. Kleinfelder completed the surface water sampling as summarized below.

- Kleinfelder completed monthly surface water sampling on January 31, 2024, February 26, 2024, and March 27, 2024, at UG02, Point of Release (POR), DG14, DG13, DG12, and DG11 as depicted on **Figure 4.**
- Eighteen (18) total surface water samples were collected from the Locations depicted on **Figure 4** in January through March 2024.
- Laboratory analytical results for these surface water samples are detailed in **Table 2.**
- All surface water samples were submitted to Pace Analytical National Laboratory (Pace) for full ECMC Table 915-1 water parameters, plus 1-methylnapthalene and 2-methylnapthalene per the Conditions of Approval (COA) in the approved Form 27 Site Investigation and Remediation Workplan (Initial) (document #403479868).

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3.2 CONTINUED GROUNDWATER MONITORING – MARCH 27, 2024

Caerus continued quarterly groundwater sampling from the five (5) previously installed piezometers and four (4) previously installed permanent monitoring wells at the Site. Kleinfelder completed the groundwater sampling as summarized below.

- Kleinfelder collected one groundwater sample from each permanent monitoring well (MW01-MW04) using a peristaltic pump and polyethylene tubing directly from the monitoring wells. Groundwater quality parameters were measured using a YSI Multi-parameter meter to characterize the groundwater conditions. Groundwater sampling parameters and notes for these permanent monitoring wells are depicted in **Appendix A.** The groundwater sample summary is detailed in **Table 3** and the laboratory analytical results of the groundwater samples are detailed in **Table 4**.
- Kleinfelder collected groundwater samples from the five (5) piezometers previously installed at the Site in May 2023 as depicted in **Figure 5.** One groundwater sample was collected from each piezometer using a using a peristaltic pump. Groundwater quality parameters were measured using a YSI Multi-parameter meter to characterize the groundwater conditions. Groundwater sampling parameters for these piezometers are depicted in **Appendix A.** The groundwater sample summary is detailed in **Table 3** and the laboratory analytical results of the groundwater samples are detailed in **Table 4**.
- Kleinfelder collected a total of nine (9) groundwater samples from the site on March 27, 2024. Laboratory analytical results for these groundwater samples are summarized in **Table 4**. The locations of these groundwater samples are depicted on **Figure 5**.

Kleinfelder used an EOS Arrow 100 Submeter Global Navigation Satellite System (GNSS) receiver to record latitude and longitude at each sample location and the sample locations are shown on **Figure 4** and **Figure 5**.

Surface water samples were collected via grab sampling directly from Piceance Creek using seven laboratory-supplied sample bottles. All 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). The surface water samples were analyzed for full ECMC Table 915-1 analytes as well as 1-methylnapthalene and 2-methylnapthalene.

Groundwater samples were collected via a peristaltic pump and polyethylene tubing directly from the piezometer and permanent monitoring wells and placed directly into the seven laboratory-supplied sample bottles. All samples were immediately placed on ice in a cooler. Standard COC procedures were used during sampling and transportation to Pace in Mount Juliet, Tennessee (via FEDEX). The groundwater samples were analyzed for full ECMC Table 915-1 analytes and 1-methylnapthalene and 2-methylnapthalene.

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4 RESULTS

All laboratory analytical results were compared to ECMC Table 915-1 cleanup concentrations for surface water and groundwater. 1-methylnapthalene and 2-methylnapthalene laboratory analytical results were compared to the narrative groundwater quality standards listed in the COA in the approved Form 27 Site Investigation and Remediation Workplan (Initial) (document #403479868). Laboratory Analytical Reports from Pace are provided in **Appendix B**.

4.1 SURFACE WATER

All surface water samples are summarized in **Table 1**. Laboratory analytical results for the surface water samples are presented in **Table 2.** The surface water sample locations are depicted on **Figure 4.** Total dissolved solids (TDS) and chloride were detected at similar concentrations in the upstream and downstream surface water samples. Sulfate was detected above ECMC Table 915-1 concentrations in all surface water sample results, excluding the February 26, 2024, sample result collected from the upgradient sample location [20240226-XTWP-LR8-(ST-PC-UG02)]. The January 31, 2024, sample result collected from the POR [20240131-XTWP-(LR8-ST-PC-POR)] indicated exceedances for sulfate and benzene.

4.2 GROUNDWATER

All groundwater samples are summarized in **Table 3**. Laboratory analytical results for the groundwater samples are presented in **Table 4.** The groundwater sample locations are depicted on **Figure 5.** Groundwater sampling parameters for the permanent monitoring wells and piezometers are depicted in **Appendix A**. Excluding sulfate, all March 27, 2024, groundwater samples were either non-detect results or were below cleanup concentrations for ECMC Table 915-1. Sulfate was detected above ECMC Table 915-1 cleanup concentrations in all groundwater sample results.

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5 SUMMARY AND RECOMMENDATIONS

5.1 SUMMARY

Below is a summary of the findings and conclusions from the ongoing monitoring activities at the Site from January through March 2024.

- Sulfate was detected above ECMC Table 915-1 cleanup concentrations in all surface water and groundwater sample results excluding the February 26, 2024, surface water sample result collected from the upgradient sample location [20240226-XTWP-LR8-ST-PC-UG02)].
- The January 31, 2024, POR [20240131-XTWP-(LR8-ST-PC-POR)] surface water sample exceeded ECMC Table 915-1 cleanup concentrations for sulfate and benzene.

5.2 RECOMMENDATIONS

Based on the findings presented herein, Kleinfelder recommends Caerus continue monthly surface water monitoring and sampling at the six (6) points previously sampled at the Site. Kleinfelder recommends Caerus continue quarterly groundwater monitoring and sampling of the five (5) piezometers and four (4) monitoring wells previously sampled at the Site.

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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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TABLES

TABLE 1 - SURFACE WATER SAMPLE SUMMARY
CAERUS PICEANCE, LLC
SITE INVESTIGATION REPORT
REMEDIATION PROJECT NUMBER: 31518
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Sample ID	Sample Matrix	Latitude	Longitude	PID Reading (PPM)	Hydrocarbon Odor Detected (Y/N)	Soil Staining or Surface Sheen Observed (Y/N)	Objective	Comments
20240131-XTWP-(LR8-ST-PC-UG02)	Surface Water	39.890997	-108.292920	NM	N	N	Surface water monitoring.	None
20240131-XTWP-(LR8-ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	N	Surface water monitoring.	None
20240131-XTWP-(LR8-ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	N	Surface water monitoring.	None
20240131-XTWP-(LR8-ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20240131-XTWP-(LR8-ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None
20240131-XTWP-(LR8-ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None
20240226-XTWP-(LR8-ST-PC-UG02)	Surface Water	39.890997	-108.292920	NM	N	N	Surface water monitoring.	None
20240226-XTWP-(LR8-ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	N	N	Surface water monitoring.	None
20240226-XTWP-(LR8-ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	N	Surface water monitoring.	None
20240226-XTWP-(LR8-ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20240226-XTWP-(LR8-ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None
20240226-XTWP-(LR8-ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None
20240327-XTWP-(LR8-ST-PC-UG02)	Surface Water	39.890997	-108.292920	NM	N	N	Surface water monitoring.	None
20240327-XTWP-(LR8-ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	N	Surface water monitoring.	Slight hydrocarbon scent observed
20240327-XTWP-(LR8-ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	Y	N	Surface water monitoring.	Slight hydrocarbon scent observed
20240327-XTWP-(LR8-ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20240327-XTWP-(LR8-ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None
20240327-XTWP-(LR8-ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None

NOTES:

DG = Down-Gradient
NM = Not Measured
POR = Point of Release
PC = Piceance Creek
PID = Photo-ionization Detector
PPM = Parts per million
ST = STREAM
UG = Up-Gradient

TABLE 2 - SURFACE WATER ANALYTICAL RESULTS TABLE
XTWP

Analyte			Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	1,2,4-TMB	1,3,5-TMB	TDS	Chloride	Sulfate	1-Methylnaphthalene	2-Methylnaphthalene
915-1 WATER			0.005	1	0.7	10	0.14	0.067	0.067		250	250	0.0011	0.0036
Units			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Name	**Sample Type**	**Sample Date**												
20240131-XTWP-(LR8-ST-PC-DG11)	Stream	01/31/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	950	15.6	350	< 0.000250	< 0.000250 J4
20240131-XTWP-(LR8-ST-PC-DG12)	Stream	01/31/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	900	15.6	350	< 0.000250	< 0.000250 J4
20240131-XTWP-(LR8-ST-PC-DG13)	Stream	01/31/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	940	15.8	349	< 0.000250	< 0.000250 J4
20240131-XTWP-(LR8-ST-PC-DG14)	Stream	01/31/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	924	15.4	350	< 0.000250	< 0.000250 J4
20240131-XTWP-(LR8-ST-PC-POR)	Stream	01/31/2024	0.0271	0.0479	0.00372	0.0714	< 0.00500	0.00684	0.00638	928	15.9	347	< 0.000250	0.000284
20240131-XTWP-(LR8-ST-PC-UG02)	Stream	01/31/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	942	15.5	346	< 0.000250	< 0.000250 J4
20240226-XTWP-(LR8-ST-PC-DG11)	Stream	02/26/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	938	15.1	338	< 0.000250	< 0.000250
20240226-XTWP-(LR8-ST-PC-DG12)	Stream	02/26/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	952	15.2	345	< 0.000250	< 0.000250
20240226-XTWP-(LR8-ST-PC-DG13)	Stream	02/26/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	940	15.2	334	< 0.000250	< 0.000250
20240226-XTWP-(LR8-ST-PC-DG14)	Stream	02/26/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	938	15.1	337	< 0.000250	< 0.000250
20240226-XTWP-(LR8-ST-PC-POR)	Stream	02/26/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	912	14.9	341	< 0.000250	< 0.000250
20240226-XTWP-(LR8-ST-PC-UG02)	Stream	02/26/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	858	4.23	< 5.00	< 0.000250	< 0.000250
20240327-XTWP-(LR8-ST-PC-DG11)	Stream	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	920	15.4	342	< 0.000250	< 0.000250
20240327-XTWP-(LR8-ST-PC-DG12)	Stream	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	910	15.0	336	< 0.000250	< 0.000250
20240327-XTWP-(LR8-ST-PC-DG13)	Stream	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	918	14.8	337	< 0.000250	< 0.000250
20240327-XTWP-(LR8-ST-PC-DG14)	Stream	03/27/2024	0.00109	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	950	14.7	339	< 0.000250	< 0.000250
20240327-XTWP-(LR8-ST-PC-POR)	Stream	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	876	14.7	342	< 0.000250	< 0.000250
20240327-XTWP-(LR8-ST-PC-UG02)	Stream	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	840	14.8	346	< 0.000250	< 0.000250

Notes:

Bold with blue highlight: Exceeds Water Standards
"<" (as in, less than laboratory reporting detection limit)

TABLE 3 - GROUNDWATER SAMPLE SUMMARY
CAERUS PICEANCE, LLC
SITE INVESTIGATION REPORT
REMEDIATION PROJECT NUMBER: 31518
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Sample ID	Sample Matrix	Latitude	Longitude	PID Reading (PPM)	Hydrocarbon Odor Detected (Y/N)	Soil Staining or Surface Sheen Observed (Y/N)	Objective	Comments
20240327-XTWP-(LR8-MW01)	Groundwater	39.89098539	-108.2922522	NM	N	N	Groundwater monitoring	None
20240327-XTWP-(LR8-MW02)	Groundwater	39.89139538	-108.2926107	NM	N	N	Groundwater monitoring	None
20240327-XTWP-(LR8-MW03)	Groundwater	39.89193125	-108.2930366	NM	N	N	Groundwater monitoring	A small amount of unknown orange colored liquid was observed in the groundwater. The substance had no observable odor.
20240327-XTWP-(LR8-MW04)	Groundwater	39.89115013	-108.2926349	NM	N	N	Groundwater monitoring	A small amount of unknown orange colored liquid was observed in the groundwater. The substance had no observable odor.
20240327-XTWP-(LR8-PZ01)	Groundwater	39.89084353	-108.2931486	NM	N	N	Groundwater monitoring	None
20240327-XTWP-(LR8-PZ02)	Groundwater	39.89125111	-108.2932312	NM	N	N	Groundwater monitoring	None
20240327-XTWP-(LR8-PZ03)	Groundwater	39.89182711	-108.2927436	NM	N	N	Groundwater monitoring	None
20240327-XTWP-(LR8-PZ04)	Groundwater	39.89190264	-108.2932815	NM	N	N	Groundwater monitoring	A small amount of unknown orange colored liquid was observed in the groundwater. The substance had no observable odor.
20240327-XTWP-(LR8-PZ05)	Groundwater	39.89226931	-108.2924587	NM	N	N	Groundwater monitoring	None

NOTES:

DG = Down-Gradient
NM = Not Measured
PC = Piceance Creek
PID = Photo-ionization Detector
POR = Point of Release
PPM = Parts per million
ST = STREAM
UG = Up-Gradient

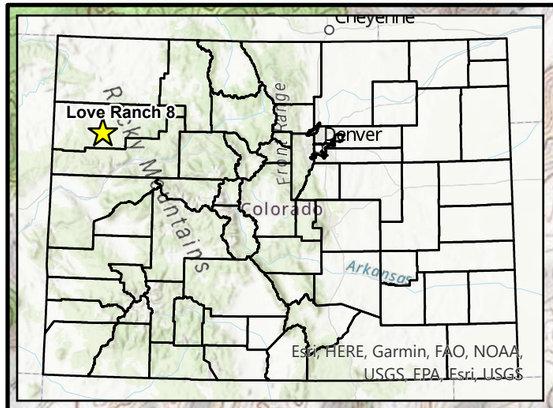
TABLE 4 - GROUNDWATER ANALYTICAL RESULTS TABLE
XTWP

Analyte			Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	1,2,4-TMB	1,3,5-TMB	TDS	Chloride	Sulfate	1-Methylnaphthalene	2-Methylnaphthalene
915-1 WATER			0.005	1	0.7	10	0.14	0.067	0.067		250	250	0.0011	0.0036
Units			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Name	**Sample Type**	**Sample Date**												
20240327-XTWP-(LR8-MW01)	Monitoring Well	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	1400	31.9	**363**	< 0.000250	< 0.000250
20240327-XTWP-(LR8-MW02)	Monitoring Well	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	2530	192	**1070**	< 0.000250	< 0.000250
20240327-XTWP-(LR8-MW03)	Monitoring Well	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	1490	75.1	**717**	< 0.000250	< 0.000250
20240327-XTWP-(LR8-MW04)	Monitoring Well	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	1190	30.5	**458**	< 0.000250	< 0.000250
20240327-XTWP-(LR8-PZ01)	Monitoring Well	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	1830	43.5	**767**	< 0.000250	< 0.000250
20240327-XTWP-(LR8-PZ02)	Monitoring Well	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	1440	37.8	**609**	< 0.000250	< 0.000250
20240327-XTWP-(LR8-PZ03)	Monitoring Well	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	1830	93.0	**754**	< 0.000250	< 0.000250
20240327-XTWP-(LR8-PZ04)	Monitoring Well	03/27/2024	0.00140	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	1750	70.0	**642**	< 0.000250	< 0.000250
20240327-XTWP-(LR8-PZ05)	Monitoring Well	03/27/2024	< 0.00100	< 0.00100	< 0.00100	< 0.00300	< 0.00500	< 0.00100	< 0.00100	1640	95.0	**657**	< 0.000250	< 0.000250

Notes:

Bold with blue highlight: Exceeds Water Standards
"<" (as in, less than laboratory reporting detection limit)

FIGURES



LEGEND

✖ Love Ranch 8 Off-Location Flowline Point of Release (POR)

0 1,000 2,000 4,000
Feet

N

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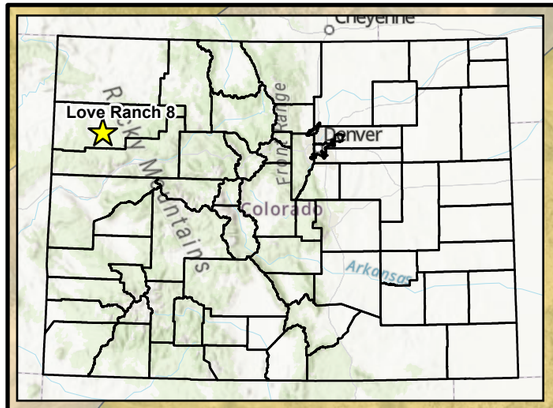
PROJECT NO.	24000859
CREATED:	7/27/2023
CREATED BY:	ALeonard
CHECKED BY:	JVeith
FILE NAME:	F1_LoveRanch8_Topo

Site Location / Topographic Map

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE
1

Date: 7/27/2023 User: ALeonard Path: \\azrgisstorp03\GIS_Projects\Client\Caerus_OXY\24000859_LoveRanch\24000859_LoveRanch.aprx



Piceance Creek

POR

Qa

Tu

Geology Data Source: Green, G.N., 1992, The Digital Geologic Map of Colorado in ARC/INFO Format: U.S. Geological Survey Open-File Report 92-0507, 9 p.; http://pubs.usgs.gov/of/1992/ofr-92-0507/ .

