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 Caerus Oil & Gas LLC (Operator #: 10456)  
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## Report of Work Completed – Spill Investigation

<b>COGCC Location Name (ID)</b>	SAVAGE-67S94W /5NWSW (335007)
<b>Operator Location Name</b>	5L
<b>COGCC Spill/Release Point Name</b>	Savage (Rulison) 5L
<b>COGCC Spill/Release Point ID</b>	482116
<b>Legal Description</b>	NWSW Sec. 5 T7S-R94W
<b>Coordinates (Lat/Long)</b>	39.465037 / -107.914359

Mr. Janicek,

Confluence Compliance Companies, LLC (Confluence) prepared this Report of Work Completed (ROWC) for Caerus Oil & Gas LLC (Caerus) to document remedial investigation activities associated with a recent produced water release at the 5L well pad (Location). The Location is 7.3 miles east of Parachute, Colorado, in Garfield County as illustrated in the attached Topographic Map. Additional information on the Location and the associated remediation project is provided in the title block above, the attached Site Diagrams, and laboratory analytical reports. This ROWC provides background on the Location, methods used to complete the remedial investigation, results of the investigation, and recommendations for how to proceed with this information.

### Background

On May 4, 2022, a produced water release was discovered while conducting separator calibration. The line was isolated, and the leak was stopped. The release was confined to the working surface of the pad and was reported in a Colorado Oil and Gas Conservation Commission (COGCC) Form 19 Document 403038068.

### Methodology

On May 19, 2022, Confluence coordinated and oversaw initial site investigation activities associated with the recent release at the Location. Using a hydro vacuum truck, the point of release (POR) was exposed and identified as flowline associated with the westernmost separator. One soil sample was collected from the POR. The soil sample was characterized using visual and olfactory observations and field-screened for volatile organic compounds using a photoionization detector (PID). The PID measurement of the POR sample was 2,823 parts per million (ppm). The sample demonstrated a hydrocarbon odor, but no notable staining was observed within the excavation or the sample.

Six potholes were also advanced using a hydrovac to characterize the extent of olfactory soil impacts in each cardinal direction. One soil sample was collected from the terminus of three of the six potholes: PHW, PHE3, and PHN. A soil sample could not be collected from the southern pothole (PHS) due to the presence of large rocks. Soil samples were not collected from potholes PHE and PHE2 as field screening and characterization indicated soil impacts in these areas. A sample was collected from PHE3 to demonstrate the eastern extent of the observed impacts. PID measurements of the collected pothole soil samples ranged from 4.6 ppm in PHW to 13.5 ppm in PHN.

All soil samples were collected in laboratory provided jars, immediately placed on ice, and shipped for laboratory analysis of constituents listed in COGCC Table 915-1 for soil. Excavation extents and soil sample locations are presented in the attached Site Diagram.

## Results

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

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

### Lithology and Hydrogeology

Lithology at the Location is characterized by sand with gravel to sandy clay. Groundwater is expected to flow northeast toward Cache Creek and ultimately to the Colorado River, located 1.8 miles north of the Location.

Depth to groundwater at the Location is estimated to be approximately 170 feet below ground surface based on Division of Water Resources (DWR) Permit 320331 located 934 feet northeast of the site.

### Initial Assessment Results

Laboratory results of initial characterization of the POR soil sample indicate compliance with COGCC Table 915-1 Residential Soil Screening Levels with the exception of total petroleum hydrocarbons (TPH), xylenes, electrical conductivity (EC), sodium adsorption ration (SAR), boron, and arsenic. TPH exceeds allowable limits at 3,788 milligrams per kilogram (mg/kg), and xylenes exceed allowable limits at 104 mg/kg. EC exceeds allowable limits at 4.660 millimhos per centimeter (mmhos/cm), SAR exceeds at 59.3, boron exceeds at 2.180 mg/L, and arsenic exceeds at 4.69 mg/kg.

Laboratory results of pothole samples indicate compliance with COGCC Table 915-1 Residential Soil Screening Levels with the exception of pH and arsenic. Arsenic exceedances range from 3.63 to 4.82 mg/kg, and pH exceedances range from 8.41 to 8.42.

## Analysis and Recommendations

Additional soil sample collection is warranted to delineate organic impacts to the south and inorganic impacts to the east and west. It is reasonable to assume that an assessment of background conditions at the Location will prove the arsenic concentrations within the spill area are consistent with naturally occurring concentrations. Due to the rocks that were encountered during initial investigation, a hydrovac no longer appears to be a viable method for sample collection.

Based on the measured static water level in domestic water well registered as DWR Permit 320331, it is Confluence's understanding that a reasonable pathway to groundwater does not exist. For this reason, Confluence recommends that Caerus request to compare analytical results of site investigation to COGCC Table 915-1 Residential Standards.

Based on these results and analyses, Confluence recommends that Caerus request a reduced analyte list of TPH, xylenes, SSR constituents, and arsenic. Confluence also recommends the collection of background soil samples to characterize the native levels of inorganic constituents of concern prior to additional characterization.

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

Regards,

Chris McKisson  
Managing Partner  
(720) 490-6758  
[chris.mckisson@confluence-cc.com](mailto:chris.mckisson@confluence-cc.com)

## Attachments

- Topographic Location Diagram
- Site Diagram – Excavation and Soil Sample Locations
- Analytical Results Summary Table - Soil
- Laboratory Reports



## Topographic Location Map

Caerus Oil and Gas LLC

5L

(SAVAGE-67S94W /5NWSW)

