April 29, 2024

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Report of Work Completed – Gathering Pipeline Release

ECMC Location Name (ID)	YELLOW CREEK-61S98W/2NWSE (316678)
Client Location Name	YCF XOM 2-35-1
ECMC Spill/Release Point ID	486120
Legal Description	NWSE Sec. 2 R1S-T98W
Coordinates (Lat/Long)	39.991300 / -108.355590
County	Rio Blanco County, Colorado

Mr. Rollins,

Confluence Compliance Companies, LLC (Confluence) prepared this Report of Work Completed (ROWC) for Caerus Oil and Gas LLC (Caerus) to document remedial investigation activities associated with a recent release at the YCF XOM 2-35-1 well pad (Location). The Location is 9.65 miles southwest of White River City, Colorado, in Rio Blanco 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 Diagram, and laboratory analytical reports. This ROWC provides background on the Location, methods used to complete the investigation, results of the investigation, and recommendations for how to proceed with this information.

Background

On February 21, 2024, while conducting pressure testing on the water gathering pipeline on the Location, a 2-inch thread was pulled from a check valve on the Location and began releasing produced water onto the surface of the well pad. The pressure test was immediately stopped, and emergency response activities were initiated. Caerus installed two absorbent booms in each of the two stormwater drainages downgradient of the point of release and immediately began fluid recovery operations using water transport trucks. Additionally, an earthen berm was constructed surrounding the spill path to prevent the migration of impacts from leaving the pad surface through ongoing snowmelt. Approximately 15 barrels (bbls) of produced fluid were released from the gathering line and contained to the working surface of the Location. The release was reported via Energy & Carbon Management Commission (ECMC) Form 19 Document 403694211 to open Spill/Release Point ID 486120.

On February 21, 2024, Confluence provided initial sampling support to characterize soil impacts at the point of release (POR) and spill path. The spill path extended downgradient from the POR to a point approximately 200 feet north. Released fluids were contained to the working surface of the pad. One soil sample was collected directly beneath the POR at 0.5 feet below ground surface (bgs). Additionally, seven characterization samples were collected, four from points within the spill path (SB01, SB02, SB05, SB06), and three samples to represent points of

compliance outside of the spill path (SB03, SB04, SB07). Analytical results of the spill path samples indicate compliance with Table 915-1 Residential Soil Screening Levels (RSSLs) except for total petroleum hydrocarbons (TPH), xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, sodium adsorption ratio (SAR), and arsenic. Analytical results of the point of compliance samples indicate compliance with Table 915-1 RSSLs except for pH and arsenic.

On March 6, 2024, Caerus submitted Form 19 Document 403707728 to request a reduced analyte list of TPH, benzene, toluene, ethylbenzene, xylenes (BTEX), 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, SAR, pH, and arsenic and to request that results be compared to RSSLs. The ECMC approved the form and associated requests on March 11, 2024.

Methodology

Between March 6, 2024, and April 9, 2024, Confluence returned to the Location on three separate occasions with a hydro vacuum truck to confirm the removal of surface impacts along the spill path and to continue remedial excavation around the POR. Thirteen soil samples were collected: eight from points within the spill path (SB01, SB02, and SB08 through SB15), three from directly below the POR at depths ranging from 0.5 to 15 feet bgs, and two below SB15 to characterize material of interest (MOI) that was observed to have historic hydrocarbon staining. Soil samples were characterized using visual and olfactory observations and field-screened using a photoionization detector (PID).

All samples were collected in laboratory provided jars, immediately placed on ice, and shipped to Pace Analytical Services (Pace) under completed chain-of-custody forms. Spill path and POR samples were analyzed for the approved reduced analyte list of TPH, BTEX, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, SAR, pH, and arsenic. Samples that were collected on March 6, 2024, prior to the approval of the reduced analyte suite, and MOI soil samples collected on April 9, 2024, were analyzed for ECMC Table 915-1 soil constituents of concern.

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 Soil Analytical Results Table.