Aerial Image Source: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, Esri, USGS, Maxar
Aerial Image Date: 08/24/2021

LEGEND

- Love Ranch 8 Off-Location Flowline Point of Release (POR)
- Tu: Uinta Formation, Sandstone and siltstone; in Piceance basin. Formerly Evacuation Creek Member of Green River Fm
- Qa: Includes Piney Creek Alluvium and younger deposits

0 1,000 2,000 4,000
Feet

N

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PROJECT NO.	24000859
CREATED:	7/27/2023
CREATED BY:	ALeonard
CHECKED BY:	KMaestas
FILE NAME:	F2_LoveRanch8_Geology

Geology Map

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE
2

Date: 4/23/2024 User: ALeonard Path: \\azrgisstorp03\GIS_Projects\Client\Caerus_OXY\24000859_LoveRanch\24000859_LoveRanch.aprx

LEGEND

- Love Ranch 8 Off-Location Flowline Point of Release (POR)
- Interpreted Groundwater Flow Direction
- Potentiometric Surface Elevation Contour (ft AMSL) Contour Interval = 0.10 Feet Dashed Where Inferred

0 50 100 200
Feet

N

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PROJECT NO.	24000859
CREATED:	4/23/2024
CREATED BY:	ALeonard
CHECKED BY:	JVeith
FILE NAME:	F3E_LoveRanch8_GW_03272024

Potentiometric Groundwater Map
03/27/2024

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE
3

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PROJECT NO.	24000859
DRAWN:	2/7/2024
DRAWN BY:	T. Schmalz
CHECKED BY:	J. Veith
FILE NAME:	Love Ranch 8 Sample Map.pub

Surface Water Sample Locations

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE

4

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PROJECT NO.	24000859
DRAWN:	2/7/2024
DRAWN BY:	T. Schmalz
CHECKED BY:	J. Veith
FILE NAME:	Love Ranch 8 Sample Map.pub

Groundwater Sample Locations

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE

5

APPENDIX A

GROUNDWATER SAMPLE NOTES AND PARAMETERS

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

LOW-FLOW SAMPLING FIELD DATA SHEET

20240327-XTWP-(LR8-MW01)

Project: Love Ranch 8	**Project #:** 24004611.001A	**Task #: 1**
Date: 03/27/2024	**Sampler:** J. Veith/T. Schmalz	**Weather:** clear, sunny, 10-40°F
Well ID: MW01	**Sample Time:** 16:59	**DTB:** 26.58 ft **DTW:** 8.40 ft

	Time within 3-5 min	**Water Table Elev.** Within 0.3 feet	**Flow** 100-25- mL/min	**pH** +/- 0.1 units	**Conductivity** within 3% µS/cm	**Turbidity** (NTUs) within 10% for values >5	**DO** within 10% %	**Temperature** within 3% °C	**ORP** +OR-MV mV
start pump @16:34	16:34	-	-	7.52	1999	N/A	9.4	9.1	49.0
	16:39	-	-	7.48	1992	N/A	2.2	9.9	43.4
	16:44	-	-	7.49	1979	N/A	2.8	9.9	41.1
	16:49	-	-	7.49	1979	N/A	5.6	10.0	27.2
	16:54	-	-	7.50	1987	N/A	4.1	10.0	12.1
	16:59	-	-	7.50	1983	N/A	3.1	9.9	-3.4

Glassware: 1x1L Poly (unpreserved); 1x250 mL poly (unpreserved); 3x40 mL VOAs w/ ACL; 2x40 mL VOAs (unpreserved 7 pc

Approximate Purge Volume: ~ 5 gal

Notes: N/A

LOW-FLOW SAMPLING FIELD DATA SHEET

20240327-XTWP-(LR8-MW02)

Project: Love Ranch 8	**Project #:** 24004611.001A	**Task #: 1**
Date: 03/27/2024	**Sampler:** J. Veith/T. Schmalz	**Weather:** clear, sunny, 10-40°F
Well ID: MW02	**Sample Time:** 16:19	**DTB:** 25.25 ft **DTW:** 8.12 ft

	Time within 3-5 min	**Water Table Elev.** Within 0.3 feet	**Flow** 100-25- mL/min	**pH** +/- 0.1 units	**Conductivity** within 3% µS/cm	**Turbidity** (NTUs) within 10% for values >5	**DO** within 10% %	**Temperature** within 3% °C	**ORP** +OR-MV mV
start pump @15:54	15:54	-	-	7.43	2900	N/A	21.0	9.2	21.2
	15:59	-	-	7.45	3010	N/A	12.5	9.4	22.6
	16:04	-	-	7.39	3206	N/A	4.3	9.7	23.7
	16:09	-	-	7.40	3227	N/A	3.2	9.7	21.7
	16:14	-	-	7.39	3253	N/A	2.4	9.8	21.4
	16:19	-	-	7.39	3262	N/A	2.3	9.8	21.6

Glassware: 1x1L Poly (unpreserved); 1x250 mL poly (unpreserved); 3x40 mL VOAs w/ ACL; 2x40 mL VOAs (unpreserved) 7 pc

Approximate Purge Volume: ~ 5 gal

Notes: N/A.

LOW-FLOW SAMPLING FIELD DATA SHEET

20240327-XTWP-(LR8-MW03)

Project: Love Ranch 8	**Project #:** 24004611.001A	**Task #: 1**
Date: 03/27/2024	**Sampler:** J. Veith/T. Schmalz	**Weather:** clear, sunny, 10-40°F
Well ID: MW03	**Sample Time:** 12:52	**DTB:** 24.20 ft **DTW:** 7.33 ft

	Time within 3-5 min	**Water Table Elev.** Within 0.3 feet	**Flow** 100-25- mL/min	**pH** +/- 0.1 units	**Conductivity** within 3% µS/cm	**Turbidity** (NTUs) within 10% for values >5	**DO** within 10% %	**Temperature** within 3% °C	**ORP** +OR-MV mV
start pump @12:27	12:27	-	-	7.55	2373	N/A	9.1	9.4	-100.1
	12:32	-	-	7.48	2358	N/A	6.3	9.5	-108.0
	12:37	-	-	7.52	2356	N/A	5.3	9.6	-111.6
	12:42	-	-	7.52	2357	N/A	4.6	9.5	-115.7
	12:47	-	-	7.52	2355	N/A	4.1	9.6	-118.3
	12:52	-	-	7.52	2357	N/A	3.7	9.6	-122.0

Glassware: 1x1L Poly (unpreserved); 1x250 mL poly (unpreserved); 3x40 mL VOAs w/ ACL; 2x40 mL VOAs (unpreserved) 7 pc

Approximate Purge Volume: ~ 5 gal

Notes: Unknown orange material observed in the first gallon of purge water.

LOW-FLOW SAMPLING FIELD DATA SHEET

20240327-XTWP-(LR8-MW04)

Project: Love Ranch 8	**Project #:** 24004611.001A	**Task #: 1**
Date: 03/27/2024	**Sampler:** J. Veith/T. Schmalz	**Weather:** clear, sunny, 10-40°F
Well ID: MW04	**Sample Time:** 12:01	**DTB:** 26.85 ft **DTW:** 7.80 ft

	Time within 3-5 min	**Water Table Elev.** Within 0.3 feet	**Flow** 100-25- mL/min	**pH** +/- 0.1 units	**Conductivity** within 3% µS/cm	**Turbidity** (NTUs) within 10% for values >5	**DO** within 10% %	**Temperature** within 3% °C	**ORP** +OR-MV mV
start pump @11:36	11:36	-	-	7.45	1811	N/A	10.2	7.6	-55.0
	11:41	-	-	7.38	1850	N/A	5.5	7.7	-71.4
	11:46	-	-	7.44	1840	N/A	10.8	7.7	-60.3
	11:51	-	-	7.43	1841	N/A	10.3	7.8	-59.9
	11:56	-	-	7.43	1834	N/A	9.5	7.9	-58.2
	12:01	-	-	7.42	1841	N/A	9.2	7.9	-48.9

Glassware: 1x1L Poly (unpreserved); 1x250 mL poly (unpreserved); 3x40 mL VOAs w/ ACL; 2x40 mL VOAs (unpreserved) 7 pc

Approximate Purge Volume: ~ 5 gal

Notes: Unknown orange color material observed in first gallon of purge water; no hydrocarbon scent oberved; orange material also observed in sample bottles.

LOW-FLOW SAMPLING FIELD DATA SHEET

20240327-XTWP-(LR8-PZ01)

Project: Love Ranch 8	**Project #:** 24000859.001A	**Task #: 1**
Date: 03/27/2024	**Sampler:** J. Veith/T. Schmalz	**Weather:** clear, sunny, 10-40°F
Well ID: PZ01	**Sample Time:** 11:08	**DTB:** 18.05 ft **DTW:** 7.63 ft

	Time within 3-5 min	**Water Table Elev.** Within 0.3 feet	**Flow** 100-25- mL/min	**pH** +/- 0.1 units	**Conductivity** within 3% µS/cm	**Turbidity** (NTUs) within 10% for values >5	**DO** within 10% %	**Temperature** within 3% °C	**ORP** +OR-MV mV
start pump @10:38	10:38	-	-	7.47	2427	N/A	5.4	6.8	-61.3
	10:43	-	-	7.43	2454	N/A	3.9	6.8	-74.6
	10:48	-	-	7.42	2458	N/A	5.2	6.8	-84.2
	10:53	-	-	7.42	2456	N/A	7.8	6.7	-89.7
	10:58	-	-	7.41	2461	N/A	10.1	6.7	-93.1
	11:03	-	-	7.42	2489	N/A	10.4	6.8	-95.8
	11:08	-	-	7.42	2502	N/A	10.3	6.8	-98.4

Glassware: 1x1L Poly (unpreserved); 1x250 mL poly (unpreserved); 3x40 mL VOAs w/ ACL; 2x40 mL VOAs (unpreserved) 7 pc

Approximate Purge Volume: ~ 6 gal

Notes: Cloudy water.

LOW-FLOW SAMPLING FIELD DATA SHEET

20240327-XTWP-(LR8-PZ02)

Project: Love Ranch 8	**Project #:** 24004611.001A	**Task #: 1**
Date: 03/27/2024	**Sampler:** J. Veith/T. Schmalz	**Weather:** clear, sunny, 10-40°F
Well ID: PZ02	**Sample Time:** 10:00	**DTB:** 18.72 ft **DTW:** 6.73 ft

	Time within 3-5 min	**Water Table Elev.** Within 0.3 feet	**Flow** 100-25- mL/min	**pH** +/- 0.1 units	**Conductivity** within 3% µS/cm	**Turbidity** (NTUs) within 10% for values >5	**DO** within 10% %	**Temperature** within 3% °C	**ORP** +OR-MV mV
start pump @9.35	9:35	-	-	7.34	2288	N/A	4.1	7.5	-2.4
	9:40	-	-	7.34	2283	N/A	2.6	8.0	-32.5
	9:45	-	-	7.36	2278	N/A	1.9	8.1	-43.7
	9:50	-	-	7.36	2270	N/A	1.6	8.3	-48.7
	9:55	-	-	7.37	2262	N/A	1.6	8.3	-51.9
	10:00	-	-	7.37	2259	N/A	1.4	8.3	-54.2

Glassware: 1x1L Poly (unpreserved); 1x250 mL poly (unpreserved); 3x40 mL VOAs w/ ACL; 2x40 mL VOAs (unpreserved) 7 pc

Approximate Purge Volume: ~ 6 gal

Notes: N/A.

LOW-FLOW SAMPLING FIELD DATA SHEET

20240327-XTWP-(LR8-PZ03)

Project: Love Ranch 8	**Project #:** 24004611.001A	**Task #:** 1
Date: 03/27/2024	**Sampler:** J. Veith/T. Schmalz	**Weather:** clear, sunny, 10-40°F
Well ID: PZ03	**Sample Time:** 15:38	**DTB:** 19.30 ft **DTW:** 7.51 ft

	Time within 3-5 min	**Water Table Elev.** Within 0.3 feet	**Flow** 100-25- mL/min	**pH** +/- 0.1 units	**Conductivity** within 3% µS/cm	**Turbidity** (NTUs) within 10% for values >5	**DO** within 10% %	**Temperature** within 3% °C	**ORP** +OR-MV mV
start pump @15:13	15:13	-	-	7.45	2491	N/A	8.3	9.2	26.6
	15:18	-	-	7.50	2494	N/A	1.4	9.3	-39.3
	15:23	-	-	7.51	2488	N/A	0.8	9.4	-51.3
	15:28	-	-	7.50	2494	N/A	0.7	9.4	-54.3
	15:33	-	-	7.51	2498	N/A	0.5	9.3	-56.7
	15:38	-	-	7.51	2500	N/A	0.4	9.3	-62.1

Glassware: 1x1L Poly (unpreserved); 1x250 mL poly (unpreserved); 3x40 mL VOAs w/ ACL; 2x40 mL VOAs (unpreserved) 7 pc

Approximate Purge Volume: ~ 5 gal

Notes: N/A.