COGCC Location ID: 335007

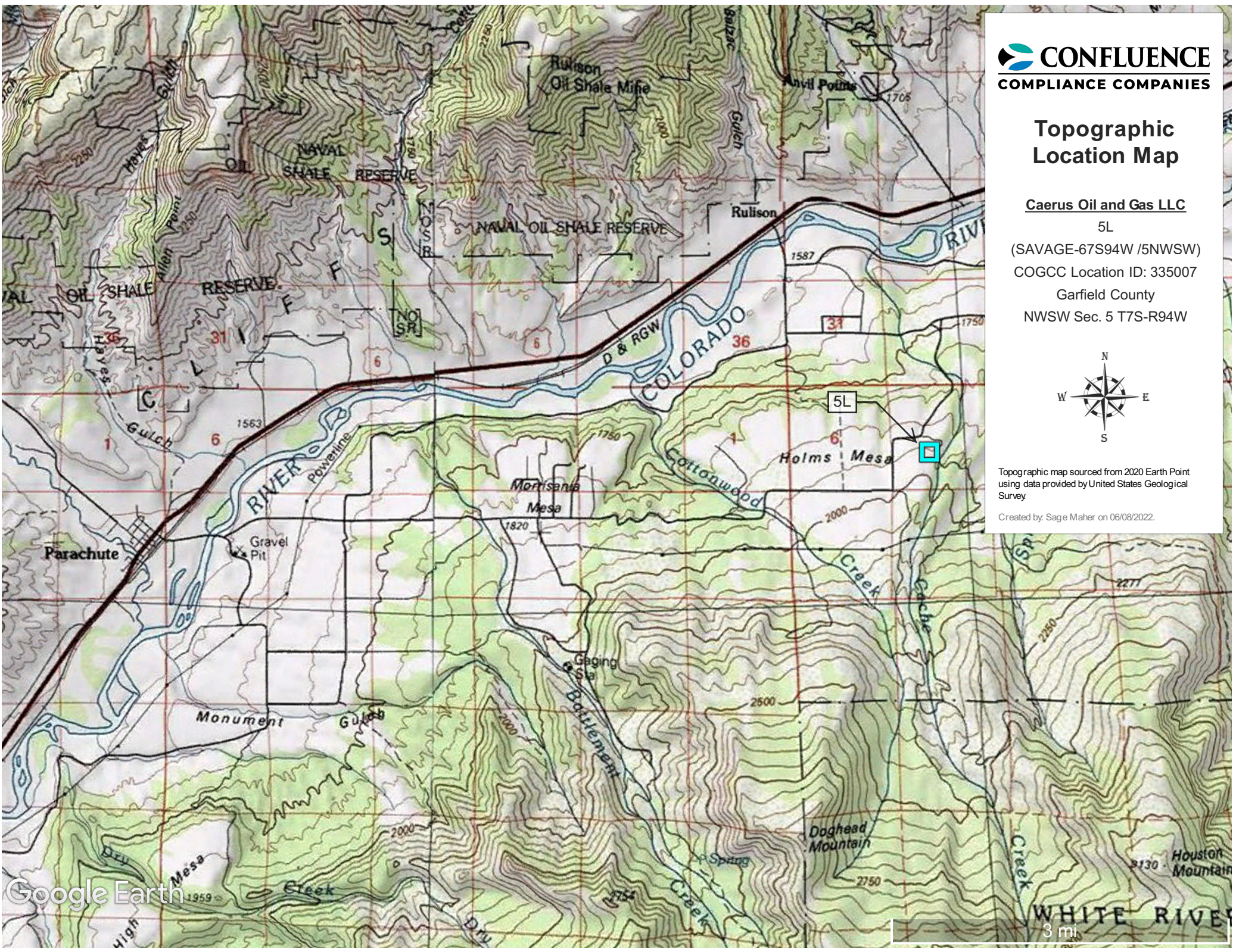
Garfield County

NWSW Sec. 5 T7S-R94W



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

Created by: Sage Maher on 06/08/2022.



## Site Diagram Spill Investigation

Caerus Oil and Gas LLC

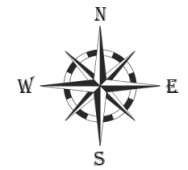
5L

(SAVAGE-67S94W /5NWSW)




COGCC Location ID: 335007

Garfield County

NWSW Sec. 5 T7S-R94W

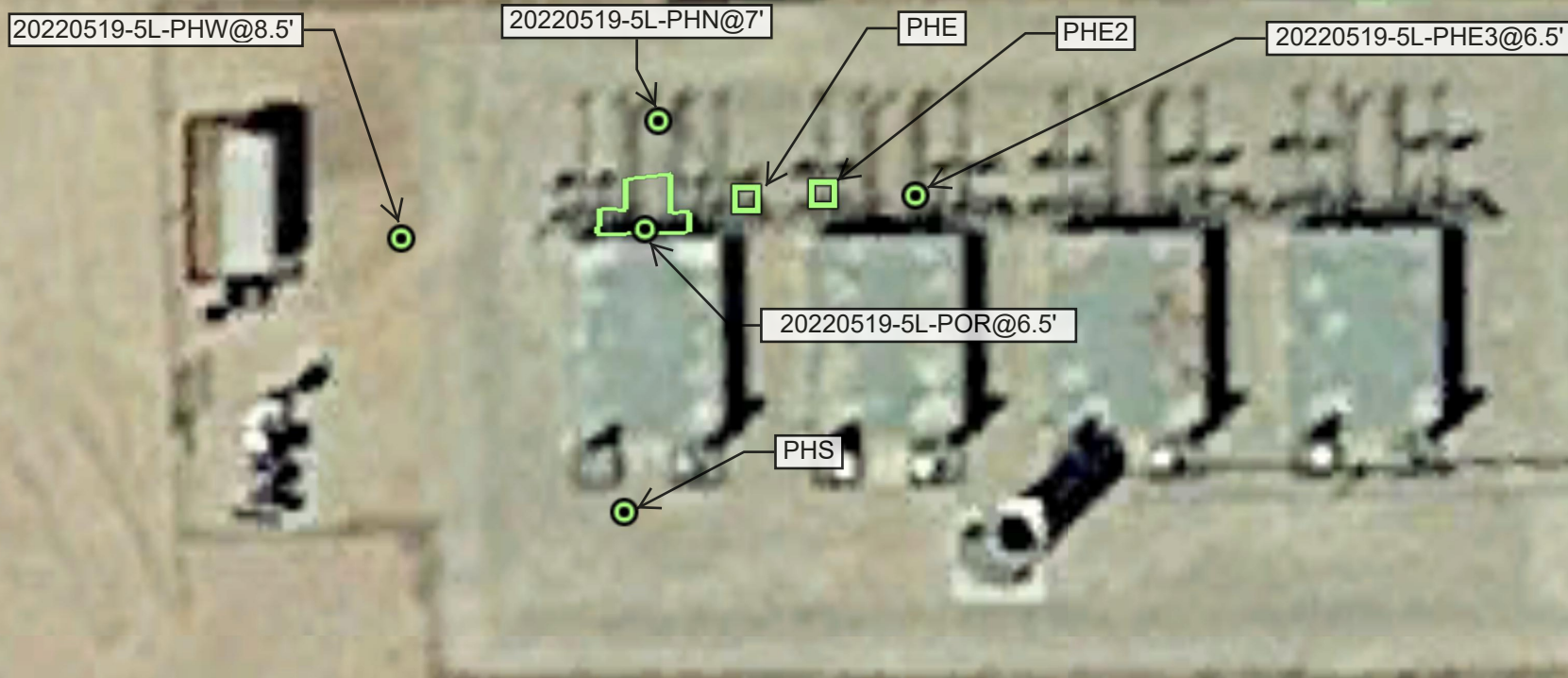


### Legend

-  Soil Sample – 05/19/2022
-  Pothole – 05/19/2022 (no sample)
-  Excavation Extent – 05/19/2022

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

Map created by: Chris McKisson on 06/14/2022.