Lithology and Hydrogeology

Natural lithology of the location consists of inorganic clays with gravel scattered throughout. However, the soil shows different characteristics beneath the POR, transitioning from fine-grained sand at the surface to dense clay at approximately 14 feet bgs. Further investigation into the location's history uncovered a past remediation project, ECMC Remediation Project 14820, where soil under the tank battery had previously been excavated. The fine-grained sand observed at the POR is believed to be backfill imported at the conclusion of this historical remediation project.

Precise depth to groundwater data at the Location is unavailable. There are no available upgradient groundwater measurements within 1.5 miles from the Location and no downgradient groundwater measurements within 3.5 miles from the Location. The nearest applicable groundwater measurement is a spring recognized by the United States Geologic Survey (USGS) as 400001108210100 SC00109802AAA1 (Y-2), located approximately 0.60 miles northeast of the Location, at an elevation of 6,115 feet above mean sea level (AMSL). The spring discharges from the Green River Formation (124GRRV) local aquifer and although listed as inactive, a review of historical imagery exhibits that the spring flows throughout the year. While the exact depth to groundwater at the Location is unknown, it can be inferred to be approximately 24 feet bgs based on the location's elevation, 6,139 feet AMSL, and the elevation of the nearby spring. Groundwater is anticipated to flow north towards Yellow Creek and eventually the White River, approximately 12.75 miles north of the location. Yellow Creek was dry at the time of sampling, and no groundwater was observed.

Spill Path Characterization Results

March 6, 2024, field screening of spill path recharacterization samples registered PID measurements of 9.7 parts per million (ppm) in SB01@0.5 and 35.5 ppm in SB02@0.6. Analytical results of the POR recharacterization sample indicated compliance with Table 915-1 RSSLs except for SAR, pH, and arsenic. An exceedance of 6.52 for SAR was observed in SB02@0.6, while pH exceedances were 8.71 in SB01@0.5 and 8.80 in SB02@0.6. Arsenic exceedances were 3.76 milligrams per kilogram (mg/kg) in SB02@0.6 and 4.15 mg/kg in SB01@0.5.

Field screening of spill path samples collected on March 20 and April 9, 2024, registered PID measurements ranging from 0.9 ppm in SB08@0.5 to 2338 in SB15@1. Analytical results of the spill path samples indicate compliance with Table 915-1 RSSLs except for TPH, benzene, ethylbenzene, xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and naphthalene, which all exceeded in SB15@1 as follows. There was an exceedance of TPH at 8,330 mg/kg, benzene exceeds at 7.73 mg/kg, ethylbenzene exceeds at 12.5 mg/kg, and xylenes exceed at 239 mg/kg. Exceedances of 1,2,4-trimethylbenzene are 49.0 mg/kg, while 1,3,5-trimethylbenzene exceeds at 44.4 mg/kg. Naphthalene exceeds at 3.35 mg/kg and arsenic exceedances range from 5.42 mg/kg in SB14@0.5 to 7.21 mg/kg in SB15@1.

POR Characterization Results

March 6, 2024, field screening of POR recharacterization registered a PID measurement of 485.2 ppm. Analytical results of the POR recharacterization sample indicated compliance with Table 915-1 RSSLs except for TPH, benzene, xylenes, SAR, pH, boron, and arsenic. TPH exceeded at 2,144 mg/kg, benzene exceeded at 4.12 mg/kg, and xylenes exceeded at 176 mg/kg. An exceedance of 6.93 for SAR was observed, while pH exceeds at 8.88. Boron exceeded at 5.19 mg/kg. Arsenic exceeded at 2.28 mg/kg.

On April 9, 2024, additional field screening of soil below the POR registered PID measurements ranging from 83.4 ppm in SB16@14 to 2032 in SB16@12.5. Analytical results of the POR characterization samples indicated compliance with Table 915-1 RSSLs except for TPH, boron, and arsenic. TPH exceeds at 536 mg/kg in SB16@12.5. Arsenic exceedances range from 5.03 mg/kg in SB16@14 to 6.64 mg/kg in SB16@12.5.