LOW-FLOW SAMPLING FIELD DATA SHEET

20240327-XTWP-(LR8-PZ04)

Project: Love Ranch 8	**Project #:** 24004611.001A	**Task #:** 1
Date: 03/27/2024	**Sampler:** J. Veith/T. Schmalz	**Weather:** clear, sunny, 10-40°F
Well ID: PZ04	**Sample Time:** 13:48	**DTB:** 19.16 ft **DTW:** 6.12 ft

	Time within 3-5 min	**Water Table Elev.** Within 0.3 feet	**Flow** 100-25- mL/min	**pH** +/- 0.1 units	**Conductivity** within 3% µS/cm	**Turbidity** (NTUs) within 10% for values >5	**DO** within 10% %	**Temperature** within 3% °C	**ORP** +OR-MV mV
start pump @13:23	13:23	-	-	7.39	2461	N/A	8.4	7.4	-91.8
	13:28	-	-	7.42	2458	N/A	2.7	7.5	-98.3
	13:33	-	-	7.45	2459	N/A	1.7	7.3	-106.8
	13:38	-	-	7.45	2460	N/A	1.4	7.3	-113.5
	13:43	-	-	7.46	2463	N/A	1.2	7.2	-117.6
	13:48	-	-	7.47	2462	N/A	1.1	7.3	-121.4

Glassware: 1x1L Poly (unpreserved); 1x250 mL poly (unpreserved); 3x40 mL VOAs w/ ACL; 2x40 mL VOAs (unpreserved) 7 pc

Approximate Purge Volume: ~ 5 gal

Notes: Unknown orange material in first gallon of purge water.

LOW-FLOW SAMPLING FIELD DATA SHEET

20240327-XTWP-(LR8-PZ05)

Project: Love Ranch 8	**Project #:** 24004611.001A	**Task #:** 1
Date: 03/27/2024	**Sampler:** J. Veith/T. Schmalz	**Weather:** clear, sunny, 10-40°F
Well ID: PZ05	**Sample Time:** 14:52	**DTB:** 19.25 ft **DTW:** 7.22 ft

	Time within 3-5 min	**Water Table Elev.** Within 0.3 feet	**Flow** 100-25- mL/min	**pH** +/- 0.1 units	**Conductivity** within 3% µS/cm	**Turbidity** (NTUs) within 10% for values >5	**DO** within 10% %	**Temperature** within 3% °C	**ORP** +OR-MV mV
start pump @14:27	14:27	-	-	7.49	2393	N/A	6.0	9.2	41.2
	14:32	-	-	7.45	2412	N/A	2.2	9.2	15.2
	14:37	-	-	7.47	2417	N/A	1.1	9.0	-1.8
	14:42	-	-	7.46	2432	N/A	0.9	9.2	-7.3
	14:47	-	-	7.47	2427	N/A	0.9	9.1	-9.4
	14:52	-	-	7.47	2432	N/A	0.7	9.2	-11.4

Glassware: 1x1L Poly (unpreserved); 1x250 mL poly (unpreserved); 3x40 mL VOAs w/ ACL; 2x40 mL VOAs (unpreserved) 7 pc

Approximate Purge Volume: ~ 5 gal

Notes: N/A.

APPENDIX B

LABORATORY ANALYTICAL REPORTS

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

ANALYTICAL REPORT

February 14, 2024

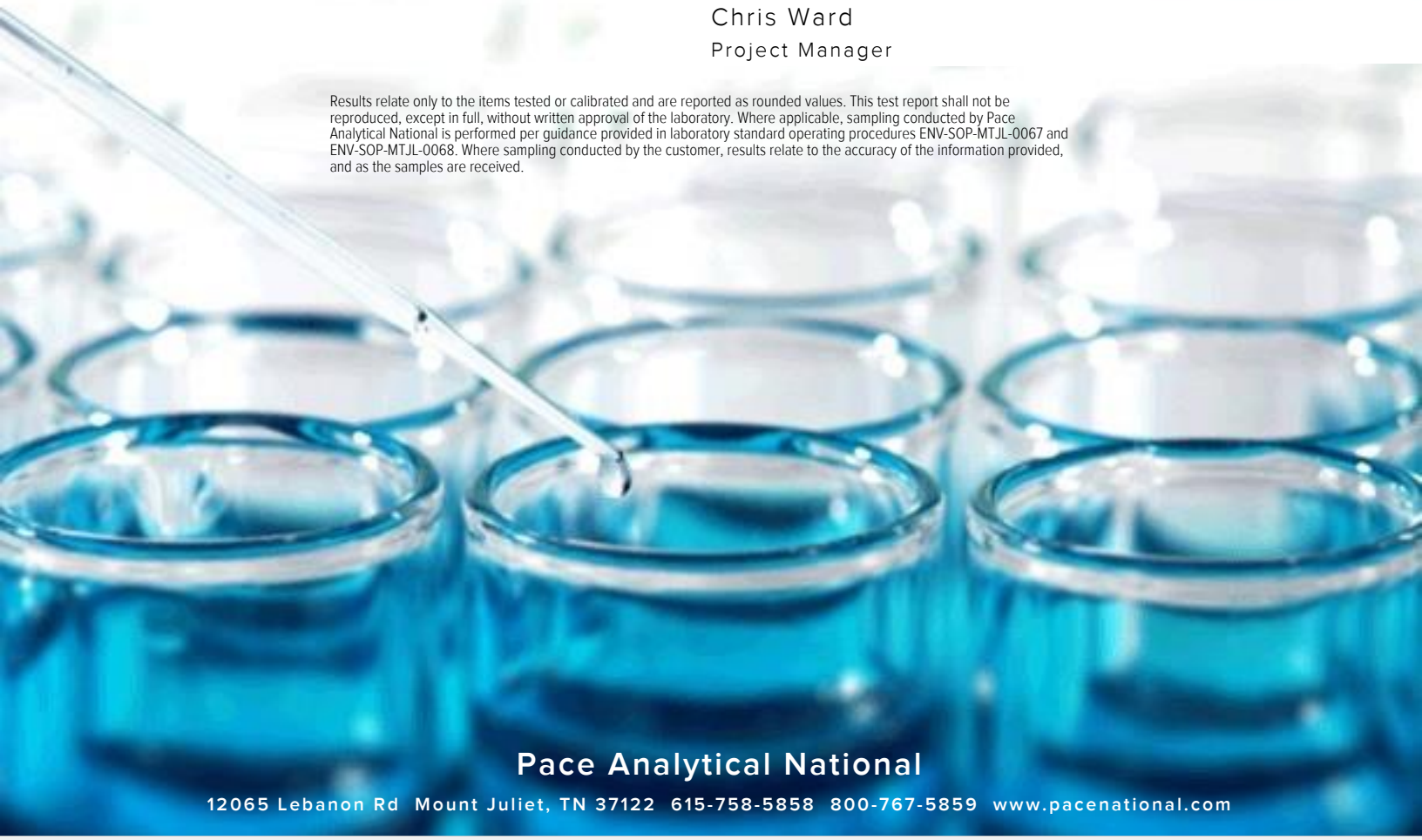
Revised Report

Caerus Oil and Gas

Sample Delivery Group:	L1701357
Samples Received:	02/01/2024
Project Number:	
Description:	Love Ranch 8 Investigation
Site:	LOVE RANCH 8
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

TABLE OF CONTENTS

SAMPLE SUMMARY

20240131-XTWP-(LR8-ST-PC-UG02) L1701357-01 GW

Collected by: Tristan Schmalz | Collected date/time: 01/31/24 09:56 | Received date/time: 02/01/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2220096	1	02/05/24 23:36	02/06/24 17:54	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2218635	1	02/03/24 14:52	02/03/24 14:52	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2220256	5	02/06/24 00:24	02/06/24 00:24	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2219189	1	02/03/24 01:21	02/03/24 01:21	JCP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2219139	1	02/03/24 07:55	02/06/24 07:02	AGW	Mt. Juliet, TN

20240131-XTWP-(LR8-ST-PC-POR) L1701357-02 GW

Collected by: Tristan Schmalz | Collected date/time: 01/31/24 10:22 | Received date/time: 02/01/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2220096	1	02/05/24 23:36	02/06/24 17:54	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2218635	1	02/03/24 15:04	02/03/24 15:04	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2220256	5	02/06/24 00:40	02/06/24 00:40	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2220273	1	02/05/24 20:00	02/05/24 20:00	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2222205	1	02/07/24 22:22	02/08/24 04:17	AGW	Mt. Juliet, TN

20240131-XTWP-(LR8-ST-PC-DG14) L1701357-03 GW

Collected by: Tristan Schmalz | Collected date/time: 01/31/24 10:26 | Received date/time: 02/01/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2220096	1	02/05/24 23:36	02/06/24 17:54	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2218635	1	02/03/24 15:17	02/03/24 15:17	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2220256	5	02/06/24 00:56	02/06/24 00:56	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2219189	1	02/03/24 01:41	02/03/24 01:41	JCP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2219139	1	02/03/24 07:55	02/06/24 07:38	AGW	Mt. Juliet, TN

20240131-XTWP-(LR8-ST-PC-DG13) L1701357-04 GW

Collected by: Tristan Schmalz | Collected date/time: 01/31/24 10:32 | Received date/time: 02/01/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2220096	1	02/05/24 23:36	02/06/24 17:54	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2218635	1	02/03/24 15:29	02/03/24 15:29	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2220256	5	02/06/24 01:12	02/06/24 01:12	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2219189	1	02/03/24 02:02	02/03/24 02:02	JCP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2219139	1	02/03/24 07:55	02/06/24 07:56	AGW	Mt. Juliet, TN

20240131-XTWP-(LR8-ST-PC-DG12) L1701357-05 GW

Collected by: Tristan Schmalz | Collected date/time: 01/31/24 10:40 | Received date/time: 02/01/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2220096	1	02/05/24 23:36	02/06/24 17:54	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2218635	1	02/03/24 15:42	02/03/24 15:42	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2220256	5	02/06/24 01:28	02/06/24 01:28	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2219189	1	02/03/24 02:22	02/03/24 02:22	JCP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2219139	1	02/03/24 07:55	02/06/24 08:13	AGW	Mt. Juliet, TN

SAMPLE SUMMARY

20240131-XTWP-(LR8-ST-PC-DG11) L1701357-06 GW

Collected by: Tristan Schmalz
Collected date/time: 01/31/24 10:53
Received date/time: 02/01/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2220096	1	02/05/24 23:36	02/06/24 17:54	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2218635	1	02/03/24 16:20	02/03/24 16:20	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2220256	5	02/06/24 01:43	02/06/24 01:43	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2219189	1	02/03/24 02:42	02/03/24 02:42	JCP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2219139	1	02/03/24 07:55	02/06/24 08:31	AGW	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: 02/09/24 13:35

Project Narrative

Report reissued 2/14 for updated sample ID

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	942		20.0	1	02/06/2024 17:54	WG2220096

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.5		1.00	1	02/03/2024 14:52	WG2218635
Sulfate	346		25.0	5	02/06/2024 00:24	WG2220256

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	02/03/2024 01:21	WG2219189
Toluene	ND		0.00100	1	02/03/2024 01:21	WG2219189
Ethylbenzene	ND		0.00100	1	02/03/2024 01:21	WG2219189
Xylenes, Total	ND		0.00300	1	02/03/2024 01:21	WG2219189
Naphthalene	ND		0.00500	1	02/03/2024 01:21	WG2219189
1,2,4-Trimethylbenzene	ND		0.00100	1	02/03/2024 01:21	WG2219189
1,3,5-Trimethylbenzene	ND		0.00100	1	02/03/2024 01:21	WG2219189
(S) Toluene-d8	*99.4*		*80.0-120*		*02/03/2024 01:21*	WG2219189
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*02/03/2024 01:21*	WG2219189
(S) 1,2-Dichloroethane-d4	*95.4*		*70.0-130*		*02/03/2024 01:21*	WG2219189

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	02/06/2024 07:02	WG2219139
2-Methylnaphthalene	ND	J4	0.000250	1	02/06/2024 07:02	WG2219139
(S) Nitrobenzene-d5	*143*		*31.0-160*		*02/06/2024 07:02*	WG2219139
(S) 2-Fluorobiphenyl	*138*		*48.0-148*		*02/06/2024 07:02*	WG2219139
(S) p-Terphenyl-d14	*136*		*37.0-146*		*02/06/2024 07:02*	WG2219139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	928		20.0	1	02/06/2024 17:54	WG2220096

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.9		1.00	1	02/03/2024 15:04	WG2218635
Sulfate	347		25.0	5	02/06/2024 00:40	WG2220256

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	0.0271		0.00100	1	02/05/2024 20:00	WG2220273
Toluene	0.0479		0.00100	1	02/05/2024 20:00	WG2220273
Ethylbenzene	0.00372		0.00100	1	02/05/2024 20:00	WG2220273
Xylenes, Total	0.0714		0.00300	1	02/05/2024 20:00	WG2220273
Naphthalene	ND		0.00500	1	02/05/2024 20:00	WG2220273
1,2,4-Trimethylbenzene	0.00684		0.00100	1	02/05/2024 20:00	WG2220273
1,3,5-Trimethylbenzene	0.00638		0.00100	1	02/05/2024 20:00	WG2220273
(S) Toluene-d8	*98.9*		*80.0-120*		*02/05/2024 20:00*	WG2220273
(S) 4-Bromofluorobenzene	*92.9*		*77.0-126*		*02/05/2024 20:00*	WG2220273
(S) 1,2-Dichloroethane-d4	*90.6*		*70.0-130*		*02/05/2024 20:00*	WG2220273

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	02/08/2024 04:17	WG2222205
2-Methylnaphthalene	0.000284		0.000250	1	02/08/2024 04:17	WG2222205
(S) Nitrobenzene-d5	*116*		*31.0-160*		*02/08/2024 04:17*	WG2222205
(S) 2-Fluorobiphenyl	*99.5*		*48.0-148*		*02/08/2024 04:17*	WG2222205
(S) p-Terphenyl-d14	*103*		*37.0-146*		*02/08/2024 04:17*	WG2222205

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	924		20.0	1	02/06/2024 17:54	WG2220096

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.4		1.00	1	02/03/2024 15:17	WG2218635
Sulfate	350		25.0	5	02/06/2024 00:56	WG2220256

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	02/03/2024 01:41	WG2219189
Toluene	ND		0.00100	1	02/03/2024 01:41	WG2219189
Ethylbenzene	ND		0.00100	1	02/03/2024 01:41	WG2219189
Xylenes, Total	ND		0.00300	1	02/03/2024 01:41	WG2219189
Naphthalene	ND		0.00500	1	02/03/2024 01:41	WG2219189
1,2,4-Trimethylbenzene	ND		0.00100	1	02/03/2024 01:41	WG2219189
1,3,5-Trimethylbenzene	ND		0.00100	1	02/03/2024 01:41	WG2219189
(S) Toluene-d8	*99.6*		*80.0-120*		*02/03/2024 01:41*	WG2219189
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*02/03/2024 01:41*	WG2219189
(S) 1,2-Dichloroethane-d4	*95.4*		*70.0-130*		*02/03/2024 01:41*	WG2219189

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	02/06/2024 07:38	WG2219139
2-Methylnaphthalene	ND	J4	0.000250	1	02/06/2024 07:38	WG2219139
(S) Nitrobenzene-d5	*137*		*31.0-160*		*02/06/2024 07:38*	WG2219139
(S) 2-Fluorobiphenyl	*133*		*48.0-148*		*02/06/2024 07:38*	WG2219139
(S) p-Terphenyl-d14	*129*		*37.0-146*		*02/06/2024 07:38*	WG2219139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	940		20.0	1	02/06/2024 17:54	WG2220096

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.8		1.00	1	02/03/2024 15:29	WG2218635
Sulfate	349		25.0	5	02/06/2024 01:12	WG2220256