Soil Screening and Remediation Limits			Organic Compounds (mg/kg [ppm])																			
COGCC Table 915-1 Groundwater Protection -->			NA	500	NA	NA	NA	0.0026	0.69	0.78	9.9	0.0081	0.0087	0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9
COGCC Table 915-1 Residential -->			NA	500	NA	NA	NA	1.2	490	5.8	58	30	27	360	1800	1.1	0.11	1.1	11	110	0.11	240
Sample Date	Solid/Soil Source (Equipment [Vault/Slump, Separator, Tank Battery, Dump Line, Plt, Cuttings, Background, etc.]	Sample ID	PID (ppm)	TPH (total volatile and extractable petroleum hydrocarbons) (GRO+DRO+ORO)	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C28) High Fraction	TPH-ORO (C28-C38) High Fraction	Benzene	Toluene	Ethylbenzene	Xylenes - total (sum of o-, m-, p- isomers)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Acenaphthene	Anthracene	Benzo(A)anthracene	Benzo(A)pyrene	Benzo(B)fluoranthene	Benzo(K)fluoranthene	Chrysene	Dibenzo(A,H)anthracene	Fluoranthene
5/19/2022	Dumpline	20220519-5L-POR@6'	3205	3788	798	<20.0	0.192	2.27	0.200	104	26.9	27.0	0.0323	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
5/19/2022	Dumpline	20220519-5L-PHW@8.5'	4.6	ND	<0.100	<4.00	<4.00	0.00168	0.0250	<0.00250	0.0742	0.00620	0.00535	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
5/19/2022	Dumpline	20220519-5L-PHE3@6.5'	5.1	6.98	<0.100	<4.00	6.98	<0.00100	<0.00500	<0.00250	0.0350	0.00528	0.00655	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
5/19/2022	Dumpline	20220519-5L-PHN@7'	13.5	5.43	1.15	<4.00	4.28	0.00188	<0.00500	<0.00250	0.0638	0.0143	0.0144	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600

Soil Screening and Remediation Limits										Soil Suitability for Reclamation				Metals (mg/kg (ppm))									
COGCC Table 915-1 Groundwater Protection -->			NA	0.54	0.98	0.006	0.019	0.0038	1.3	4	6	6-8.3	2	0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
COGCC Table 915-1 Residential -->			NA	240	1.1	18	24	2	180	4	6	6-8.3	2	0.68	15000	71	0.3	3100	400	1500	390	390	23000
Sample Date	Soil/Soil Source (Equipment) <small>(Vault/Sump, Separator, Tank, Battery, Dump Line, Pit, Cuttings, Background, etc.)</small>	Sample ID	PID (ppm)	Fluorene	Indeno(1,2,3-C,D)pyrene	1- Methyl/naphthalene	2- Methyl/naphthalene	Naphthalene	Pyrene	EC (Specific Conductance) (millimhos/centimeter) (by saturated paste method)	SAR (Sodium Adsorption Ratio) (calculation) (by saturated paste method)	pH (pH Units) (by saturated paste method)	Boron - Hot Water Soluble (mg/L)	Arsenic	Barium	Cadmium (mg/kg)	Chromium (VI)	Copper	Lead	Nickel	Selenium	Silver	Zinc
5/19/2022	Dumpline	20220519-SL-POR@6'	3205	0.0798	<0.00600	0.745	2.30	0.758	<0.00600	4.660	59.3	8.29	2.180	4.69	609	<0.500	<1.00	15.4	9.54	24.8	<2.00	<1.00	40.1
5/19/2022	Dumpline	20220519-SL-PHW@8.5'	4.6	<0.00600	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.223	0.557	8.41	<0.200	3.63	177	<0.500	<1.00	15.2	7.33	27.7	<2.00	<1.00	28.9
5/19/2022	Dumpline	20220519-SL-PHE3@6.5'	5.1	<0.00600	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.222	0.627	8.42	<0.200	4.54	144	<0.500	<1.00	17.1	8.14	33.2	<2.00	<1.00	36.1
5/19/2022	Dumpline	20220519-SL-PHN@7'	13.5	<0.00600	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.236	0.633	8.20	0.207	4.82	171	<0.500	<1.00	14.0	10.8	21.5	<2.00	<1.00	42.8

**Caerus Oil and Gas**

Sample Delivery Group: L1496498  
Samples Received: 05/20/2022  
Project Number:  
Description: Rulison 5L  
Site: RULISON 5L  
Report To: Brett Middleton  
143 Diamond Avenue  
Parachute, CO 81635

Entire Report Reviewed By:



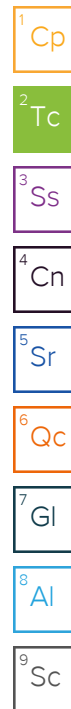
Chris Ward  
Project Manager

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

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

# TABLE OF CONTENTS

<b>Cp: Cover Page</b>	1
<b>Tc: Table of Contents</b>	2
<b>Ss: Sample Summary</b>	3
<b>Cn: Case Narrative</b>	5
<b>Sr: Sample Results</b>	6
20220519-SL-POR@6' L1496498-01	6
20220519-SL-PHW@8.5' L1496498-02	8
20220519-SL-PHE3@6.5' L1496498-03	10
20220519-SL-PHN@7' L1496498-04	12
<b>Qc: Quality Control Summary</b>	14
Wet Chemistry by Method 7199	14
Wet Chemistry by Method 9045D	15
Wet Chemistry by Method 9050AMod	16
Metals (ICP) by Method 6010B	17
Metals (ICP) by Method 6010B-NE493 Ch 2	18
Metals (ICPMS) by Method 6020	19
Volatile Organic Compounds (GC) by Method 8015D/GRO	20
Volatile Organic Compounds (GC/MS) by Method 8260B	22
Semi-Volatile Organic Compounds (GC) by Method 8015M	23
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	24
<b>Gl: Glossary of Terms</b>	26
<b>Al: Accreditations &amp; Locations</b>	27
<b>Sc: Sample Chain of Custody</b>	28



# SAMPLE SUMMARY

## 20220519-SL-POR@6' L1496498-01 Solid

Collected by: Alex Slorby  
 Collected date/time: 05/19/22 08:05  
 Received date/time: 05/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1869122	1	05/26/22 14:28	05/26/22 14:28	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1869754	1	05/25/22 18:00	05/26/22 15:26	SCM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1869997	1	05/26/22 10:00	05/27/22 10:20	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1869906	1	05/26/22 11:20	05/26/22 18:54	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1870541	1	05/27/22 07:34	05/27/22 12:26	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1869120	1	05/25/22 00:36	05/26/22 15:28	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1870542	5	05/27/22 07:30	05/27/22 13:41	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1868796	1000	05/23/22 15:41	05/24/22 18:50	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1869139	80	05/23/22 15:41	05/25/22 07:07	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1872685	5	06/02/22 09:28	06/02/22 14:25	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1871688	1	05/30/22 17:02	05/31/22 07:13	AMG	Mt. Juliet, TN

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

## 20220519-SL-PHW@8.5' L1496498-02 Solid

Collected by: Alex Slorby  
 Collected date/time: 05/19/22 11:20  
 Received date/time: 05/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1869122	1	05/26/22 14:31	05/26/22 14:31	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1869754	1	05/25/22 18:00	05/26/22 15:31	SCM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1869997	1	05/26/22 10:00	05/27/22 10:20	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1869906	1	05/26/22 11:20	05/26/22 18:54	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1870541	1	05/27/22 07:34	05/27/22 12:28	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1869120	1	05/25/22 00:36	05/26/22 15:31	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1870542	5	05/27/22 07:30	05/27/22 13:44	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1868642	1	05/23/22 15:41	05/24/22 12:47	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1869139	1	05/23/22 15:41	05/25/22 05:51	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1872685	1	06/02/22 09:28	06/02/22 13:06	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1871688	1	05/30/22 17:02	05/31/22 07:31	AMG	Mt. Juliet, TN