MOI Characterization Results

Field screening of MOI samples registered PID measurements ranging from 1,897 ppm in MOI@4 to 138.4 in MOI@6. Analytical results of the MOI samples indicate compliance with Table 915-1 RSSLs except for TPH, boron, and arsenic. There was an exceedance of TPH is 1,386 mg/kg in MOI@4. An exceedance of boron was 2.29 mg/kg in MOI@4 and arsenic exceedances range from 5.25 mg/kg in MOI@4 to 5.53 mg/kg in MOI@6.

Analysis and Recommendations

Although pH and arsenic values above Table 915-1 RSSLs remain within the investigation area, analytical results of produced water from the YCF 35-33-1 well pad (ECMC Location ID 316660) revealed a natural pH at 7.41 with no detectable arsenic. The pipeline associated with the release transports fluids directly from this well pad through the affected YCF XOM 2-35-1 pipeline. The YCF XOM 2-35-1 well had been shut in prior to the release, and all fluids originated from the YCF 33-35-1 well, located 1.25 miles north of the site. Therefore, the water sample represents the fluid release at the Location. Confluence suggests requesting the application of Rule 915.e.2.C to exclude pH and arsenic as constituents of concern for this project as the produced water characterization data indicates that elevated pH and arsenic levels in the project area are likely natural occurrences rather than effects of oil and gas production activities.

Assuming the process knowledge/produced water characterization results are accepted, levels of TPH, benzene, ethylbenzene, xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, SAR, and boron exceeding Table 915-1 RSSLs remains undelineated horizontally in the investigation area. Based on these results, Confluence recommends additional site investigation to delineate remaining soil impacts horizontally in all cardinal directions from the POR. Based on characterization results from the POR and MOI samples, Confluence recommends that Caerus include boron analysis in all future soil samples, along with the approved reduced analyte list. Additionally, Confluence recommends collecting site-specific background soil samples to assess naturally occurring levels of inorganic constituents.

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 us.

Regards,

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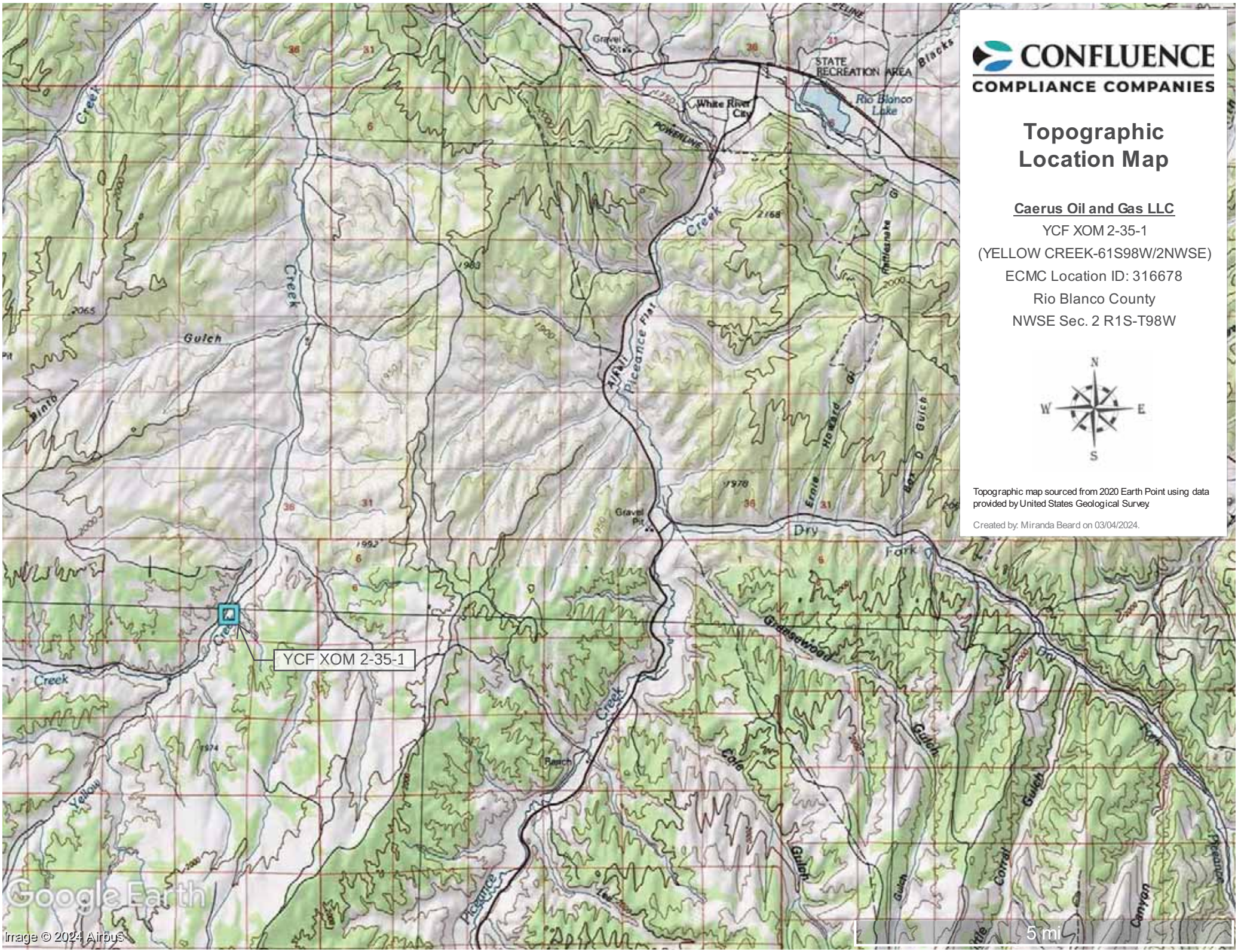
Attachments