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	02/03/2024 02:02	WG2219189
Toluene	ND		0.00100	1	02/03/2024 02:02	WG2219189
Ethylbenzene	ND		0.00100	1	02/03/2024 02:02	WG2219189
Xylenes, Total	ND		0.00300	1	02/03/2024 02:02	WG2219189
Naphthalene	ND		0.00500	1	02/03/2024 02:02	WG2219189
1,2,4-Trimethylbenzene	ND		0.00100	1	02/03/2024 02:02	WG2219189
1,3,5-Trimethylbenzene	ND		0.00100	1	02/03/2024 02:02	WG2219189
(S) Toluene-d8	*96.4*		*80.0-120*		*02/03/2024 02:02*	WG2219189
(S) 4-Bromofluorobenzene	*99.6*		*77.0-126*		*02/03/2024 02:02*	WG2219189
(S) 1,2-Dichloroethane-d4	*95.4*		*70.0-130*		*02/03/2024 02:02*	WG2219189

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	02/06/2024 07:56	WG2219139
2-Methylnaphthalene	ND	J4	0.000250	1	02/06/2024 07:56	WG2219139
(S) Nitrobenzene-d5	*142*		*31.0-160*		*02/06/2024 07:56*	WG2219139
(S) 2-Fluorobiphenyl	*136*		*48.0-148*		*02/06/2024 07:56*	WG2219139
(S) p-Terphenyl-d14	*132*		*37.0-146*		*02/06/2024 07:56*	WG2219139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	900		20.0	1	02/06/2024 17:54	WG2220096

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.6		1.00	1	02/03/2024 15:42	WG2218635
Sulfate	350		25.0	5	02/06/2024 01:28	WG2220256

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	02/03/2024 02:22	WG2219189
Toluene	ND		0.00100	1	02/03/2024 02:22	WG2219189
Ethylbenzene	ND		0.00100	1	02/03/2024 02:22	WG2219189
Xylenes, Total	ND		0.00300	1	02/03/2024 02:22	WG2219189
Naphthalene	ND		0.00500	1	02/03/2024 02:22	WG2219189
1,2,4-Trimethylbenzene	ND		0.00100	1	02/03/2024 02:22	WG2219189
1,3,5-Trimethylbenzene	ND		0.00100	1	02/03/2024 02:22	WG2219189
(S) Toluene-d8	*98.2*		*80.0-120*		*02/03/2024 02:22*	WG2219189
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*02/03/2024 02:22*	WG2219189
(S) 1,2-Dichloroethane-d4	*96.1*		*70.0-130*		*02/03/2024 02:22*	WG2219189

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	02/06/2024 08:13	WG2219139
2-Methylnaphthalene	ND	J4	0.000250	1	02/06/2024 08:13	WG2219139
(S) Nitrobenzene-d5	*274*	J1	*31.0-160*		*02/06/2024 08:13*	WG2219139
(S) 2-Fluorobiphenyl	*265*	J1	*48.0-148*		*02/06/2024 08:13*	WG2219139
(S) p-Terphenyl-d14	*260*	J1	*37.0-146*		*02/06/2024 08:13*	WG2219139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	950		20.0	1	02/06/2024 17:54	WG2220096

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.6		1.00	1	02/03/2024 16:20	WG2218635
Sulfate	350		25.0	5	02/06/2024 01:43	WG2220256

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	02/03/2024 02:42	WG2219189
Toluene	ND		0.00100	1	02/03/2024 02:42	WG2219189
Ethylbenzene	ND		0.00100	1	02/03/2024 02:42	WG2219189
Xylenes, Total	ND		0.00300	1	02/03/2024 02:42	WG2219189
Naphthalene	ND		0.00500	1	02/03/2024 02:42	WG2219189
1,2,4-Trimethylbenzene	ND		0.00100	1	02/03/2024 02:42	WG2219189
1,3,5-Trimethylbenzene	ND		0.00100	1	02/03/2024 02:42	WG2219189
(S) Toluene-d8	*97.1*		*80.0-120*		*02/03/2024 02:42*	WG2219189
(S) 4-Bromofluorobenzene	*98.8*		*77.0-126*		*02/03/2024 02:42*	WG2219189
(S) 1,2-Dichloroethane-d4	*95.2*		*70.0-130*		*02/03/2024 02:42*	WG2219189

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	02/06/2024 08:31	WG2219139
2-Methylnaphthalene	ND	J4	0.000250	1	02/06/2024 08:31	WG2219139
(S) Nitrobenzene-d5	*138*		*31.0-160*		*02/06/2024 08:31*	WG2219139
(S) 2-Fluorobiphenyl	*133*		*48.0-148*		*02/06/2024 08:31*	WG2219139
(S) p-Terphenyl-d14	*129*		*37.0-146*		*02/06/2024 08:31*	WG2219139

Method Blank (MB)

(MB) R4031813-1 02/06/24 17:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1701357-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1701357-01 02/06/24 17:54 • (DUP) R4031813-3 02/06/24 17:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	942	966	1	2.52		10

L1701357-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1701357-03 02/06/24 17:54 • (DUP) R4031813-4 02/06/24 17:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	924	964	1	4.24		10

Laboratory Control Sample (LCS)

(LCS) R4031813-2 02/06/24 17:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8600	97.7	85.0-115	

Method Blank (MB)

(MB) R4029809-1 02/03/24 09:11

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00

L1701276-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1701276-01 02/03/24 12:46 • (DUP) R4029809-3 02/03/24 13:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1.38	1.36	1	1.96		15

L1701453-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1701453-05 02/03/24 17:48 • (DUP) R4029809-6 02/03/24 18:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	35.4	35.3	1	0.199		15

Laboratory Control Sample (LCS)

(LCS) R4029809-2 02/03/24 09:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.5	101	80.0-120	

L1701276-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1701276-01 02/03/24 12:46 • (MS) R4029809-4 02/03/24 14:01 • (MSD) R4029809-5 02/03/24 14:14

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 %
Chloride	40.0	1.38	41.0	40.9	98.9	98.7	1	80.0-120			0.230	15

L1701453-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1701453-05 02/03/24 17:48 • (MS) R4029809-7 02/03/24 18:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	35.4	68.3	82.4	1	80.0-120	

Method Blank (MB)

(MB) R4030120-1 02/05/24 20:06

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.594	5.00

L1701822-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1701822-04 02/06/24 03:19 • (DUP) R4030120-3 02/06/24 03:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	962	961	1	0.0882	E	15

L1702064-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1702064-12 02/06/24 06:46 • (DUP) R4030120-5 02/06/24 07:02

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	9.20	9.14	1	0.708		15

Laboratory Control Sample (LCS)

(LCS) R4030120-2 02/05/24 20:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	41.4	104	80.0-120	

L1701822-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1701822-04 02/06/24 03:19 • (MS) R4030120-4 02/06/24 03:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0	962	826	0.000	1	80.0-120	E V

Sample Narrative:

MS: Spike failure due to matrix interference

L1702064-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1702064-12 02/06/24 06:46 • (MS) R4030120-6 02/06/24 07:18 • (MSD) R4030120-7 02/06/24 07:33

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 %
Sulfate	40.0	9.20	45.3	46.6	90.4	93.6	1	80.0-120			2.80	15

Method Blank (MB)

(MB) R4029820-3 02/02/24 22:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
(S) Toluene-d8	*97.7*			*80.0-120*
(S) 4-Bromofluorobenzene	*102*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*93.4*			*70.0-130*

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

(LCS) R4029820-1 02/02/24 21:07 • (LCSD) R4029820-2 02/02/24 21:28

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 %
Benzene	0.00500	0.00535	0.00546	107	109	70.0-123			2.04	20
Toluene	0.00500	0.00447	0.00453	89.4	90.6	79.0-120			1.33	20
Ethylbenzene	0.00500	0.00437	0.00457	87.4	91.4	79.0-123			4.47	20
Xylenes, Total	0.0150	0.0127	0.0132	84.7	88.0	79.0-123			3.86	20
Naphthalene	0.00500	0.00335	0.00338	67.0	67.6	54.0-135			0.892	20
1,2,4-Trimethylbenzene	0.00500	0.00418	0.00433	83.6	86.6	76.0-121			3.53	20
1,3,5-Trimethylbenzene	0.00500	0.00424	0.00439	84.8	87.8	76.0-122			3.48	20
(S) Toluene-d8				*95.8*	*96.0*	*80.0-120*				
(S) 4-Bromofluorobenzene				*99.9*	*103*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*93.3*	*91.9*	*70.0-130*				

Method Blank (MB)

(MB) R4030460-2 02/05/24 12:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
(S) Toluene-d8	*104*			*80.0-120*
(S) 4-Bromofluorobenzene	*96.1*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*93.3*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4030460-1 02/05/24 11:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00520	104	70.0-123	
Toluene	0.00500	0.00537	107	79.0-120	
Ethylbenzene	0.00500	0.00541	108	79.0-123	
Xylenes, Total	0.0150	0.0161	107	79.0-123	
Naphthalene	0.00500	0.00426	85.2	54.0-135	
1,2,4-Trimethylbenzene	0.00500	0.00556	111	76.0-121	
1,3,5-Trimethylbenzene	0.00500	0.00576	115	76.0-122	
(S) Toluene-d8			*97.4*	*80.0-120*	
(S) 4-Bromofluorobenzene			*94.3*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*94.3*	*70.0-130*	

Method Blank (MB)

(MB) R4031079-3 02/06/24 02:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1-Methylnaphthalene	U		0.0000687	0.000250
2-Methylnaphthalene	U		0.0000674	0.000250
(S) Nitrobenzene-d5	*131*			*31.0-160*
(S) 2-Fluorobiphenyl	*134*			*48.0-148*
(S) p-Terphenyl-d14	*130*			*37.0-146*

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

(LCS) R4031079-1 02/06/24 01:34 • (LCSD) R4031079-2 02/06/24 01:51

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 %
1-Methylnaphthalene	0.00200	0.00268	0.00270	134	135	66.0-142			0.744	20
2-Methylnaphthalene	0.00200	0.00268	0.00273	134	137	62.0-136		J4	1.85	20
(S) Nitrobenzene-d5				*132*	*132*	*31.0-160*				
(S) 2-Fluorobiphenyl				*136*	*134*	*48.0-148*				
(S) p-Terphenyl-d14				*127*	*130*	*37.0-146*				

Method Blank (MB)

(MB) R4031645-3 02/08/24 03:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1-Methylnaphthalene	U		0.0000687	0.000250
2-Methylnaphthalene	U		0.0000674	0.000250
(S) Nitrobenzene-d5	*117*			*31.0-160*
(S) 2-Fluorobiphenyl	*96.0*			*48.0-148*
(S) p-Terphenyl-d14	*104*			*37.0-146*

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

(LCS) R4031645-1 02/08/24 02:30 • (LCSD) R4031645-2 02/08/24 02:48

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 %
1-Methylnaphthalene	0.00200	0.00228	0.00223	114	111	66.0-142			2.22	20
2-Methylnaphthalene	0.00200	0.00235	0.00222	117	111	62.0-136			5.69	20
(S) Nitrobenzene-d5				*131*	*112*	*31.0-160*				
(S) 2-Fluorobiphenyl				*109*	*122*	*48.0-148*				
(S) p-Terphenyl-d14				*106*	*62.0*	*37.0-146*				

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).
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J4	The associated batch QC was outside the established quality control range for accuracy.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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: Blair Rollins

Email To: brollins@caerusoilandgas.com

Project Description: Love Ranch 8 Investigation

City/State Collected: Piceance Crk, CO

Please Circle: PT MT CT ET

SDG # L1701357

H006

Phone: (970) 640-6919

Client Project # –

Lab Project # –

Collected by (print): Tristan Schmalz

Site/Facility ID # LOVE RANCH 8

P.O. # –

Collected by (signature): Tristan Schmalz

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

Quote # –

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

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	COGCC Table 915-1 WATER	EC, pH, SAR	Arsenic, Boron	COGCC Table 910-1	1-methylnaphthalene, 2-methylnaphthalene	Remarks	Sample # (lab only)
20240131-XTWP-(LR8-ST-PC-UG02)	Grab	OT	–	01/31/24	9:56	7	X				X		– 01
20240131-XTWP-(LR8-ST-PC-POA)			–		10:22	7	X				X		– 02
20240131-XTWP-(LR8-ST-PC-DG14)			–		10:26	7	X				X		– 03
20240131-XTWP-(LR8-ST-PC-DG13)			–		10:32	7	X				X		– 04
20240131-XTWP-(LR8-ST-PC-DG12)			–		10:40	7	X				X		– 05
20240131-XTWP-(LR8-ST-PC-DG11)			–		10:53	7	X				X		– 06

Tristan Schmalz 1/31/2024

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

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

Tracking # 6193 3527 1841

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

	Date:	Time:		
Relinquished by : (Signature) Tristan Schmalz	1/31/2024	15:45	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	1/31/24	1700	Received by: (Signature)	Temp: DRY °C 0.6+0.2=0.6 Bottles Received: 42
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 2/1/24 Time: 930

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK 2/1

2/1 - NCF-L1701357 CAERUSPCO

R2/R3/R4/RX/EX

Time estimate: oh **Time spent:** oh **Grouping date:** 2 February 2024

Members

Robert Rountree (responsible) CW Chris Ward

~~Due on *8 February 2024 5:00 PM* for target *Done*~~ (Was done by Robert Rountree at 2 February 2024 4:56 PM)

- [ ] Parameter(s) past holding time
- [ ] Temperature not in range
- [ ] Improper container type
- [ ] pH not in range
- [ ] Insufficient sample volume
- [ ] Sample is biphasic
- [x] Vials received with headspace
- [ ] Broken container
- [ ] Sufficient sample remains
- [ ] If broken container: Insufficient packing material around container
- [ ] If broken container: Insufficient packing material inside cooler
- [ ] If broken container: Improper handling by carrier:_____
- [ ] If broken container: Sample was frozen
- [ ] If broken container: Container lid not intact
- [ ] Client informed by Call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

Comments

Robert Rountree *2 February 2024 12:20 AM*

One hcl vial for -02 received with headspace.

Chris Ward *2 February 2024 9:44 AM*

Please proceed with non-headspace vials

Robert Rountree *2 February 2024 4:56 PM*

Done.

2/1 - NCF-L1701357 CAERUSPCO

R2/R3/R4/RX/EX

Time estimate: oh **Time spent:** oh **Grouping date:** 2 February 2024

Members

Robert Rountree (responsible) CW Chris Ward

~~Due on *8 February 2024 5:00 PM* for target *Done*~~ (Was done by Robert Rountree at 2 February 2024 4:56 PM)

- [ ] Parameter(s) past holding time
- [ ] Temperature not in range
- [ ] Improper container type
- [ ] pH not in range
- [ ] Insufficient sample volume
- [ ] Sample is biphasic
- [x] Vials received with headspace
- [ ] Broken container
- [ ] Sufficient sample remains
- [ ] If broken container: Insufficient packing material around container
- [ ] If broken container: Insufficient packing material inside cooler
- [ ] If broken container: Improper handling by carrier:_____
- [ ] If broken container: Sample was frozen
- [ ] If broken container: Container lid not intact
- [ ] Client informed by Call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

Comments

Robert Rountree *2 February 2024 12:20 AM*

One hcl vial for -02 received with headspace.

Chris Ward *2 February 2024 9:44 AM*

Please proceed with non-headspace vials

Robert Rountree *2 February 2024 4:56 PM*

Done.