## 20220519-SL-PHE3@6.5' L1496498-03 Solid

Collected by: Alex Slorby  
 Collected date/time: 05/19/22 12:15  
 Received date/time: 05/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1869122	1	05/26/22 14:34	05/26/22 14:34	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1869754	1	05/25/22 18:00	05/26/22 15:37	SCM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1869997	1	05/26/22 10:00	05/27/22 10:20	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1869906	1	05/26/22 11:20	05/26/22 18:54	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1870541	1	05/27/22 07:34	05/27/22 12:31	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1869120	1	05/25/22 00:36	05/26/22 15:33	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1870542	5	05/27/22 07:30	05/27/22 13:48	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1868642	1	05/23/22 15:41	05/24/22 13:07	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1869139	1	05/23/22 15:41	05/25/22 06:10	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1872685	1	06/02/22 09:28	06/02/22 13:45	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1871688	1	05/30/22 17:02	05/31/22 07:48	AMG	Mt. Juliet, TN

## 20220519-SL-PHN@7' L1496498-04 Solid

Collected by: Alex Slorby  
 Collected date/time: 05/19/22 12:55  
 Received date/time: 05/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1869122	1	05/26/22 14:37	05/26/22 14:37	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1869754	1	05/25/22 18:00	05/26/22 15:42	SCM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1869997	1	05/26/22 10:00	05/27/22 10:20	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1869906	1	05/26/22 11:20	05/26/22 18:54	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1870541	1	05/27/22 07:34	05/27/22 12:34	CCE	Mt. Juliet, TN

# SAMPLE SUMMARY

20220519-SL-PHN@7' L1496498-04 Solid

Collected by: Alex Slorby  
 Collected date/time: 05/19/22 12:55  
 Received date/time: 05/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1869120	1	05/25/22 00:36	05/26/22 15:36	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1870542	5	05/27/22 07:30	05/27/22 13:51	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1868642	1	05/23/22 15:41	05/24/22 13:28	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1869139	1	05/23/22 15:41	05/25/22 06:29	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1872685	1	06/02/22 09:28	06/02/22 13:19	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1871688	1	05/30/22 17:02	05/31/22 08:06	AMG	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

# 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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	59.3		1	05/26/2022 14:28	WG1869122

## Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	05/26/2022 15:26	<a href="#">WG1869754</a>

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.29	<u>T8</u>	1	05/27/2022 10:20	<a href="#">WG1869997</a>

## Sample Narrative:

L1496498-01 WG1869997: 8.29 at 20.4C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	4660		10.0	1	05/26/2022 18:54	<a href="#">WG1869906</a>

## Sample Narrative:

L1496498-01 WG1869906: at 25C

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	609		0.500	1	05/27/2022 12:26	<a href="#">WG1870541</a>
Cadmium	ND		0.500	1	05/27/2022 12:26	<a href="#">WG1870541</a>
Copper	15.4		2.00	1	05/27/2022 12:26	<a href="#">WG1870541</a>
Lead	9.54		0.500	1	05/27/2022 12:26	<a href="#">WG1870541</a>
Nickel	24.8		2.00	1	05/27/2022 12:26	<a href="#">WG1870541</a>
Selenium	ND		2.00	1	05/27/2022 12:26	<a href="#">WG1870541</a>
Silver	ND		1.00	1	05/27/2022 12:26	<a href="#">WG1870541</a>
Zinc	40.1		5.00	1	05/27/2022 12:26	<a href="#">WG1870541</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	2.18		0.200	1	05/26/2022 15:28	<a href="#">WG1869120</a>

## Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	4.69		1.00	5	05/27/2022 13:41	<a href="#">WG1870542</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	2990		100	1000	05/24/2022 18:50	<a href="#">WG1868796</a>
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	85.8		77.0-120		05/24/2022 18:50	<a href="#">WG1868796</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.192		0.0800	80	05/25/2022 07:07	<a href="#">WG1869139</a>
Toluene	2.27		0.400	80	05/25/2022 07:07	<a href="#">WG1869139</a>
Ethylbenzene	0.200		0.200	80	05/25/2022 07:07	<a href="#">WG1869139</a>
Xylenes, Total	104		0.520	80	05/25/2022 07:07	<a href="#">WG1869139</a>
1,2,4-Trimethylbenzene	26.9		0.400	80	05/25/2022 07:07	<a href="#">WG1869139</a>
1,3,5-Trimethylbenzene	27.0		0.400	80	05/25/2022 07:07	<a href="#">WG1869139</a>
(S) Toluene-d8	100		75.0-131		05/25/2022 07:07	<a href="#">WG1869139</a>
(S) 4-Bromofluorobenzene	102		67.0-138		05/25/2022 07:07	<a href="#">WG1869139</a>
(S) 1,2-Dichloroethane-d4	102		70.0-130		05/25/2022 07:07	<a href="#">WG1869139</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	798		20.0	5	06/02/2022 14:25	<a href="#">WG1872685</a>
C28-C36 Motor Oil Range	ND		20.0	5	06/02/2022 14:25	<a href="#">WG1872685</a>
(S) o-Terphenyl	116		18.0-148		06/02/2022 14:25	<a href="#">WG1872685</a>

## Sample Narrative:

L1496498-01 WG1872685: Dilution due to matrix.

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.0323		0.00600	1	05/31/2022 07:13	<a href="#">WG1871688</a>
Anthracene	ND		0.00600	1	05/31/2022 07:13	<a href="#">WG1871688</a>
Benzo(a)anthracene	ND		0.00600	1	05/31/2022 07:13	<a href="#">WG1871688</a>
Benzo(b)fluoranthene	ND		0.00600	1	05/31/2022 07:13	<a href="#">WG1871688</a>
Benzo(k)fluoranthene	ND		0.00600	1	05/31/2022 07:13	<a href="#">WG1871688</a>
Benzo(a)pyrene	ND		0.00600	1	05/31/2022 07:13	<a href="#">WG1871688</a>
Chrysene	ND		0.00600	1	05/31/2022 07:13	<a href="#">WG1871688</a>
Dibenz(a,h)anthracene	ND		0.00600	1	05/31/2022 07:13	<a href="#">WG1871688</a>
Fluoranthene	ND		0.00600	1	05/31/2022 07:13	<a href="#">WG1871688</a>
Fluorene	0.0798		0.00600	1	05/31/2022 07:13	<a href="#">WG1871688</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/31/2022 07:13	<a href="#">WG1871688</a>
1-Methylnaphthalene	0.745		0.0200	1	05/31/2022 07:13	<a href="#">WG1871688</a>
2-Methylnaphthalene	2.30		0.0200	1	05/31/2022 07:13	<a href="#">WG1871688</a>
Naphthalene	0.758		0.0200	1	05/31/2022 07:13	<a href="#">WG1871688</a>
Pyrene	ND		0.00600	1	05/31/2022 07:13	<a href="#">WG1871688</a>
(S) p-Terphenyl-d14	95.7		23.0-120		05/31/2022 07:13	<a href="#">WG1871688</a>
(S) Nitrobenzene-d5	495	J1	14.0-149		05/31/2022 07:13	<a href="#">WG1871688</a>
(S) 2-Fluorobiphenyl	87.3		34.0-125		05/31/2022 07:13	<a href="#">WG1871688</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.557		1	05/26/2022 14:31	WG1869122

## Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	05/26/2022 15:31	<a href="#">WG1869754</a>

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.41	<u>T8</u>	1	05/27/2022 10:20	<a href="#">WG1869997</a>

## Sample Narrative:

L1496498-02 WG1869997: 8.41 at 21.2C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	223		10.0	1	05/26/2022 18:54	<a href="#">WG1869906</a>

## Sample Narrative:

L1496498-02 WG1869906: at 25C

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	177		0.500	1	05/27/2022 12:28	<a href="#">WG1870541</a>
Cadmium	ND		0.500	1	05/27/2022 12:28	<a href="#">WG1870541</a>
Copper	15.2		2.00	1	05/27/2022 12:28	<a href="#">WG1870541</a>
Lead	7.33		0.500	1	05/27/2022 12:28	<a href="#">WG1870541</a>
Nickel	27.7		2.00	1	05/27/2022 12:28	<a href="#">WG1870541</a>
Selenium	ND		2.00	1	05/27/2022 12:28	<a href="#">WG1870541</a>
Silver	ND		1.00	1	05/27/2022 12:28	<a href="#">WG1870541</a>
Zinc	28.9		5.00	1	05/27/2022 12:28	<a href="#">WG1870541</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		0.200	1	05/26/2022 15:31	<a href="#">WG1869120</a>

## Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	3.63		1.00	5	05/27/2022 13:44	<a href="#">WG1870542</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	05/24/2022 12:47	<a href="#">WG1868642</a>
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	98.1		77.0-120		05/24/2022 12:47	<a href="#">WG1868642</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00168		0.00100	1	05/25/2022 05:51	<a href="#">WG1869139</a>
Toluene	0.0250		0.00500	1	05/25/2022 05:51	<a href="#">WG1869139</a>
Ethylbenzene	ND		0.00250	1	05/25/2022 05:51	<a href="#">WG1869139</a>
Xylenes, Total	0.0742		0.00650	1	05/25/2022 05:51	<a href="#">WG1869139</a>
1,2,4-Trimethylbenzene	0.00620		0.00500	1	05/25/2022 05:51	<a href="#">WG1869139</a>
1,3,5-Trimethylbenzene	0.00535		0.00500	1	05/25/2022 05:51	<a href="#">WG1869139</a>
(S) Toluene-d8	102		75.0-131		05/25/2022 05:51	<a href="#">WG1869139</a>
(S) 4-Bromofluorobenzene	104		67.0-138		05/25/2022 05:51	<a href="#">WG1869139</a>
(S) 1,2-Dichloroethane-d4	94.6		70.0-130		05/25/2022 05:51	<a href="#">WG1869139</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	06/02/2022 13:06	<a href="#">WG1872685</a>
C28-C36 Motor Oil Range	ND		4.00	1	06/02/2022 13:06	<a href="#">WG1872685</a>
(S) o-Terphenyl	48.6		18.0-148		06/02/2022 13:06	<a href="#">WG1872685</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	05/31/2022 07:31	<a href="#">WG1871688</a>
Anthracene	ND		0.00600	1	05/31/2022 07:31	<a href="#">WG1871688</a>
Benzo(a)anthracene	ND		0.00600	1	05/31/2022 07:31	<a href="#">WG1871688</a>
Benzo(b)fluoranthene	ND		0.00600	1	05/31/2022 07:31	<a href="#">WG1871688</a>
Benzo(k)fluoranthene	ND		0.00600	1	05/31/2022 07:31	<a href="#">WG1871688</a>
Benzo(a)pyrene	ND		0.00600	1	05/31/2022 07:31	<a href="#">WG1871688</a>
Chrysene	ND		0.00600	1	05/31/2022 07:31	<a href="#">WG1871688</a>
Dibenz(a,h)anthracene	ND		0.00600	1	05/31/2022 07:31	<a href="#">WG1871688</a>
Fluoranthene	ND		0.00600	1	05/31/2022 07:31	<a href="#">WG1871688</a>
Fluorene	ND		0.00600	1	05/31/2022 07:31	<a href="#">WG1871688</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/31/2022 07:31	<a href="#">WG1871688</a>
1-Methylnaphthalene	ND		0.0200	1	05/31/2022 07:31	<a href="#">WG1871688</a>
2-Methylnaphthalene	ND		0.0200	1	05/31/2022 07:31	<a href="#">WG1871688</a>
Naphthalene	ND		0.0200	1	05/31/2022 07:31	<a href="#">WG1871688</a>
Pyrene	ND		0.00600	1	05/31/2022 07:31	<a href="#">WG1871688</a>
(S) p-Terphenyl-d14	47.5		23.0-120		05/31/2022 07:31	<a href="#">WG1871688</a>
(S) Nitrobenzene-d5	47.7		14.0-149		05/31/2022 07:31	<a href="#">WG1871688</a>
(S) 2-Fluorobiphenyl	47.8		34.0-125		05/31/2022 07:31	<a href="#">WG1871688</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.627		1	05/26/2022 14:34	WG1869122

## Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	05/26/2022 15:37	<a href="#">WG1869754</a>

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.42	<u>T8</u>	1	05/27/2022 10:20	<a href="#">WG1869997</a>

## Sample Narrative:

L1496498-03 WG1869997: 8.42 at 20.9C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	222		10.0	1	05/26/2022 18:54	<a href="#">WG1869906</a>

## Sample Narrative:

L1496498-03 WG1869906: at 25C

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	144		0.500	1	05/27/2022 12:31	<a href="#">WG1870541</a>
Cadmium	ND		0.500	1	05/27/2022 12:31	<a href="#">WG1870541</a>
Copper	17.1		2.00	1	05/27/2022 12:31	<a href="#">WG1870541</a>
Lead	8.14		0.500	1	05/27/2022 12:31	<a href="#">WG1870541</a>
Nickel	33.2		2.00	1	05/27/2022 12:31	<a href="#">WG1870541</a>
Selenium	ND		2.00	1	05/27/2022 12:31	<a href="#">WG1870541</a>
Silver	ND		1.00	1	05/27/2022 12:31	<a href="#">WG1870541</a>
Zinc	36.1		5.00	1	05/27/2022 12:31	<a href="#">WG1870541</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		0.200	1	05/26/2022 15:33	<a href="#">WG1869120</a>

## Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	4.54		1.00	5	05/27/2022 13:48	<a href="#">WG1870542</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	05/24/2022 13:07	<a href="#">WG1868642</a>
(S) a,a,a-Trifluorotoluene(FID)	97.4		77.0-120		05/24/2022 13:07	<a href="#">WG1868642</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	05/25/2022 06:10	<a href="#">WG1869139</a>
Toluene	ND		0.00500	1	05/25/2022 06:10	<a href="#">WG1869139</a>
Ethylbenzene	ND		0.00250	1	05/25/2022 06:10	<a href="#">WG1869139</a>
Xylenes, Total	0.0350		0.00650	1	05/25/2022 06:10	<a href="#">WG1869139</a>
1,2,4-Trimethylbenzene	0.00528		0.00500	1	05/25/2022 06:10	<a href="#">WG1869139</a>
1,3,5-Trimethylbenzene	0.00655		0.00500	1	05/25/2022 06:10	<a href="#">WG1869139</a>
(S) Toluene-d8	101		75.0-131		05/25/2022 06:10	<a href="#">WG1869139</a>
(S) 4-Bromofluorobenzene	100		67.0-138		05/25/2022 06:10	<a href="#">WG1869139</a>
(S) 1,2-Dichloroethane-d4	95.6		70.0-130		05/25/2022 06:10	<a href="#">WG1869139</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	06/02/2022 13:45	<a href="#">WG1872685</a>
C28-C36 Motor Oil Range	6.98		4.00	1	06/02/2022 13:45	<a href="#">WG1872685</a>
(S) o-Terphenyl	64.4		18.0-148		06/02/2022 13:45	<a href="#">WG1872685</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	05/31/2022 07:48	<a href="#">WG1871688</a>
Anthracene	ND		0.00600	1	05/31/2022 07:48	<a href="#">WG1871688</a>
Benzo(a)anthracene	ND		0.00600	1	05/31/2022 07:48	<a href="#">WG1871688</a>
Benzo(b)fluoranthene	ND		0.00600	1	05/31/2022 07:48	<a href="#">WG1871688</a>
Benzo(k)fluoranthene	ND		0.00600	1	05/31/2022 07:48	<a href="#">WG1871688</a>
Benzo(a)pyrene	ND		0.00600	1	05/31/2022 07:48	<a href="#">WG1871688</a>
Chrysene	ND		0.00600	1	05/31/2022 07:48	<a href="#">WG1871688</a>
Dibenz(a,h)anthracene	ND		0.00600	1	05/31/2022 07:48	<a href="#">WG1871688</a>
Fluoranthene	ND		0.00600	1	05/31/2022 07:48	<a href="#">WG1871688</a>
Fluorene	ND		0.00600	1	05/31/2022 07:48	<a href="#">WG1871688</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/31/2022 07:48	<a href="#">WG1871688</a>
1-Methylnaphthalene	ND		0.0200	1	05/31/2022 07:48	<a href="#">WG1871688</a>
2-Methylnaphthalene	ND		0.0200	1	05/31/2022 07:48	<a href="#">WG1871688</a>
Naphthalene	ND		0.0200	1	05/31/2022 07:48	<a href="#">WG1871688</a>
Pyrene	ND		0.00600	1	05/31/2022 07:48	<a href="#">WG1871688</a>
(S) p-Terphenyl-d14	71.8		23.0-120		05/31/2022 07:48	<a href="#">WG1871688</a>
(S) Nitrobenzene-d5	63.4		14.0-149		05/31/2022 07:48	<a href="#">WG1871688</a>
(S) 2-Fluorobiphenyl	58.4		34.0-125		05/31/2022 07:48	<a href="#">WG1871688</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.633		1	05/26/2022 14:37	WG1869122

## Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	05/26/2022 15:42	<a href="#">WG1869754</a>

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.20	<u>T8</u>	1	05/27/2022 10:20	<a href="#">WG1869997</a>

## Sample Narrative:

L1496498-04 WG1869997: 8.2 at 20.8C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	236		10.0	1	05/26/2022 18:54	<a href="#">WG1869906</a>

## Sample Narrative:

L1496498-04 WG1869906: at 25C

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	171		0.500	1	05/27/2022 12:34	<a href="#">WG1870541</a>
Cadmium	ND		0.500	1	05/27/2022 12:34	<a href="#">WG1870541</a>
Copper	14.0		2.00	1	05/27/2022 12:34	<a href="#">WG1870541</a>
Lead	10.8		0.500	1	05/27/2022 12:34	<a href="#">WG1870541</a>
Nickel	21.5		2.00	1	05/27/2022 12:34	<a href="#">WG1870541</a>
Selenium	ND		2.00	1	05/27/2022 12:34	<a href="#">WG1870541</a>
Silver	ND		1.00	1	05/27/2022 12:34	<a href="#">WG1870541</a>
Zinc	42.8		5.00	1	05/27/2022 12:34	<a href="#">WG1870541</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.207		0.200	1	05/26/2022 15:36	<a href="#">WG1869120</a>

## Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	4.82		1.00	5	05/27/2022 13:51	<a href="#">WG1870542</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	1.15		0.100	1	05/24/2022 13:28	<a href="#">WG1868642</a>
(S) a,a,a-Trifluorotoluene(FID)	96.0		77.0-120		05/24/2022 13:28	<a href="#">WG1868642</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00188		0.00100	1	05/25/2022 06:29	<a href="#">WG1869139</a>
Toluene	ND		0.00500	1	05/25/2022 06:29	<a href="#">WG1869139</a>
Ethylbenzene	ND		0.00250	1	05/25/2022 06:29	<a href="#">WG1869139</a>
Xylenes, Total	0.0638		0.00650	1	05/25/2022 06:29	<a href="#">WG1869139</a>
1,2,4-Trimethylbenzene	0.0143		0.00500	1	05/25/2022 06:29	<a href="#">WG1869139</a>
1,3,5-Trimethylbenzene	0.0144		0.00500	1	05/25/2022 06:29	<a href="#">WG1869139</a>
(S) Toluene-d8	101		75.0-131		05/25/2022 06:29	<a href="#">WG1869139</a>
(S) 4-Bromofluorobenzene	102		67.0-138		05/25/2022 06:29	<a href="#">WG1869139</a>
(S) 1,2-Dichloroethane-d4	96.5		70.0-130		05/25/2022 06:29	<a href="#">WG1869139</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	06/02/2022 13:19	<a href="#">WG1872685</a>
C28-C36 Motor Oil Range	4.28		4.00	1	06/02/2022 13:19	<a href="#">WG1872685</a>
(S) o-Terphenyl	57.7		18.0-148		06/02/2022 13:19	<a href="#">WG1872685</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	05/31/2022 08:06	<a href="#">WG1871688</a>
Anthracene	ND		0.00600	1	05/31/2022 08:06	<a href="#">WG1871688</a>
Benzo(a)anthracene	ND		0.00600	1	05/31/2022 08:06	<a href="#">WG1871688</a>
Benzo(b)fluoranthene	ND		0.00600	1	05/31/2022 08:06	<a href="#">WG1871688</a>
Benzo(k)fluoranthene	ND		0.00600	1	05/31/2022 08:06	<a href="#">WG1871688</a>
Benzo(a)pyrene	ND		0.00600	1	05/31/2022 08:06	<a href="#">WG1871688</a>
Chrysene	ND		0.00600	1	05/31/2022 08:06	<a href="#">WG1871688</a>
Dibenz(a,h)anthracene	ND		0.00600	1	05/31/2022 08:06	<a href="#">WG1871688</a>
Fluoranthene	ND		0.00600	1	05/31/2022 08:06	<a href="#">WG1871688</a>
Fluorene	ND		0.00600	1	05/31/2022 08:06	<a href="#">WG1871688</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/31/2022 08:06	<a href="#">WG1871688</a>
1-Methylnaphthalene	ND		0.0200	1	05/31/2022 08:06	<a href="#">WG1871688</a>
2-Methylnaphthalene	ND		0.0200	1	05/31/2022 08:06	<a href="#">WG1871688</a>
Naphthalene	ND		0.0200	1	05/31/2022 08:06	<a href="#">WG1871688</a>
Pyrene	ND		0.00600	1	05/31/2022 08:06	<a href="#">WG1871688</a>
(S) p-Terphenyl-d14	57.6		23.0-120		05/31/2022 08:06	<a href="#">WG1871688</a>
(S) Nitrobenzene-d5	73.0		14.0-149		05/31/2022 08:06	<a href="#">WG1871688</a>
(S) 2-Fluorobiphenyl	42.5		34.0-125		05/31/2022 08:06	<a href="#">WG1871688</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3796712-1 05/26/22 13:53