- Topographic Location Map
- Site Diagram – Site Investigation
- Photographic Log
- Soil Analytical Results Summary Table
- Source Analytical Results Summary Table
- Laboratory Reports



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Topographic Location Map

Caerus Oil and Gas LLC

YCF XOM 2-35-1

(YELLOW CREEK-61S98W/2NWSE)

ECMC Location ID: 316678

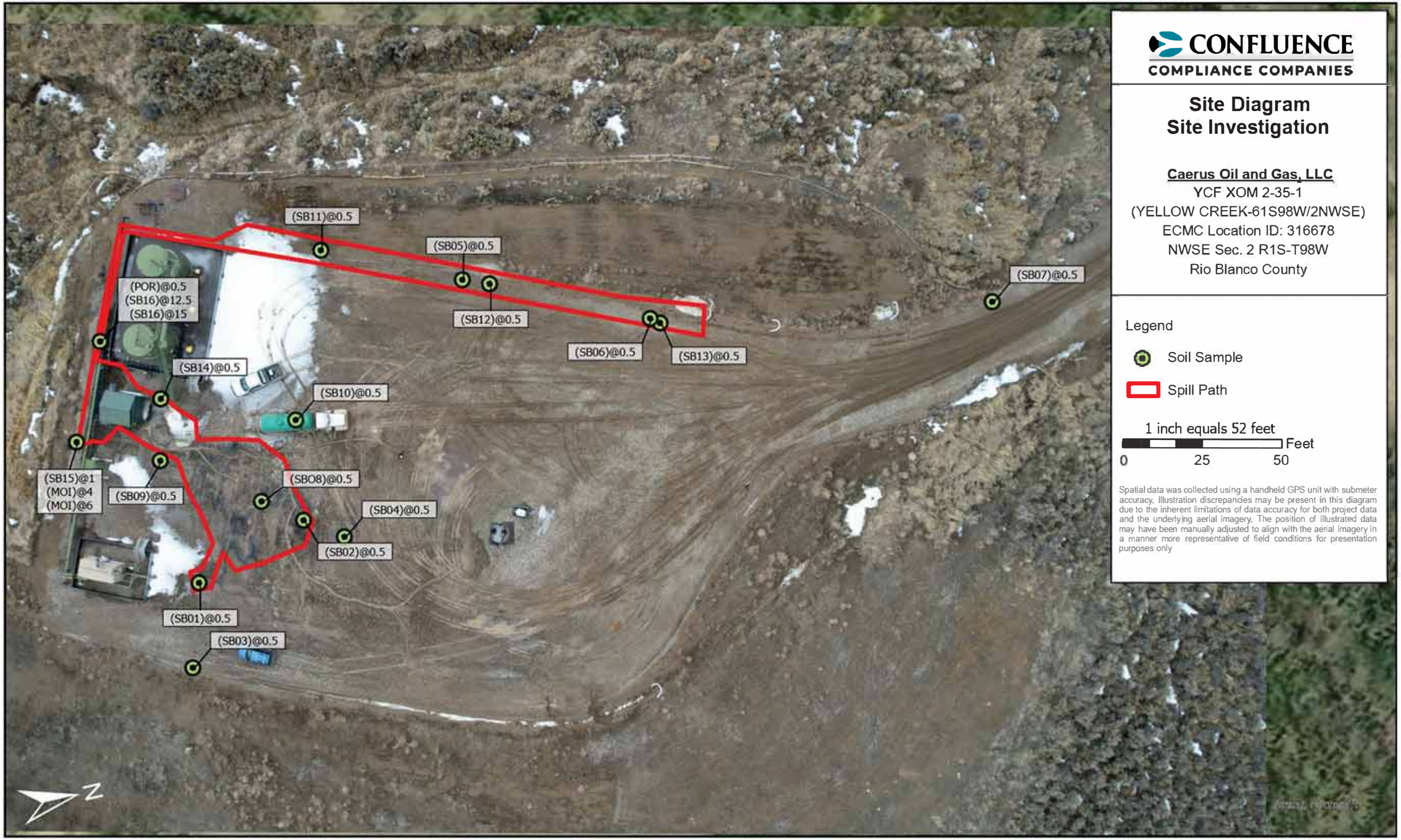
Rio Blanco County

NWSE Sec. 2 R1S-T98W

N
W E
S

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

Created by: Miranda Beard on 03/04/2024.



CONFLUENCE
COMPLIANCE COMPANIES

Site Diagram
Site Investigation

Caerus Oil and Gas, LLC
YCF XOM 2-35-1
(YELLOW CREEK-61S98W/2NWSE)
ECMC Location ID: 316678
NWSE Sec. 2 R1S-T98W
Rio Blanco County