ANALYTICAL REPORT

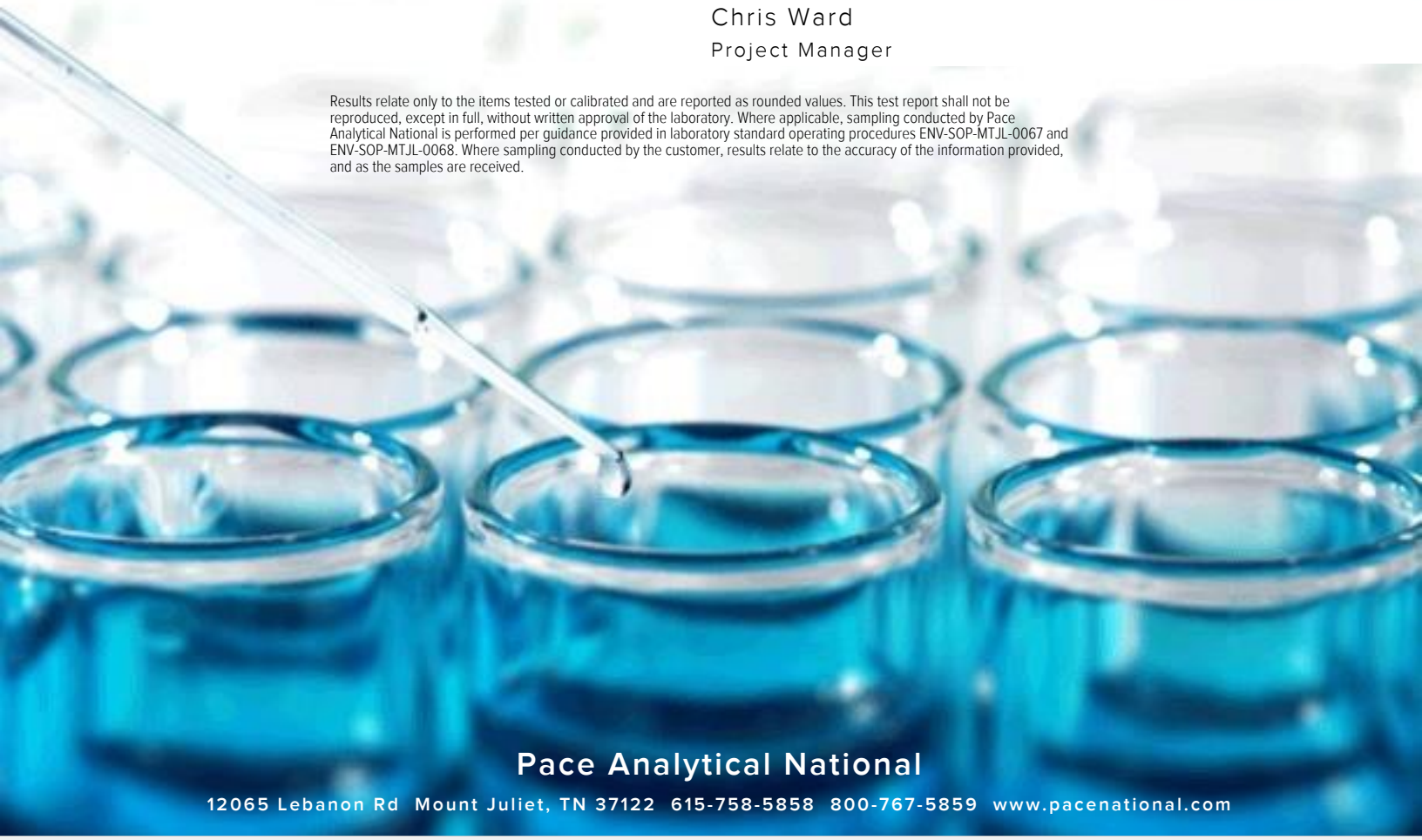
March 05, 2024

Caerus Oil and Gas

Sample Delivery Group:	L1709676
Samples Received:	02/27/2024
Project Number:	
Description:	Love Ranch 8 Investigation
Site:	LOVE RANCH 8
Report To:	Jake J. / Brett M. / Blair R. / Andy V. 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

TABLE OF CONTENTS

SAMPLE SUMMARY

20240226-XTWP-(LR8-ST-PC-UG02) L1709676-01 GW

Collected by: Trevor Lakin | Collected date/time: 02/26/24 08:59 | Received date/time: 02/27/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2237650	1	03/01/24 11:09	03/03/24 11:55	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2235796	1	03/01/24 19:32	03/01/24 19:32	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2237700	1	03/01/24 14:31	03/01/24 14:31	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2235511	1	02/29/24 16:30	02/29/24 22:51	MKM	Mt. Juliet, TN

20240226-XTWP-(LR8-ST-PC-POR) L1709676-02 GW

Collected by: Trevor Lakin | Collected date/time: 02/26/24 09:06 | Received date/time: 02/27/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2237650	1	03/01/24 11:09	03/03/24 11:55	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2235796	1	03/01/24 20:36	03/01/24 20:36	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2235796	10	03/01/24 20:52	03/01/24 20:52	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2237700	1	03/01/24 14:52	03/01/24 14:52	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2235511	1	02/29/24 16:30	02/29/24 23:11	MKM	Mt. Juliet, TN

20240226-XTWP-(LR8-ST-PC-DG14) L1709676-03 GW

Collected by: Trevor Lakin | Collected date/time: 02/26/24 09:13 | Received date/time: 02/27/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2237657	1	03/01/24 11:19	03/02/24 10:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2235796	1	03/01/24 21:08	03/01/24 21:08	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2235796	10	03/01/24 21:23	03/01/24 21:23	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2237700	1	03/01/24 15:13	03/01/24 15:13	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2235511	1	02/29/24 16:30	02/29/24 23:30	MKM	Mt. Juliet, TN

20240226-XTWP-(LR8-ST-PC-DG13) L1709676-04 GW

Collected by: Trevor Lakin | Collected date/time: 02/26/24 09:23 | Received date/time: 02/27/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2237657	1	03/01/24 11:19	03/02/24 10:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2235796	1	03/01/24 21:39	03/01/24 21:39	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2235796	10	03/01/24 21:55	03/01/24 21:55	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2237700	1	03/01/24 15:34	03/01/24 15:34	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2235511	1	02/29/24 16:30	02/29/24 23:50	MKM	Mt. Juliet, TN

20240226-XTWP-(LR8-ST-PC-DG12) L1709676-05 GW

Collected by: Trevor Lakin | Collected date/time: 02/26/24 09:32 | Received date/time: 02/27/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2237657	1	03/01/24 11:19	03/02/24 10:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2235796	1	03/01/24 22:11	03/01/24 22:11	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2235796	10	03/01/24 22:27	03/01/24 22:27	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2237700	1	03/01/24 15:54	03/01/24 15:54	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2235511	1	02/29/24 16:30	03/01/24 00:09	MKM	Mt. Juliet, TN

SAMPLE SUMMARY

20240226-XTWP-(LR8-ST-PC-DG11) L1709676-06 GW

Collected by: Trevor Lakin
Collected date/time: 02/26/24 09:50
Received date/time: 02/27/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2237657	1	03/01/24 11:19	03/02/24 10:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2235796	1	03/01/24 22:43	03/01/24 22:43	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2235796	10	03/01/24 23:31	03/01/24 23:31	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2237700	1	03/01/24 16:15	03/01/24 16:15	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2235511	1	02/29/24 16:30	03/01/24 00:29	MKM	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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	858		20.0	1	03/03/2024 11:55	WG2237650

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	4.23		1.00	1	03/01/2024 19:32	WG2235796
Sulfate	ND		5.00	1	03/01/2024 19:32	WG2235796

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	03/01/2024 14:31	WG2237700
Toluene	ND		0.00100	1	03/01/2024 14:31	WG2237700
Ethylbenzene	ND		0.00100	1	03/01/2024 14:31	WG2237700
Xylenes, Total	ND		0.00300	1	03/01/2024 14:31	WG2237700
Naphthalene	ND		0.00500	1	03/01/2024 14:31	WG2237700
1,2,4-Trimethylbenzene	ND		0.00100	1	03/01/2024 14:31	WG2237700
1,3,5-Trimethylbenzene	ND		0.00100	1	03/01/2024 14:31	WG2237700
(S) Toluene-d8	*115*		*80.0-120*		*03/01/2024 14:31*	WG2237700
(S) 4-Bromofluorobenzene	*109*		*77.0-126*		*03/01/2024 14:31*	WG2237700
(S) 1,2-Dichloroethane-d4	*112*		*70.0-130*		*03/01/2024 14:31*	WG2237700

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	02/29/2024 22:51	WG2235511
2-Methylnaphthalene	ND		0.000250	1	02/29/2024 22:51	WG2235511
(S) Nitrobenzene-d5	*108*		*31.0-160*		*02/29/2024 22:51*	WG2235511
(S) 2-Fluorobiphenyl	*90.5*		*48.0-148*		*02/29/2024 22:51*	WG2235511
(S) p-Terphenyl-d14	*85.8*		*37.0-146*		*02/29/2024 22:51*	WG2235511

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	912		20.0	1	03/03/2024 11:55	WG2237650

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	14.9		1.00	1	03/01/2024 20:36	WG2235796
Sulfate	341		50.0	10	03/01/2024 20:52	WG2235796

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	03/01/2024 14:52	WG2237700
Toluene	ND		0.00100	1	03/01/2024 14:52	WG2237700
Ethylbenzene	ND		0.00100	1	03/01/2024 14:52	WG2237700
Xylenes, Total	ND		0.00300	1	03/01/2024 14:52	WG2237700
Naphthalene	ND		0.00500	1	03/01/2024 14:52	WG2237700
1,2,4-Trimethylbenzene	ND		0.00100	1	03/01/2024 14:52	WG2237700
1,3,5-Trimethylbenzene	ND		0.00100	1	03/01/2024 14:52	WG2237700
(S) Toluene-d8	*116*		*80.0-120*		*03/01/2024 14:52*	WG2237700
(S) 4-Bromofluorobenzene	*108*		*77.0-126*		*03/01/2024 14:52*	WG2237700
(S) 1,2-Dichloroethane-d4	*110*		*70.0-130*		*03/01/2024 14:52*	WG2237700

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	02/29/2024 23:11	WG2235511
2-Methylnaphthalene	ND		0.000250	1	02/29/2024 23:11	WG2235511
(S) Nitrobenzene-d5	*104*		*31.0-160*		*02/29/2024 23:11*	WG2235511
(S) 2-Fluorobiphenyl	*91.1*		*48.0-148*		*02/29/2024 23:11*	WG2235511
(S) p-Terphenyl-d14	*85.8*		*37.0-146*		*02/29/2024 23:11*	WG2235511

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	938		20.0	1	03/02/2024 10:00	WG2237657

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.1		1.00	1	03/01/2024 21:08	WG2235796
Sulfate	337		50.0	10	03/01/2024 21:23	WG2235796

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	03/01/2024 15:13	WG2237700
Toluene	ND		0.00100	1	03/01/2024 15:13	WG2237700
Ethylbenzene	ND		0.00100	1	03/01/2024 15:13	WG2237700
Xylenes, Total	ND		0.00300	1	03/01/2024 15:13	WG2237700
Naphthalene	ND		0.00500	1	03/01/2024 15:13	WG2237700
1,2,4-Trimethylbenzene	ND		0.00100	1	03/01/2024 15:13	WG2237700
1,3,5-Trimethylbenzene	ND		0.00100	1	03/01/2024 15:13	WG2237700
(S) Toluene-d8	*115*		*80.0-120*		*03/01/2024 15:13*	WG2237700
(S) 4-Bromofluorobenzene	*110*		*77.0-126*		*03/01/2024 15:13*	WG2237700
(S) 1,2-Dichloroethane-d4	*112*		*70.0-130*		*03/01/2024 15:13*	WG2237700

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	02/29/2024 23:30	WG2235511
2-Methylnaphthalene	ND		0.000250	1	02/29/2024 23:30	WG2235511
(S) Nitrobenzene-d5	*104*		*31.0-160*		*02/29/2024 23:30*	WG2235511
(S) 2-Fluorobiphenyl	*88.9*		*48.0-148*		*02/29/2024 23:30*	WG2235511
(S) p-Terphenyl-d14	*86.3*		*37.0-146*		*02/29/2024 23:30*	WG2235511

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	940		20.0	1	03/02/2024 10:00	WG2237657

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.2		1.00	1	03/01/2024 21:39	WG2235796
Sulfate	334		50.0	10	03/01/2024 21:55	WG2235796

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	03/01/2024 15:34	WG2237700
Toluene	ND		0.00100	1	03/01/2024 15:34	WG2237700
Ethylbenzene	ND		0.00100	1	03/01/2024 15:34	WG2237700
Xylenes, Total	ND		0.00300	1	03/01/2024 15:34	WG2237700
Naphthalene	ND		0.00500	1	03/01/2024 15:34	WG2237700
1,2,4-Trimethylbenzene	ND		0.00100	1	03/01/2024 15:34	WG2237700
1,3,5-Trimethylbenzene	ND		0.00100	1	03/01/2024 15:34	WG2237700
(S) Toluene-d8	*114*		*80.0-120*		*03/01/2024 15:34*	WG2237700
(S) 4-Bromofluorobenzene	*109*		*77.0-126*		*03/01/2024 15:34*	WG2237700
(S) 1,2-Dichloroethane-d4	*113*		*70.0-130*		*03/01/2024 15:34*	WG2237700

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	02/29/2024 23:50	WG2235511
2-Methylnaphthalene	ND		0.000250	1	02/29/2024 23:50	WG2235511
(S) Nitrobenzene-d5	*105*		*31.0-160*		*02/29/2024 23:50*	WG2235511
(S) 2-Fluorobiphenyl	*92.1*		*48.0-148*		*02/29/2024 23:50*	WG2235511
(S) p-Terphenyl-d14	*85.8*		*37.0-146*		*02/29/2024 23:50*	WG2235511

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	952		20.0	1	03/02/2024 10:00	WG2237657

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.2		1.00	1	03/01/2024 22:11	WG2235796
Sulfate	345		50.0	10	03/01/2024 22:27	WG2235796

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	03/01/2024 15:54	WG2237700
Toluene	ND		0.00100	1	03/01/2024 15:54	WG2237700
Ethylbenzene	ND		0.00100	1	03/01/2024 15:54	WG2237700
Xylenes, Total	ND		0.00300	1	03/01/2024 15:54	WG2237700
Naphthalene	ND		0.00500	1	03/01/2024 15:54	WG2237700
1,2,4-Trimethylbenzene	ND		0.00100	1	03/01/2024 15:54	WG2237700
1,3,5-Trimethylbenzene	ND		0.00100	1	03/01/2024 15:54	WG2237700
(S) Toluene-d8	*118*		*80.0-120*		*03/01/2024 15:54*	WG2237700
(S) 4-Bromofluorobenzene	*110*		*77.0-126*		*03/01/2024 15:54*	WG2237700
(S) 1,2-Dichloroethane-d4	*110*		*70.0-130*		*03/01/2024 15:54*	WG2237700

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	03/01/2024 00:09	WG2235511
2-Methylnaphthalene	ND		0.000250	1	03/01/2024 00:09	WG2235511
(S) Nitrobenzene-d5	*104*		*31.0-160*		*03/01/2024 00:09*	WG2235511
(S) 2-Fluorobiphenyl	*90.5*		*48.0-148*		*03/01/2024 00:09*	WG2235511
(S) p-Terphenyl-d14	*86.3*		*37.0-146*		*03/01/2024 00:09*	WG2235511

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	938		20.0	1	03/02/2024 10:00	WG2237657

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.1		1.00	1	03/01/2024 22:43	WG2235796
Sulfate	338		50.0	10	03/01/2024 23:31	WG2235796