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Hexavalent Chromium	U		0.255	1.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1496238-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1496238-13 05/26/22 14:03 • (DUP) R3796712-3 05/26/22 14:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Hexavalent Chromium	ND	ND	1	0.000		20

L1496507-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1496507-01 05/26/22 16:18 • (DUP) R3796712-8 05/26/22 16:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Hexavalent Chromium	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3796712-2 05/26/22 13:58

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Hexavalent Chromium	10.0	9.56	95.6	80.0-120	

L1496238-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1496238-21 05/26/22 15:00 • (MS) R3796712-4 05/26/22 15:05 • (MSD) R3796712-5 05/26/22 15:11

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Hexavalent Chromium	20.0	ND	20.2	19.7	101	98.3	1	75.0-125			2.64	20

L1496238-21 Original Sample (OS) • Matrix Spike (MS)

(OS) L1496238-21 05/26/22 15:00 • (MS) R3796712-6 05/26/22 15:16

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	687	ND	689	100	50	75.0-125	

L1496512-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1496512-02 05/27/22 10:20 • (DUP) R3796873-2 05/27/22 10:20

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
pH	7.82	7.85	1	0.383		1

Sample Narrative:

OS: 7.82 at 20.9C  
DUP: 7.85 at 20.5C

L1496535-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1496535-07 05/27/22 10:20 • (DUP) R3796873-3 05/27/22 10:20

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
pH	8.03	8.01	1	0.249		1

Sample Narrative:

OS: 8.03 at 21.2C  
DUP: 8.01 at 21.2C

Laboratory Control Sample (LCS)

(LCS) R3796873-1 05/27/22 10:20

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
pH	10.0	9.94	99.4	99.0-101	

Sample Narrative:

LCS: 9.94 at 21.1C

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3796648-1 05/26/22 18:54

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Specific Conductance	U		10.0	10.0

Sample Narrative:

BLANK: at 25C

L1496498-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1496498-01 05/26/22 18:54 • (DUP) R3796648-3 05/26/22 18:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	4660	4770	1	2.33		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1496507-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1496507-01 05/26/22 18:54 • (DUP) R3796648-4 05/26/22 18:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	1570	1560	1	0.767		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3796648-2 05/26/22 18:54

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Specific Conductance	268	279	104	85.0-115	

Sample Narrative:

LCS: at 25C



Method Blank (MB)

(MB) R3796973-1 05/27/22 12:17

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Copper	U		0.400	2.00
Lead	U		0.208	0.500
Nickel	U		0.132	2.00
Selenium	U		0.764	2.00
Silver	U		0.127	1.00
Zinc	U		0.832	5.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

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

(LCS) R3796973-2 05/27/22 12:20 • (LCSD) R3796973-3 05/27/22 12:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Barium	100	103	103	103	103	80.0-120			0.111	20
Cadmium	100	99.2	99.1	99.2	99.1	80.0-120			0.0527	20
Copper	100	101	101	101	101	80.0-120			0.480	20
Lead	100	99.1	99.0	99.1	99.0	80.0-120			0.126	20
Nickel	100	99.4	99.5	99.4	99.5	80.0-120			0.0665	20
Selenium	100	101	100	101	100	80.0-120			0.900	20
Silver	20.0	17.9	18.1	89.5	90.3	80.0-120			0.858	20
Zinc	100	95.9	96.0	95.9	96.0	80.0-120			0.0563	20

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Method Blank (MB)

(MB) R3796739-1 05/26/22 14:28

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

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

(LCS) R3796739-2 05/26/22 14:47 • (LCSD) R3796739-3 05/26/22 14:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.07	1.08	107	108	80.0-120			0.825	20

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

Method Blank (MB)

(MB) R3796946-1 05/27/22 13:28

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

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

(LCS) R3796946-2 05/27/22 13:31 • (LCSD) R3796946-3 05/27/22 13:34

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	92.1	94.1	92.1	94.1	80.0-120			2.10	20

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

Method Blank (MB)

(MB) R3795772-2 05/24/22 11:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
<sup>(S)</sup> a,a,a-Trifluorotoluene(FID)	96.9			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3795772-1 05/24/22 10:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.21	94.7	72.0-127	
<sup>(S)</sup> a,a,a-Trifluorotoluene(FID)			105	77.0-120	

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

Method Blank (MB)

(MB) R3796249-1 05/24/22 13:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
TPH (GC/FID) Low Fraction	U		0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	104			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3796249-2 05/24/22 14:09

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.43	98.7	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			103	77.0-120	

L1496512-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1496512-02 05/24/22 20:25 • (MS) R3796249-3 05/24/22 20:54 • (MSD) R3796249-4 05/24/22 21:21

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
TPH (GC/FID) Low Fraction	1100	182	1050	1010	78.9	75.3	200	10.0-151			3.88	28
(S) a,a,a-Trifluorotoluene(FID)					105	103		77.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3795896-2 05/25/22 05:32

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Toluene	U		0.00130	0.00500
Ethylbenzene	U		0.000737	0.00250
Xylenes, Total	U		0.000880	0.00650
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	99.3			75.0-131
(S) 4-Bromofluorobenzene	103			67.0-138
(S) 1,2-Dichloroethane-d4	94.8			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3795896-1 05/25/22 04:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.118	94.4	70.0-123	
Toluene	0.125	0.121	96.8	75.0-121	
Ethylbenzene	0.125	0.122	97.6	74.0-126	
Xylenes, Total	0.375	0.374	99.7	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.124	99.2	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.124	99.2	73.0-127	
(S) Toluene-d8			99.2	75.0-131	
(S) 4-Bromofluorobenzene			106	67.0-138	
(S) 1,2-Dichloroethane-d4			106	70.0-130	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3798784-1 06/02/22 12:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
<i>(S) o-Terphenyl</i>	84.5			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3798784-2 06/02/22 12:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	30.2	60.4	50.0-150	
<i>(S) o-Terphenyl</i>			81.5	18.0-148	