Legend

Soil Sample

Spill Path

1 inch equals 52 feet

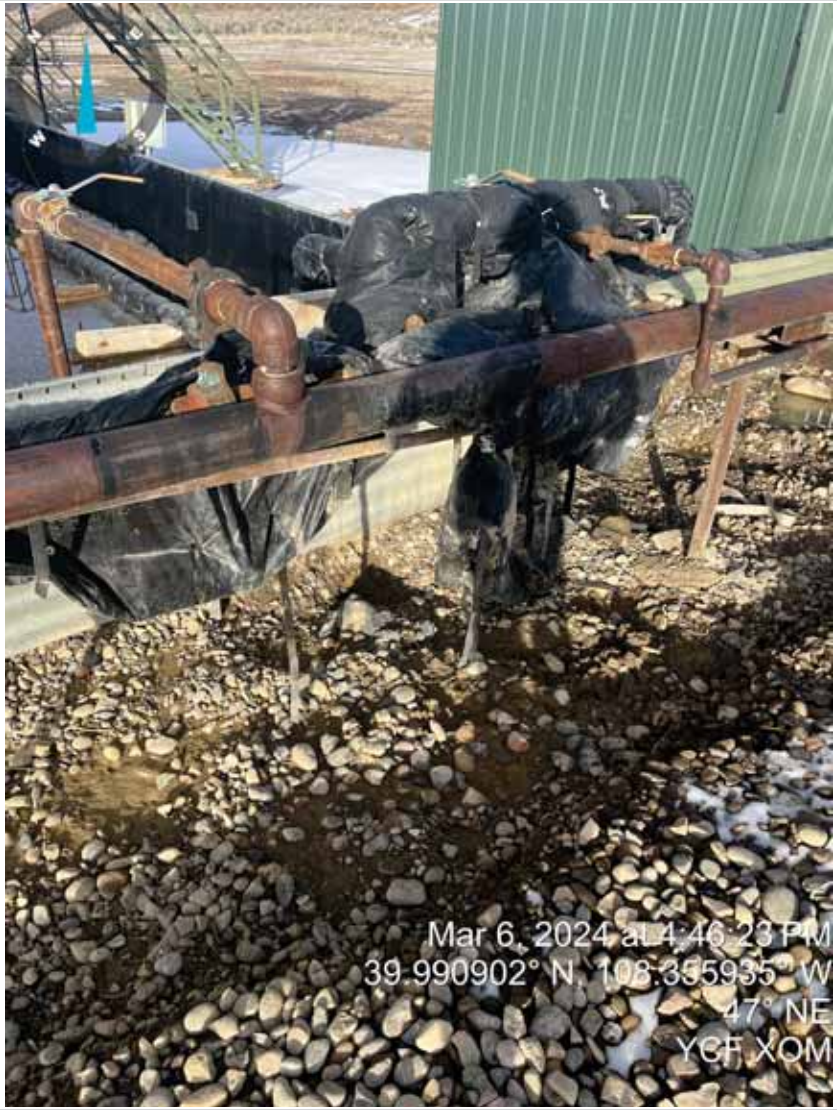
0 25 50 Feet

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

Photographic Log

Remediation Investigation
YCF XOM 2-35-1 (ECMC Location ID: 316678)