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	03/01/2024 16:15	WG2237700
Toluene	ND		0.00100	1	03/01/2024 16:15	WG2237700
Ethylbenzene	ND		0.00100	1	03/01/2024 16:15	WG2237700
Xylenes, Total	ND		0.00300	1	03/01/2024 16:15	WG2237700
Naphthalene	ND		0.00500	1	03/01/2024 16:15	WG2237700
1,2,4-Trimethylbenzene	ND		0.00100	1	03/01/2024 16:15	WG2237700
1,3,5-Trimethylbenzene	ND		0.00100	1	03/01/2024 16:15	WG2237700
(S) Toluene-d8	*115*		*80.0-120*		*03/01/2024 16:15*	WG2237700
(S) 4-Bromofluorobenzene	*107*		*77.0-126*		*03/01/2024 16:15*	WG2237700
(S) 1,2-Dichloroethane-d4	*110*		*70.0-130*		*03/01/2024 16:15*	WG2237700

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	03/01/2024 00:29	WG2235511
2-Methylnaphthalene	ND		0.000250	1	03/01/2024 00:29	WG2235511
(S) Nitrobenzene-d5	*104*		*31.0-160*		*03/01/2024 00:29*	WG2235511
(S) 2-Fluorobiphenyl	*91.6*		*48.0-148*		*03/01/2024 00:29*	WG2235511
(S) p-Terphenyl-d14	*86.8*		*37.0-146*		*03/01/2024 00:29*	WG2235511

Method Blank (MB)

(MB) R4041216-1 03/03/24 11:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1709587-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1709587-07 03/03/24 11:55 • (DUP) R4041216-3 03/03/24 11:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	457	484	1	5.74		10

L1709587-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1709587-08 03/03/24 11:55 • (DUP) R4041216-4 03/03/24 11:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	476	495	1	3.91		10

Laboratory Control Sample (LCS)

(LCS) R4041216-2 03/03/24 11:55

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8680	98.6	85.0-115	

Method Blank (MB)

(MB) R4041201-1 03/02/24 10:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1710138-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1710138-01 03/02/24 10:00 • (DUP) R4041201-3 03/02/24 10:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	413	429	1	3.80		10

L1710741-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1710741-02 03/02/24 10:00 • (DUP) R4041201-4 03/02/24 10:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1090	1140	1	4.31		10

Laboratory Control Sample (LCS)

(LCS) R4041201-2 03/02/24 10:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8910	101	85.0-115	

Method Blank (MB)

(MB) R4041159-1 03/01/24 10:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Sulfate	U		0.594	5.00

L1709592-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1709592-01 03/01/24 17:57 • (DUP) R4041159-3 03/01/24 18:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4.14	4.06	1	1.96		15
Sulfate	ND	ND	1	14.1		15

L1709698-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1709698-06 03/02/24 01:06 • (DUP) R4041159-6 03/02/24 01:22

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	5.70	5.67	1	0.419		15
Sulfate	17.0	17.0	1	0.208		15

Laboratory Control Sample (LCS)

(LCS) R4041159-2 03/01/24 10:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.7	99.3	80.0-120	
Sulfate	40.0	40.7	102	80.0-120	

L1709592-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1709592-01 03/01/24 17:57 • (MS) R4041159-4 03/01/24 18:28 • (MSD) R4041159-5 03/01/24 18:44

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 %
Chloride	40.0	4.14	43.8	43.6	99.1	98.7	1	80.0-120			0.333	15
Sulfate	40.0	ND	42.0	41.7	101	101	1	80.0-120			0.819	15

L1709698-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1709698-06 03/02/24 01:06 • (MS) R4041159-7 03/02/24 01:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	5.70	45.1	98.4	1	80.0-120	
Sulfate	40.0	17.0	55.7	96.7	1	80.0-120	

Method Blank (MB)

(MB) R4040517-3 03/01/24 10:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
(S) Toluene-d8	*118*			*80.0-120*
(S) 4-Bromofluorobenzene	*109*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*

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

(LCS) R4040517-1 03/01/24 09:54 • (LCSD) R4040517-2 03/01/24 10:15

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 %
Benzene	0.00500	0.00471	0.00479	94.2	95.8	70.0-123			1.68	20
Toluene	0.00500	0.00482	0.00481	96.4	96.2	79.0-120			0.208	20
Ethylbenzene	0.00500	0.00485	0.00468	97.0	93.6	79.0-123			3.57	20
Xylenes, Total	0.0150	0.0141	0.0141	94.0	94.0	79.0-123			0.000	20
Naphthalene	0.00500	0.00352	0.00352	70.4	70.4	54.0-135			0.000	20
1,2,4-Trimethylbenzene	0.00500	0.00472	0.00472	94.4	94.4	76.0-121			0.000	20
1,3,5-Trimethylbenzene	0.00500	0.00493	0.00511	98.6	102	76.0-122			3.59	20
(S) Toluene-d8				*116*	*115*	*80.0-120*				
(S) 4-Bromofluorobenzene				*107*	*109*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*112*	*109*	*70.0-130*				

L1709688-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1709688-08 03/01/24 19:04 • (MS) R4040517-4 03/01/24 19:25 • (MSD) R4040517-5 03/01/24 19:46

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 %
Benzene	0.00500	ND	0.00431	0.00409	86.2	81.8	1	17.0-158			5.24	27
Toluene	0.00500	ND	0.00449	0.00428	89.8	85.6	1	26.0-154			4.79	28
Ethylbenzene	0.00500	ND	0.00463	0.00420	92.6	84.0	1	30.0-155			9.74	27
Xylenes, Total	0.0150	ND	0.0134	0.0129	89.3	86.0	1	29.0-154			3.80	28
Naphthalene	0.00500	ND	ND	ND	73.0	80.4	1	12.0-156			9.65	35
1,2,4-Trimethylbenzene	0.00500	ND	0.00444	0.00453	88.8	90.6	1	26.0-154			2.01	27
1,3,5-Trimethylbenzene	0.00500	ND	0.00478	0.00471	95.6	94.2	1	28.0-153			1.48	27

L1709688-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1709688-08 03/01/24 19:04 • (MS) R4040517-4 03/01/24 19:25 • (MSD) R4040517-5 03/01/24 19:46

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 %
(S) Toluene-d8					*115*	*116*		*80.0-120*				
(S) 4-Bromofluorobenzene					*106*	*108*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*112*	*109*		*70.0-130*				

Method Blank (MB)

(MB) R4041253-3 02/29/24 21:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1-Methylnaphthalene	U		0.0000687	0.000250
2-Methylnaphthalene	U		0.0000674	0.000250
(S) Nitrobenzene-d5	*102*			*31.0-160*
(S) 2-Fluorobiphenyl	*88.0*			*48.0-148*
(S) p-Terphenyl-d14	*81.5*			*37.0-146*

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

(LCS) R4041253-1 02/29/24 20:35 • (LCSD) R4041253-2 02/29/24 20:55

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 %
1-Methylnaphthalene	0.00200	0.00216	0.00203	108	102	66.0-142			6.21	20
2-Methylnaphthalene	0.00200	0.00216	0.00206	108	103	62.0-136			4.74	20
(S) Nitrobenzene-d5				*115*	*113*	*31.0-160*				
(S) 2-Fluorobiphenyl				*100*	*91.0*	*48.0-148*				
(S) p-Terphenyl-d14				*90.5*	*83.0*	*37.0-146*				

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

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

Report to: Blair Rollins

Email To: brollins@caerusoilandgas.com

Project Description: Love Ranch 8 Investigation

City/State Collected: Piceance Crk, CO

Please Circle: PT (MT) CT ET

Phone: (970) 640-6919

Client Project # –

Lab Project # –

Collected by (print): Trevor Lakin

Site/Facility ID # Love Ranch 8

P.O. # –

Collected by (signature): Trevor Lakin

Immediately Packed on Ice N ___ Y X

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

Quote # –

Date Results Needed: Standard TAT

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	COGCC Table 915-1 WATER	EC, pH, SAR	Arsenic, Boron	COGCC Table 910-1	1-methylnaphthalene, 2-methylnaphthalene						
20240226-XTWP-(LR8-ST-PC-UGOT)	Grab	OT	–	2/26/24	8:59	7	X				XX						-01
20240226-XTWP-(LR8-ST-PC-POR)			–		9:06	7	X				XX						-02
20240226-XTWP-(LR8-ST-PC-DG14)			–		9:13	7	X				XX						-03
20240226-XTWP-(LR8-ST-PC-DG13)			–		9:23	7	X				XX						-04
20240226-XTWP-(LR8-ST-PC-DG12)			–		9:32	7	X				XX						-05
20240226-XTWP-(LR8-ST-PC-DG11)			–		9:50	7	X				XX						-06

Trevor Lakin 2/26/24

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

SDG # 709676

B126

Acctnum:

Template:

Prelogin:

PM:

PB:

Shipped Via:

Remarks | Sample # (lab only)

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

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

Tracking # 6426 8307 0241

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Trevor Lakin	2/26/24	13:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	2/26/24	1500	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Zach Wolf

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

Temp: °C Bottles Received: DPA9 4.5 7 6 2 4.5

Date: 2-27-24 Time: 9:00

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

ANALYTICAL REPORT

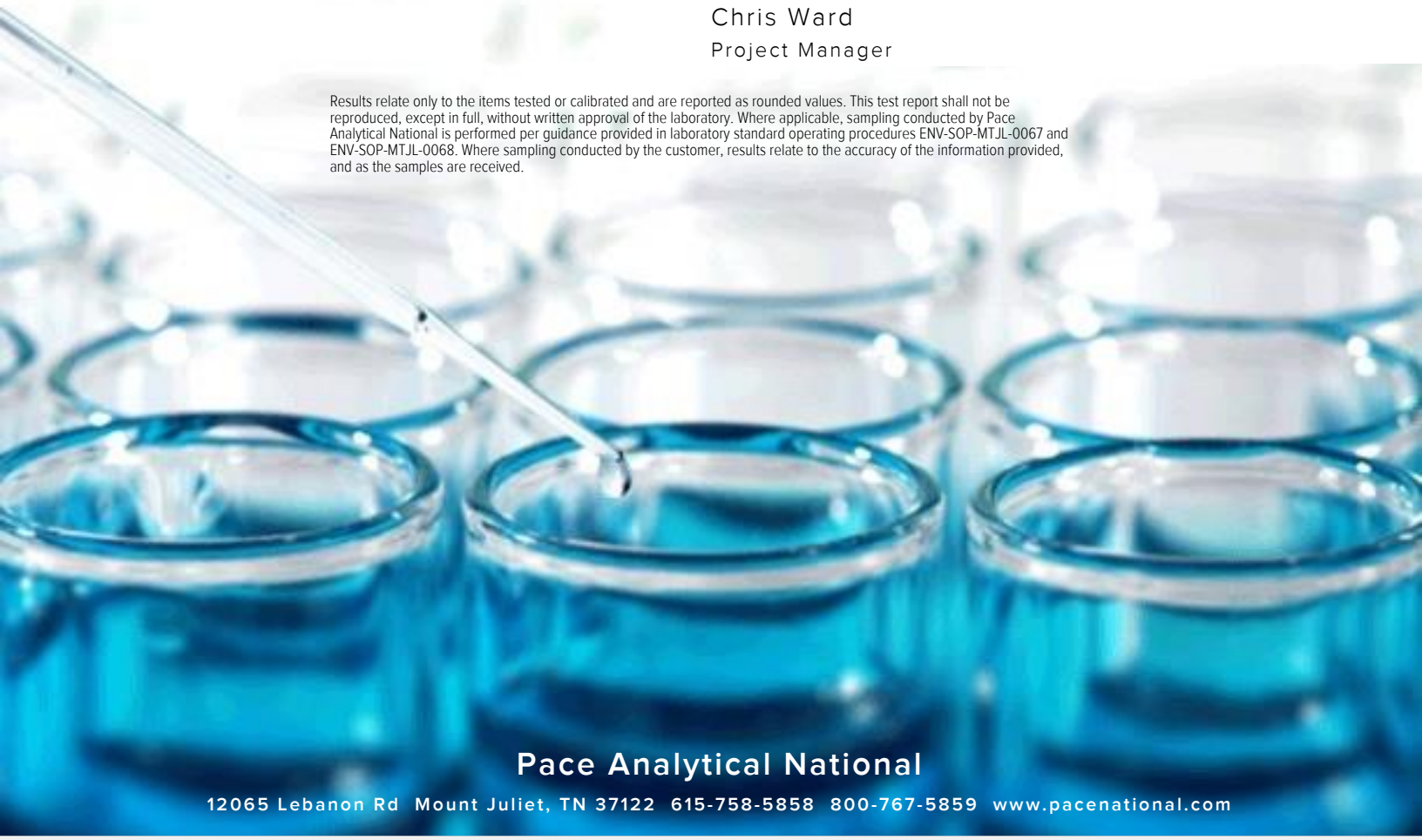
April 11, 2024

Caerus Oil and Gas

Sample Delivery Group:	L1720332
Samples Received:	03/29/2024
Project Number:	
Description:	Love Ranch 8 Investigation
Site:	LOVE RANCH 8
Report To:	Jake J. / Brett M. / Blair R. / Andy V. 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

TABLE OF CONTENTS

20240327-XTWP-(LR8-PZ02) L1720332-01 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 10:00 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257770	1	04/01/24 16:16	04/03/24 11:52	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 14:06	04/02/24 14:06	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	10	04/02/24 14:19	04/02/24 14:19	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 16:52	04/01/24 16:52	JBE	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 06:24	JCH	Mt. Juliet, TN

20240327-XTWP-(LR8-PZ01) L1720332-02 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 11:08 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257780	1	04/01/24 10:48	04/01/24 22:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 14:32	04/02/24 14:32	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	10	04/02/24 14:45	04/02/24 14:45	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 17:35	04/01/24 17:35	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 06:42	JCH	Mt. Juliet, TN

20240327-XTWP-(LR8-MW04) L1720332-03 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 12:01 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257770	1	04/01/24 16:16	04/03/24 11:52	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 14:57	04/02/24 14:57	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	5	04/02/24 15:10	04/02/24 15:10	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 17:57	04/01/24 17:57	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 07:00	JCH	Mt. Juliet, TN

20240327-XTWP-(LR8-MW03) L1720332-04 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 12:52 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257770	1	04/01/24 16:16	04/03/24 11:52	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 15:23	04/02/24 15:23	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	10	04/02/24 15:36	04/02/24 15:36	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 18:18	04/01/24 18:18	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 07:17	JCH	Mt. Juliet, TN

20240327-XTWP-(LR8-PZ04) L1720332-05 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 13:48 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257780	1	04/01/24 10:48	04/01/24 22:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 15:49	04/02/24 15:49	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	10	04/02/24 16:27	04/02/24 16:27	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 18:40	04/01/24 18:40	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 07:35	JCH	Mt. Juliet, TN

20240327-XTWP-(LR8-PZ05) L1720332-06 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 15:04 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2262741	1	04/08/24 16:09	04/09/24 08:23	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 16:40	04/02/24 16:40	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	10	04/02/24 16:53	04/02/24 16:53	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 19:02	04/01/24 19:02	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 07:53	JCH	Mt. Juliet, TN

20240327-XTWP-(LR8-PZ03) L1720332-07 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 15:38 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257780	1	04/01/24 10:48	04/01/24 22:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 17:06	04/02/24 17:06	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	10	04/02/24 17:18	04/02/24 17:18	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 19:23	04/01/24 19:23	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 08:11	JCH	Mt. Juliet, TN