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

Method Blank (MB)

(MB) R3797709-2 05/31/22 06:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00209	0.00600
Anthracene	U		0.00230	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
Naphthalene	U		0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	88.4			23.0-120
(S) Nitrobenzene-d5	72.9			14.0-149
(S) 2-Fluorobiphenyl	77.1			34.0-125

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3797709-1 05/31/22 06:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0582	72.8	50.0-120	
Anthracene	0.0800	0.0552	69.0	50.0-126	
Benzo(a)anthracene	0.0800	0.0564	70.5	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0619	77.4	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0607	75.9	49.0-125	
Benzo(a)pyrene	0.0800	0.0504	63.0	42.0-120	
Chrysene	0.0800	0.0590	73.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0568	71.0	47.0-125	
Fluoranthene	0.0800	0.0565	70.6	49.0-129	
Fluorene	0.0800	0.0597	74.6	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0548	68.5	46.0-125	
1-Methylnaphthalene	0.0800	0.0571	71.4	51.0-121	
2-Methylnaphthalene	0.0800	0.0550	68.8	50.0-120	
Naphthalene	0.0800	0.0558	69.8	50.0-120	
Pyrene	0.0800	0.0602	75.3	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R3797709-1 05/31/22 06:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			101	23.0-120	
(S) Nitrobenzene-d5			90.0	14.0-149	
(S) 2-Fluorobiphenyl			87.6	34.0-125	

L1496498-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1496498-04 05/31/22 08:06 • (MS) R3797709-3 05/31/22 08:24 • (MSD) R3797709-4 05/31/22 08:42

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0800	ND	0.0353	0.0430	44.1	53.8	1	14.0-127			19.7	27
Anthracene	0.0800	ND	0.0338	0.0412	42.3	51.5	1	10.0-145			19.7	30
Benzo(a)anthracene	0.0800	ND	0.0341	0.0385	42.6	48.1	1	10.0-139			12.1	30
Benzo(b)fluoranthene	0.0800	ND	0.0328	0.0389	41.0	48.6	1	10.0-140			17.0	36
Benzo(k)fluoranthene	0.0800	ND	0.0364	0.0407	45.5	50.9	1	10.0-137			11.2	31
Benzo(a)pyrene	0.0800	ND	0.0341	0.0379	42.6	47.4	1	10.0-141			10.6	31
Chrysene	0.0800	ND	0.0394	0.0431	49.3	53.9	1	10.0-145			8.97	30
Dibenz(a,h)anthracene	0.0800	ND	0.0389	0.0412	48.6	51.5	1	10.0-132			5.74	31
Fluoranthene	0.0800	ND	0.0317	0.0390	39.6	48.8	1	10.0-153			20.7	33
Fluorene	0.0800	ND	0.0364	0.0437	45.5	54.6	1	11.0-130			18.2	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0350	0.0379	43.8	47.4	1	10.0-137			7.96	32
1-Methylnaphthalene	0.0800	ND	0.0364	0.0436	45.5	54.5	1	10.0-142			18.0	28
2-Methylnaphthalene	0.0800	ND	0.0357	0.0425	44.6	53.1	1	10.0-137			17.4	28
Naphthalene	0.0800	ND	0.0376	0.0437	47.0	54.6	1	10.0-135			15.0	27
Pyrene	0.0800	ND	0.0349	0.0424	43.6	53.0	1	10.0-148			19.4	35
(S) p-Terphenyl-d14					63.3	69.4		23.0-120				
(S) Nitrobenzene-d5					67.1	68.3		14.0-149				
(S) 2-Fluorobiphenyl					53.7	62.5		34.0-125				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# 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

J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
T8	Sample(s) received past/too close to holding time expiration.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# ACCREDITATIONS & LOCATIONS

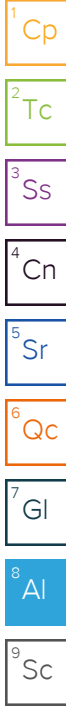
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

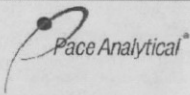
Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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 <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	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 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

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

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





### CHAIN-OF-CUSTODY Analytical Request Document

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

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

### ALL BOLD OUTLINED AREAS are for LAB USE ONLY

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

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

Analyses	Lab Profile/Line:	
	Table 915-1 VOCs	Lab Sample Receipt Checklist: Custody Seals Present/Intact Y N NA Custody Signatures Present Y N NA Collector Signature Present Y N NA Bottles Intact Y N NA Correct Bottles Y N NA Sufficient Volume Y N NA Samples Received on Ice Y N NA VOA - Headspace Acceptable Y N NA USDA Regulated Soils Y N NA Samples in Holding Time Y N NA Residual Chlorine Present Y N NA Cl Strips: _____ Sample pH Acceptable Y N NA pH Strips: _____ Sulfide Present Y N NA Lead Acetate Strips: _____
TPH (ORO, GRO, DRO)	LAB USE ONLY: Lab Sample # / Comments: <b>L1496498</b> <b>-01</b> <b>-02</b> <b>-03</b> <b>-04</b>	
Table 915-1 Metals		
Table 915-1 PAHs		
EC, SAR, Arsenic		
Boron (Hot Water Soluble Soil)		

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

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start)		Composite End		Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)
			Date	Time	Date	Time			
PFX:20220519-SL- POR@10'6"	SL	G	5/19/22	0805			2	G	X X X X X X
PHW@8.5'	SL	G	5/19/22	1120			2	G	X X X X X X
PHE3@6.5'	SL	G	5/19/22	1215			2	G	X X X X X X
PHN@7'	SL	G	5/19/22	1255			2	G	X X X X X X

Customer Remarks / Special Conditions / Possible Hazards:  
 Type of Ice Used: **Wet** Blue Dry None  
 Packing Material Used: **5755 8084 8753**  
 Radchem sample(s) screened (<500 cpm): **Y** N NA

SHORT HOLDS PRESENT (<72 hours): Y **N** N/A  
 Lab Tracking #:  
 Samples received via:  
 FEDEX UPS Client Courier Pace Courier  
 LAB Sample Temperature Info:  
 Temp Blank Received: Y N NA  
 Therm ID#:  
 Cooler 1 Temp Upon Receipt: \_\_\_oC  
 Cooler 1 Therm Corr. Factor: \_\_\_oC  
 Cooler 1 Corrected Temp: \_\_\_oC  
 Comments: **MUA7**  
**0.67x=96**

Relinquished by/Company: (Signature) *Alex Slorby* Date/Time: **5/19/22 1700**  
 Relinquished by/Company: (Signature) *[Signature]* Date/Time: **5/19/22 1730**  
 Relinquished by/Company: (Signature) Date/Time: *[Signature]*

Date/Time: **G115**  
 Acctnum:  
 Template:  
 Prelogin:  
 PM:  
 PB:  
 Trip Blank Received: Y **N** NA  
 HCL MeOH TSP Other  
 Non Conformance(s): Page: \_\_\_\_\_  
 YES / NO of: \_\_\_\_\_