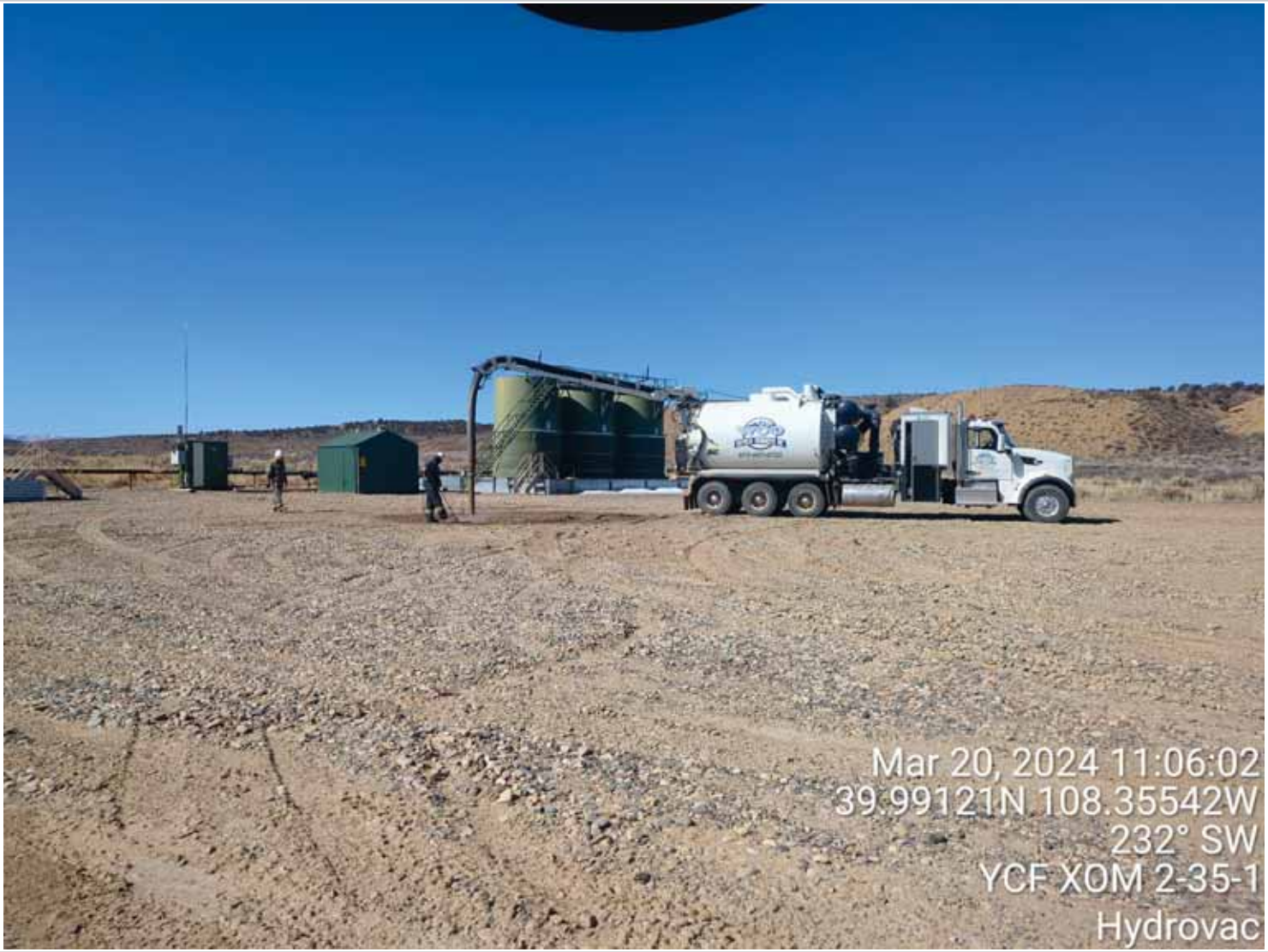
3/6/2024 Site Overview: View Northeast



3/6/2024 POR Location: View Northeast

3/6/2024 Spill Path Area: View Northeast

3/20/2024 Spill Path Overview: Orientation Southwest



3/20/2024 Additional Spill Path Soil Remediation Operations: View Southwest

4/9/2024 POR Assessment: View Northeast

4/9/2024 SB15 Sample Location: View Northeast

4/9/2024 Release Location Overview: View Northeast

4/9/2024 Spill Path Overview: View Southwest

SOIL ANALYTICAL RESULTS TABLE
YCF XOM 2-35-1

Analyte				GRO	DRO	ORO	Benzene	Toluene	Ethylbenzene	Total Xylenes	1,2,4-TMB	1,3,5-TMB	Acenaphthene	Anthracene	Benz(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenz(a,h)anthracen	Fluoranthene	Fluorene	Indeno(1,2,3-cd)Pyre	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Pyrene
915-1 RESIDENTIAL SOIL				500			1.2	490	5.8	58	30	27	360	1800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	2	180
Units				mg/kg			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample Name	**Sample Type**	**Sample Date**	**Lab Report**																								
20240221-YCF XOM 2-35-1-(POR)@0.5	POR	02/21/2024	L1708787	**9470**	**2210**	285	**14.0**	319	**18.4**	**599**	**49.1**	**43.1**	0.237	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	0.00649	< 0.00600	0.0141	0.564	< 0.00600	3.87	16.4	**6.65**	0.0211
20240221-YCF XOM 2-35-1-(SB01)@0.5	Soil Boring	02/21/2024	L1708786	178	449	49.9	0.586	12.1	4.36	**86.6**	**36.4**	**30.5**	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	0.0342	< 0.00600	0.322	1.16	0.367	< 0.00600
20240221-YCF XOM 2-35-1-(SB02)@0.5	Soil Boring	02/21/2024	L1708786	**1130**	**1230**	< 40.0	0.0655	0.460	0.260	5.67	5.33	4.14	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	0.277	< 0.00600	1.51	5.76	1.83	< 0.00600