20240327-XTWP-(LR8-MW02) L1720332-08 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 16:19 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257780	1	04/01/24 10:48	04/01/24 22:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	10	04/02/24 17:44	04/02/24 17:44	DLH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 19:45	04/01/24 19:45	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 08:28	JCH	Mt. Juliet, TN

20240327-XTWP-(LR8-MW01) L1720332-09 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 16:59 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257780	1	04/01/24 10:48	04/01/24 22:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 17:57	04/02/24 17:57	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2261564	10	04/06/24 06:26	04/06/24 06:26	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 20:06	04/01/24 20:06	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 08:46	JCH	Mt. Juliet, TN

20240327-XTWP-(LR8-ST-PC-UG02) L1720332-10 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 09:43 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257770	1	04/01/24 16:16	04/03/24 11:52	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 18:10	04/02/24 18:10	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2261564	10	04/06/24 06:41	04/06/24 06:41	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 20:28	04/01/24 20:28	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 09:04	JCH	Mt. Juliet, TN

20240327-XTWP-(LR8-ST-PC-POR) L1720332-11 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 09:59 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257770	1	04/01/24 16:16	04/03/24 11:52	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 18:22	04/02/24 18:22	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2261564	10	04/06/24 06:56	04/06/24 06:56	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 20:49	04/01/24 20:49	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 09:22	JCH	Mt. Juliet, TN

20240327-XTWP-(LR8-ST-PC-DG14) L1720332-12 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 10:22 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257780	1	04/01/24 10:48	04/01/24 22:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 19:01	04/02/24 19:01	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2261564	10	04/06/24 07:10	04/06/24 07:10	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 21:11	04/01/24 21:11	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 09:46	DSH	Mt. Juliet, TN

20240327-XTWP-(LR8-ST-PC-DG13) L1720332-13 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 10:29 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257780	1	04/01/24 10:48	04/01/24 22:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 19:14	04/02/24 19:14	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2261564	10	04/06/24 07:25	04/06/24 07:25	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 21:32	04/01/24 21:32	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 10:04	DSH	Mt. Juliet, TN

20240327-XTWP-(LR8-ST-PC-DG12) L1720332-14 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 10:41 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257780	1	04/01/24 10:48	04/01/24 22:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 19:26	04/02/24 19:26	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2261564	10	04/06/24 08:10	04/06/24 08:10	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 21:54	04/01/24 21:54	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 10:22	DSH	Mt. Juliet, TN

20240327-XTWP-(LR8-ST-PC-DG11) L1720332-15 GW

Collected by: Tristan Schmalz | Collected date/time: 03/27/24 14:25 | Received date/time: 03/29/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2257782	1	04/01/24 11:49	04/01/24 18:40	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2258451	1	04/02/24 19:39	04/02/24 19:39	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2261564	10	04/06/24 08:25	04/06/24 08:25	GEB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2258112	1	04/01/24 22:15	04/01/24 22:15	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2259953	1	04/03/24 20:11	04/04/24 10:40	DSH	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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1440		25.0	1	04/03/2024 11:52	WG2257770

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	37.8		1.00	1	04/02/2024 14:06	WG2258451
Sulfate	609		50.0	10	04/02/2024 14:19	WG2258451

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/01/2024 16:52	WG2258112
Toluene	ND		0.00100	1	04/01/2024 16:52	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 16:52	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 16:52	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 16:52	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 16:52	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 16:52	WG2258112
(S) Toluene-d8	*96.1*		*80.0-120*		*04/01/2024 16:52*	WG2258112
(S) 4-Bromofluorobenzene	*92.9*		*77.0-126*		*04/01/2024 16:52*	WG2258112
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*04/01/2024 16:52*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 06:24	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 06:24	WG2259953
(S) Nitrobenzene-d5	*106*		*31.0-160*		*04/04/2024 06:24*	WG2259953
(S) 2-Fluorobiphenyl	*110*		*48.0-148*		*04/04/2024 06:24*	WG2259953
(S) p-Terphenyl-d14	*114*		*37.0-146*		*04/04/2024 06:24*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1830		50.0	1	04/01/2024 22:41	WG2257780

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	43.5		1.00	1	04/02/2024 14:32	WG2258451
Sulfate	767		50.0	10	04/02/2024 14:45	WG2258451

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/01/2024 17:35	WG2258112
Toluene	ND		0.00100	1	04/01/2024 17:35	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 17:35	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 17:35	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 17:35	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 17:35	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 17:35	WG2258112
(S) Toluene-d8	*95.2*		*80.0-120*		*04/01/2024 17:35*	WG2258112
(S) 4-Bromofluorobenzene	*94.5*		*77.0-126*		*04/01/2024 17:35*	WG2258112
(S) 1,2-Dichloroethane-d4	*124*		*70.0-130*		*04/01/2024 17:35*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 06:42	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 06:42	WG2259953
(S) Nitrobenzene-d5	*102*		*31.0-160*		*04/04/2024 06:42*	WG2259953
(S) 2-Fluorobiphenyl	*104*		*48.0-148*		*04/04/2024 06:42*	WG2259953
(S) p-Terphenyl-d14	*108*		*37.0-146*		*04/04/2024 06:42*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1190		20.0	1	04/03/2024 11:52	WG2257770

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	30.5		1.00	1	04/02/2024 14:57	WG2258451
Sulfate	458		25.0	5	04/02/2024 15:10	WG2258451

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	04/01/2024 17:57	WG2258112
Toluene	ND		0.00100	1	04/01/2024 17:57	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 17:57	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 17:57	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 17:57	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 17:57	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 17:57	WG2258112
(S) Toluene-d8	*96.4*		*80.0-120*		*04/01/2024 17:57*	WG2258112
(S) 4-Bromofluorobenzene	*94.0*		*77.0-126*		*04/01/2024 17:57*	WG2258112
(S) 1,2-Dichloroethane-d4	*124*		*70.0-130*		*04/01/2024 17:57*	WG2258112

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 07:00	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 07:00	WG2259953
(S) Nitrobenzene-d5	*102*		*31.0-160*		*04/04/2024 07:00*	WG2259953
(S) 2-Fluorobiphenyl	*106*		*48.0-148*		*04/04/2024 07:00*	WG2259953
(S) p-Terphenyl-d14	*110*		*37.0-146*		*04/04/2024 07:00*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1490		25.0	1	04/03/2024 11:52	WG2257770

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	75.1		1.00	1	04/02/2024 15:23	WG2258451
Sulfate	717		50.0	10	04/02/2024 15:36	WG2258451

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/01/2024 18:18	WG2258112
Toluene	ND		0.00100	1	04/01/2024 18:18	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 18:18	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 18:18	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 18:18	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 18:18	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 18:18	WG2258112
(S) Toluene-d8	*96.6*		*80.0-120*		*04/01/2024 18:18*	WG2258112
(S) 4-Bromofluorobenzene	*94.2*		*77.0-126*		*04/01/2024 18:18*	WG2258112
(S) 1,2-Dichloroethane-d4	*122*		*70.0-130*		*04/01/2024 18:18*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 07:17	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 07:17	WG2259953
(S) Nitrobenzene-d5	*101*		*31.0-160*		*04/04/2024 07:17*	WG2259953
(S) 2-Fluorobiphenyl	*106*		*48.0-148*		*04/04/2024 07:17*	WG2259953
(S) p-Terphenyl-d14	*111*		*37.0-146*		*04/04/2024 07:17*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1750		50.0	1	04/01/2024 22:41	WG2257780

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	70.0		1.00	1	04/02/2024 15:49	WG2258451
Sulfate	642		50.0	10	04/02/2024 16:27	WG2258451

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	0.00140		0.00100	1	04/01/2024 18:40	WG2258112
Toluene	ND		0.00100	1	04/01/2024 18:40	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 18:40	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 18:40	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 18:40	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 18:40	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 18:40	WG2258112
(S) Toluene-d8	*93.9*		*80.0-120*		*04/01/2024 18:40*	WG2258112
(S) 4-Bromofluorobenzene	*92.4*		*77.0-126*		*04/01/2024 18:40*	WG2258112
(S) 1,2-Dichloroethane-d4	*127*		*70.0-130*		*04/01/2024 18:40*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 07:35	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 07:35	WG2259953
(S) Nitrobenzene-d5	*103*		*31.0-160*		*04/04/2024 07:35*	WG2259953
(S) 2-Fluorobiphenyl	*101*		*48.0-148*		*04/04/2024 07:35*	WG2259953
(S) p-Terphenyl-d14	*110*		*37.0-146*		*04/04/2024 07:35*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1640	Q	50.0	1	04/09/2024 08:23	WG2262741

Sample Narrative:

L1720332-06 WG2262741: Sample rerun due to conductivity and TDS measurement mismatch with in hold run

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	95.0		1.00	1	04/02/2024 16:40	WG2258451
Sulfate	657		50.0	10	04/02/2024 16:53	WG2258451

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	04/01/2024 19:02	WG2258112
Toluene	ND		0.00100	1	04/01/2024 19:02	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 19:02	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 19:02	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 19:02	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 19:02	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 19:02	WG2258112
(S) Toluene-d8	*95.1*		*80.0-120*		*04/01/2024 19:02*	WG2258112
(S) 4-Bromofluorobenzene	*92.4*		*77.0-126*		*04/01/2024 19:02*	WG2258112
(S) 1,2-Dichloroethane-d4	*129*		*70.0-130*		*04/01/2024 19:02*	WG2258112

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 07:53	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 07:53	WG2259953
(S) Nitrobenzene-d5	*106*		*31.0-160*		*04/04/2024 07:53*	WG2259953
(S) 2-Fluorobiphenyl	*108*		*48.0-148*		*04/04/2024 07:53*	WG2259953
(S) p-Terphenyl-d14	*112*		*37.0-146*		*04/04/2024 07:53*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1830		50.0	1	04/01/2024 22:41	WG2257780

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	93.0		1.00	1	04/02/2024 17:06	WG2258451
Sulfate	754		50.0	10	04/02/2024 17:18	WG2258451

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/01/2024 19:23	WG2258112
Toluene	ND		0.00100	1	04/01/2024 19:23	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 19:23	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 19:23	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 19:23	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 19:23	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 19:23	WG2258112
(S) Toluene-d8	*95.8*		*80.0-120*		*04/01/2024 19:23*	WG2258112
(S) 4-Bromofluorobenzene	*91.8*		*77.0-126*		*04/01/2024 19:23*	WG2258112
(S) 1,2-Dichloroethane-d4	*127*		*70.0-130*		*04/01/2024 19:23*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 08:11	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 08:11	WG2259953
(S) Nitrobenzene-d5	*103*		*31.0-160*		*04/04/2024 08:11*	WG2259953
(S) 2-Fluorobiphenyl	*108*		*48.0-148*		*04/04/2024 08:11*	WG2259953
(S) p-Terphenyl-d14	*112*		*37.0-146*		*04/04/2024 08:11*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2530		50.0	1	04/01/2024 22:41	WG2257780

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	192		10.0	10	04/02/2024 17:44	WG2258451
Sulfate	1070		50.0	10	04/02/2024 17:44	WG2258451

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/01/2024 19:45	WG2258112
Toluene	ND		0.00100	1	04/01/2024 19:45	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 19:45	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 19:45	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 19:45	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 19:45	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 19:45	WG2258112
(S) Toluene-d8	*93.8*		*80.0-120*		*04/01/2024 19:45*	WG2258112
(S) 4-Bromofluorobenzene	*94.3*		*77.0-126*		*04/01/2024 19:45*	WG2258112
(S) 1,2-Dichloroethane-d4	*128*		*70.0-130*		*04/01/2024 19:45*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 08:28	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 08:28	WG2259953
(S) Nitrobenzene-d5	*104*		*31.0-160*		*04/04/2024 08:28*	WG2259953
(S) 2-Fluorobiphenyl	*108*		*48.0-148*		*04/04/2024 08:28*	WG2259953
(S) p-Terphenyl-d14	*111*		*37.0-146*		*04/04/2024 08:28*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1400		25.0	1	04/01/2024 22:41	WG2257780

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	31.9		1.00	1	04/02/2024 17:57	WG2258451
Sulfate	363		50.0	10	04/06/2024 06:26	WG2261564

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/01/2024 20:06	WG2258112
Toluene	ND		0.00100	1	04/01/2024 20:06	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 20:06	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 20:06	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 20:06	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 20:06	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 20:06	WG2258112
(S) Toluene-d8	*92.5*		*80.0-120*		*04/01/2024 20:06*	WG2258112
(S) 4-Bromofluorobenzene	*90.8*		*77.0-126*		*04/01/2024 20:06*	WG2258112
(S) 1,2-Dichloroethane-d4	*131*	J1	*70.0-130*		*04/01/2024 20:06*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 08:46	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 08:46	WG2259953
(S) Nitrobenzene-d5	*105*		*31.0-160*		*04/04/2024 08:46*	WG2259953
(S) 2-Fluorobiphenyl	*107*		*48.0-148*		*04/04/2024 08:46*	WG2259953
(S) p-Terphenyl-d14	*108*		*37.0-146*		*04/04/2024 08:46*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	840		20.0	1	04/03/2024 11:52	WG2257770

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	14.8		1.00	1	04/02/2024 18:10	WG2258451
Sulfate	346		50.0	10	04/06/2024 06:41	WG2261564

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/01/2024 20:28	WG2258112
Toluene	ND		0.00100	1	04/01/2024 20:28	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 20:28	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 20:28	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 20:28	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 20:28	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 20:28	WG2258112
(S) Toluene-d8	*95.6*		*80.0-120*		*04/01/2024 20:28*	WG2258112
(S) 4-Bromofluorobenzene	*91.1*		*77.0-126*		*04/01/2024 20:28*	WG2258112
(S) 1,2-Dichloroethane-d4	*129*		*70.0-130*		*04/01/2024 20:28*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 09:04	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 09:04	WG2259953
(S) Nitrobenzene-d5	*105*		*31.0-160*		*04/04/2024 09:04*	WG2259953
(S) 2-Fluorobiphenyl	*105*		*48.0-148*		*04/04/2024 09:04*	WG2259953
(S) p-Terphenyl-d14	*111*		*37.0-146*		*04/04/2024 09:04*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	876		20.0	1	04/03/2024 11:52	WG2257770

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	14.7		1.00	1	04/02/2024 18:22	WG2258451
Sulfate	342		50.0	10	04/06/2024 06:56	WG2261564

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/01/2024 20:49	WG2258112
Toluene	ND		0.00100	1	04/01/2024 20:49	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 20:49	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 20:49	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 20:49	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 20:49	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 20:49	WG2258112
(S) Toluene-d8	*94.7*		*80.0-120*		*04/01/2024 20:49*	WG2258112
(S) 4-Bromofluorobenzene	*94.0*		*77.0-126*		*04/01/2024 20:49*	WG2258112
(S) 1,2-Dichloroethane-d4	*132*	J1	*70.0-130*		*04/01/2024 20:49*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 09:22	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 09:22	WG2259953
(S) Nitrobenzene-d5	*109*		*31.0-160*		*04/04/2024 09:22*	WG2259953
(S) 2-Fluorobiphenyl	*109*		*48.0-148*		*04/04/2024 09:22*	WG2259953
(S) p-Terphenyl-d14	*113*		*37.0-146*		*04/04/2024 09:22*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	950		20.0	1	04/01/2024 22:41	WG2257780