20240221-YCF XOM 2-35-1-(SB03)@0.5	Soil Boring	02/21/2024	L1708786	3.61	21.0	89.9	0.0949	0.374	0.0128	0.186	0.0136	0.0112	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.0200	< 0.0200	< 0.0200	< 0.00600
20240221-YCF XOM 2-35-1-(SB04)@0.5	Soil Boring	02/21/2024	L1708786	2.55	11.6	14.8	0.00537	0.0233	0.00255	0.0383	0.0400	0.0339	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.0200	0.0550	< 0.0200	< 0.00600
20240221-YCF XOM 2-35-1-(SB05)@0.5	Soil Boring	02/21/2024	L1708786	20.3	**543**	< 40.0	0.0675	0.407	< 0.0500	0.870	1.10	0.746	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	0.0662	< 0.00600	0.403	1.38	0.211	< 0.00600
20240221-YCF XOM 2-35-1-(SB06)@0.5	Soil Boring	02/21/2024	L1708786	13.8	121	5.72	0.0935	0.419	0.0299	0.759	0.171	0.132	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	0.00632	< 0.00600	< 0.0200	0.0482	< 0.0200	< 0.00600
20240221-YCF XOM 2-35-1-(SB07)@0.5	Soil Boring	02/21/2024	L1708786	< 2.50	< 4.00	5.93	0.0123	0.0657	0.00347	0.0587	0.00845	0.00735	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.0200	< 0.0200	< 0.0200	< 0.00600
20240306-YCF XOM 2-35-1-(POR)@0.5	POR	03/06/2024	L1713590	**2130**	< 4.00	13.9	**4.12**	74.7	5.05	**176**	29.0	25.7	0.0359	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	0.0716	< 0.00600	0.508	1.59	0.592	< 0.00600
20240306-YCF XOM 2-35-1-(SB01)@0.5	Soil Boring	03/06/2024	L1713592	0.191	411	53.2	< 0.00100	0.00888	< 0.00250	0.0220	0.0121	0.0103	0.0100	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	0.0237	< 0.00600	0.0477	0.145	0.0263	< 0.00600