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	14.7		1.00	1	04/02/2024 19:01	WG2258451
Sulfate	339		50.0	10	04/06/2024 07:10	WG2261564

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	0.00109		0.00100	1	04/01/2024 21:11	WG2258112
Toluene	ND		0.00100	1	04/01/2024 21:11	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 21:11	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 21:11	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 21:11	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 21:11	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 21:11	WG2258112
(S) Toluene-d8	*94.0*		*80.0-120*		*04/01/2024 21:11*	WG2258112
(S) 4-Bromofluorobenzene	*91.4*		*77.0-126*		*04/01/2024 21:11*	WG2258112
(S) 1,2-Dichloroethane-d4	*130*		*70.0-130*		*04/01/2024 21:11*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 09:46	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 09:46	WG2259953
(S) Nitrobenzene-d5	*122*		*31.0-160*		*04/04/2024 09:46*	WG2259953
(S) 2-Fluorobiphenyl	*102*		*48.0-148*		*04/04/2024 09:46*	WG2259953
(S) p-Terphenyl-d14	*104*		*37.0-146*		*04/04/2024 09:46*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	918		20.0	1	04/01/2024 22:41	WG2257780

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	14.8		1.00	1	04/02/2024 19:14	WG2258451
Sulfate	337		50.0	10	04/06/2024 07:25	WG2261564

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/01/2024 21:32	WG2258112
Toluene	ND		0.00100	1	04/01/2024 21:32	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 21:32	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 21:32	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 21:32	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 21:32	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 21:32	WG2258112
(S) Toluene-d8	*93.5*		*80.0-120*		*04/01/2024 21:32*	WG2258112
(S) 4-Bromofluorobenzene	*92.4*		*77.0-126*		*04/01/2024 21:32*	WG2258112
(S) 1,2-Dichloroethane-d4	*132*	J1	*70.0-130*		*04/01/2024 21:32*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 10:04	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 10:04	WG2259953
(S) Nitrobenzene-d5	*121*		*31.0-160*		*04/04/2024 10:04*	WG2259953
(S) 2-Fluorobiphenyl	*102*		*48.0-148*		*04/04/2024 10:04*	WG2259953
(S) p-Terphenyl-d14	*103*		*37.0-146*		*04/04/2024 10:04*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	910		20.0	1	04/01/2024 22:41	WG2257780

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.0		1.00	1	04/02/2024 19:26	WG2258451
Sulfate	336		50.0	10	04/06/2024 08:10	WG2261564

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/01/2024 21:54	WG2258112
Toluene	ND		0.00100	1	04/01/2024 21:54	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 21:54	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 21:54	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 21:54	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 21:54	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 21:54	WG2258112
(S) Toluene-d8	*94.9*		*80.0-120*		*04/01/2024 21:54*	WG2258112
(S) 4-Bromofluorobenzene	*90.8*		*77.0-126*		*04/01/2024 21:54*	WG2258112
(S) 1,2-Dichloroethane-d4	*135*	J1	*70.0-130*		*04/01/2024 21:54*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 10:22	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 10:22	WG2259953
(S) Nitrobenzene-d5	*117*		*31.0-160*		*04/04/2024 10:22*	WG2259953
(S) 2-Fluorobiphenyl	*98.9*		*48.0-148*		*04/04/2024 10:22*	WG2259953
(S) p-Terphenyl-d14	*101*		*37.0-146*		*04/04/2024 10:22*	WG2259953

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	920		20.0	1	04/01/2024 18:40	WG2257782

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.4		1.00	1	04/02/2024 19:39	WG2258451
Sulfate	342		50.0	10	04/06/2024 08:25	WG2261564

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/01/2024 22:15	WG2258112
Toluene	ND		0.00100	1	04/01/2024 22:15	WG2258112
Ethylbenzene	ND		0.00100	1	04/01/2024 22:15	WG2258112
Xylenes, Total	ND		0.00300	1	04/01/2024 22:15	WG2258112
Naphthalene	ND		0.00500	1	04/01/2024 22:15	WG2258112
1,2,4-Trimethylbenzene	ND		0.00100	1	04/01/2024 22:15	WG2258112
1,3,5-Trimethylbenzene	ND		0.00100	1	04/01/2024 22:15	WG2258112
(S) Toluene-d8	*92.4*		*80.0-120*		*04/01/2024 22:15*	WG2258112
(S) 4-Bromofluorobenzene	*92.1*		*77.0-126*		*04/01/2024 22:15*	WG2258112
(S) 1,2-Dichloroethane-d4	*133*	J1	*70.0-130*		*04/01/2024 22:15*	WG2258112

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1-Methylnaphthalene	ND		0.000250	1	04/04/2024 10:40	WG2259953
2-Methylnaphthalene	ND		0.000250	1	04/04/2024 10:40	WG2259953
(S) Nitrobenzene-d5	*117*		*31.0-160*		*04/04/2024 10:40*	WG2259953
(S) 2-Fluorobiphenyl	*99.5*		*48.0-148*		*04/04/2024 10:40*	WG2259953
(S) p-Terphenyl-d14	*101*		*37.0-146*		*04/04/2024 10:40*	WG2259953

Method Blank (MB)

(MB) R4053914-1 04/03/24 11:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1719531-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1719531-04 04/03/24 11:52 • (DUP) R4053914-3 04/03/24 11:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	945	984	1	4.01		10

L1719531-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1719531-05 04/03/24 11:52 • (DUP) R4053914-4 04/03/24 11:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	545	562	1	3.07		10

Laboratory Control Sample (LCS)

(LCS) R4053914-2 04/03/24 11:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8640	98.2	85.0-115	

Method Blank (MB)

(MB) R4053467-1 04/01/24 22:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1719465-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1719465-02 04/01/24 22:41 • (DUP) R4053467-3 04/01/24 22:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	505	529	1	4.64		10

L1719531-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1719531-08 04/01/24 22:41 • (DUP) R4053467-4 04/01/24 22:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1150	1160	1	0.692		10

Laboratory Control Sample (LCS)

(LCS) R4053467-2 04/01/24 22:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8810	100	85.0-115	

Method Blank (MB)

(MB) R4053968-1 04/01/24 18:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1720245-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1720245-01 04/01/24 18:40 • (DUP) R4053968-3 04/01/24 18:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	360	364	1	1.10		10

L1720245-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1720245-02 04/01/24 18:40 • (DUP) R4053968-4 04/01/24 18:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	632	652	1	3.12		10

Laboratory Control Sample (LCS)

(LCS) R4053968-2 04/01/24 18:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8490	96.5	85.0-115	

Method Blank (MB)

(MB) R4056224-1 04/09/24 08:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1720682-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1720682-07 04/09/24 08:23 • (DUP) R4056224-3 04/09/24 08:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	932	956	1	2.54		10

Sample Narrative:

OS: reran due to conductivity and TDS measurement mismatch.

Laboratory Control Sample (LCS)

(LCS) R4056224-2 04/09/24 08:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8730	99.2	85.0-115	

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

Method Blank (MB)

(MB) R4054382-1 04/02/24 09:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Sulfate	U		0.594	5.00

L1720134-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1720134-22 04/02/24 12:24 • (DUP) R4054382-3 04/02/24 12:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	198	193	5	2.54		15
Sulfate	511	493	5	3.61		15

L1720332-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1720332-15 04/02/24 19:39 • (DUP) R4054382-6 04/02/24 19:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	15.4	14.8	1	3.83		15

Laboratory Control Sample (LCS)

(LCS) R4054382-2 04/02/24 09:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	38.7	96.8	80.0-120	
Sulfate	40.0	35.9	89.8	80.0-120	

L1720134-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1720134-22 04/02/24 12:24 • (MS) R4054382-4 04/02/24 12:49 • (MSD) R4054382-5 04/02/24 13:02

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 %
Chloride	40.0	198	205	199	15.5	2.53	5	80.0-120	V	V	2.56	15
Sulfate	40.0	511	497	480	0.000	0.000	5	80.0-120	V	V	3.40	15

L1720332-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L1720332-15 04/02/24 19:39 • (MS) R4054382-7 04/02/24 20:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	15.4	53.2	94.4	1	80.0-120	

Method Blank (MB)

(MB) R4054719-1 04/05/24 23:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.594	5.00

L1722270-26 Original Sample (OS) • Duplicate (DUP)

(OS) L1722270-26 04/05/24 23:58 • (DUP) R4054719-3 04/06/24 00:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate		ND	1	0.272		15

L1719218-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1719218-01 04/06/24 04:11 • (DUP) R4054719-5 04/06/24 04:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	7.14	7.12	1	0.244		15

Sample Narrative:

OS: NO3 out of hold but QC passing.

Laboratory Control Sample (LCS)

(LCS) R4054719-2 04/05/24 23:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	42.1	105	80.0-120	

L1722270-26 Original Sample (OS) • Matrix Spike (MS)

(OS) L1722270-26 04/05/24 23:58 • (MS) R4054719-4 04/06/24 00:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0		40.1	93.1	1	80.0-120	

Sample Narrative:

MS: CL/NO3 spike failed due to sample matrix

L1719218-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1719218-01 04/06/24 04:11 • (MS) R4054719-6 04/06/24 05:11 • (MSD) R4054719-7 04/06/24 05:26

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 %
Sulfate	40.0	7.14	46.3	46.1	97.8	97.5	1	80.0-120			0.289	15

Sample Narrative:

OS: NO3 out of hold but QC passing.

Method Blank (MB)

(MB) R4052397-2 04/01/24 15:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
(S) Toluene-d8	*94.4*			*80.0-120*
(S) 4-Bromofluorobenzene	*95.8*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4052397-1 04/01/24 15:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00509	102	70.0-123	
Toluene	0.00500	0.00436	87.2	79.0-120	
Ethylbenzene	0.00500	0.00421	84.2	79.0-123	
Xylenes, Total	0.0150	0.0134	89.3	79.0-123	
Naphthalene	0.00500	0.00409	81.8	54.0-135	
1,2,4-Trimethylbenzene	0.00500	0.00509	102	76.0-121	
1,3,5-Trimethylbenzene	0.00500	0.00526	105	76.0-122	
(S) Toluene-d8			*92.6*	*80.0-120*	
(S) 4-Bromofluorobenzene			*91.3*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*121*	*70.0-130*	

Method Blank (MB)

(MB) R4053610-3 04/04/24 02:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1-Methylnaphthalene	U		0.0000687	0.000250
2-Methylnaphthalene	U		0.0000674	0.000250
(S) Nitrobenzene-d5	*120*			*31.0-160*
(S) 2-Fluorobiphenyl	*98.5*			*48.0-148*
(S) p-Terphenyl-d14	*100*			*37.0-146*

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

(LCS) R4053610-1 04/04/24 02:02 • (LCSD) R4053610-2 04/04/24 02:20

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 %
1-Methylnaphthalene	0.00200	0.00241	0.00226	120	113	66.0-142			6.42	20
2-Methylnaphthalene	0.00200	0.00233	0.00218	117	109	62.0-136			6.65	20
(S) Nitrobenzene-d5				*136*	*122*	*31.0-160*				
(S) 2-Fluorobiphenyl				*107*	*100*	*48.0-148*				
(S) p-Terphenyl-d14				*98.5*	*89.0*	*37.0-146*				

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
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
Q	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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

Report to: Blair Rollins

Email To: brollins@caerusoilandgas.com

Project Description: LOVE RANCH 8 Investigation

City/State Collected: Piceance Crk, CO

Please Circle: PT (MT) CT ET

Phone: (970) 640-6919

Client Project #

Lab Project #

Collected by (print): Tristan Schmalz

Site/Facility ID #: LOVE RANCH 8

P.O. #

Collected by (signature): Tristan Schmalz

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed: Standard TAT

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	ECMC Table 915-1 water	1-Methylnaphthalene, 2-Methylnaphthalene								Remarks	Sample # (lab only)
20240327-XTWP-(LRS-PZ02)	Grab	GW	-	3/27/24	10:00	7	X	X									01
20240327-XTWP-(LRS-PZ01)	Grab	GW	-	3/27/24	11:08	7	X	X									02
[illegible]		FB			12:01	7	X	X									
20240327-XTWP-(LRS-MW04)	Grab	GW	-	3/27/24	12:01	7	X	X									03
20240327-XTWP-(LRS-MW03)	Grab	GW	-	3/27/24	12:52	7	X	X									04
20240327-XTWP-(LRS-PZ04)	Grab	GW	-	3/27/24	13:48	7	X	X									05
20240327-XTWP-(LRS-PZ05)	Grab	GW	-	3/27/24	15:08	7	X	X									06
20240327-XTWP-(LRS-PZ03)	Grab	GW	-	3/27/24	15:38	7	X	X									07
20240327-XTWP-(LRS-MW02)	Grab	GW	-	3/27/24	16:19	7	X	X									08
20240327-XTWP-(LRS-MW01)	Grab	GW	-	3/27/24	16:59	7	X	X									09

* 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 #

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

SDG # L720332

Table # M009

Acctnum:

Template:

Prelogin:

PM:

PB:

Shipped Via:

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	If preservation required by Login: Date/Time
Tristan Schmalz	3/29/2024	12:30			
Relinquished by : (Signature)	Date: 3/28/24	Time: 1300	Received by: (Signature)	Temp: °C Bottles Received: 123	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 3-29-24 Time: 0930	Hold: Condition: NCF / OK

Caerus Oil and Gas
143 Diamond Avenue
Parachute, CO 81635

Billing Information: SAME AS LEFT

Report to: Blair Rollins

Email To: brollins@caerusoilandgas.com

Project Description: LOVE RANCH 8 INVESTIGATION

City/State Collected: Piceance Crk, CO

Please Circle: PT (MT) CT ET

Phone: (970) 640-6919

Client Project #

Lab Project #

Collected by (print): Tristan Schmalz

Site/Facility ID #: LOVE RANCH 8

P.O. #

Collected by (signature): Tristan Schmalz

Immediately Packed on Ice N ____ Y X

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

Quote #

Date Results Needed: Standard TAT

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	ECMC Table 915-1 Water	1-Methylnaphthalene, 2-Methylnaphthalene								Remarks	Sample # (lab only)
20240327-XTWP-(LRB-SS-PC-UG02)	Grab	OT	–	3/27/24	9:43	7	x	x									10
20240327-XTWP-(LRB-SS-PC-[illegible])	TS																
20240327-XTWP-(LRB-SS-PC-POR)	Grab	OT	–	3/27/24	9:59	7	x	x									11
20240327-XTWP-(LRB-SS-PC-DG14)			–		10:22		x	x									12
20240327-XTWP-(LRB-SS-PC-DG13)			–		10:29		x	x									13
20240327-XTWP-(LRB-SS-PC-DG12)			–		10:41		x	x									14
20240327-XTWP-(LRB-SS-PC-DG11)			–		14:25		x	x									15

Tristan Schmalz

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

SDG # L1720332

Table # M009

Acctnum:

Template:

Prelogin:

PM:

PB:

Shipped Via:

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Tristan Schmalz	3/28/2024	12:30			
Relinquished by : (Signature)	Date: 3/28/24	Time: 1300	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 3-29-24 Time: 0930	Hold: Condition: NCF / OK

Tracking Numbers	[redacted]	TLA7 Temperature
6426 8307 0540		1.4 + 0.1 = 1.5
6426 8306 8322		2.1 + 0.1 = 2.2
6426 8306 8311		3.1 + 0.1 = 3.2

Name

Date