20240306-YCF XOM 2-35-1-(SB02)@0.6	Soil Boring	03/06/2024	L1713592	1.32	349	35.6	0.00150	0.0151	0.00275	0.0968	0.259	0.223	0.0411	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	0.0831	< 0.00600	0.290	0.958	0.197	< 0.00600
20240320-YCF XOM 2-35-1-(SB08)@0.5	Soil Boring	03/20/2024	L1718413	< 0.100	< 4.00	11.7	< 0.00100	< 0.00500	< 0.00250	< 0.00650	< 0.00500	< 0.00500														< 0.0125	
20240320-YCF XOM 2-35-1-(SB09)@0.5	Soil Boring	03/20/2024	L1718413	< 0.100	67.2	37.7	< 0.00100	< 0.00500	< 0.00250	< 0.00650	< 0.00500	< 0.00500														< 0.0125	
20240320-YCF XOM 2-35-1-(SB10)@0.5	Soil Boring	03/20/2024	L1718413	< 0.100	7.58	31.6	< 0.00100	< 0.00500	< 0.00250	< 0.00650	< 0.00500	< 0.00500														< 0.0125	
20240320-YCF XOM 2-35-1-(SB11)@0.5	Soil Boring	03/20/2024	L1718413	< 0.100	< 4.00	6.98	< 0.00100	< 0.00500	< 0.00250	< 0.00650	< 0.00500	< 0.00500														< 0.0125	
20240320-YCF XOM 2-35-1-(SB12)@0.5	Soil Boring	03/20/2024	L1718413	< 0.100	< 4.00	6.27	< 0.00100	< 0.00500	< 0.00250	< 0.00650	< 0.00500	< 0.00500														< 0.0125	
20240320-YCF XOM 2-35-1-(SB13)@0.5	Soil Boring	03/20/2024	L1718413	< 0.100	18.3	48.4	< 0.00100	< 0.00500	< 0.00250	< 0.00650	< 0.00500	< 0.00500														< 0.0125	
20240409-YCF XOM 2-35-1-(MOI)@4	MOI	04/09/2024	L1724779	**827**	**559**	< 20.6	0.624	11.8	1.56	38.8	8.55	7.76	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	0.00905	< 0.00600	0.0999	0.337	0.170	< 0.00600
20240409-YCF XOM 2-35-1-(MOI)@6	MOI	04/09/2024	L1724780	< 0.100	< 4.00	4.26	< 0.00100	< 0.00500	< 0.00250	< 0.00650	< 0.00500	0.00560	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	0.00624	< 0.00600	0.00685	< 0.00600	< 0.00600	< 0.0200	< 0.0200	< 0.0200	0.00675
20240409-YCF XOM 2-35-1-(SB14)@0.5	Soil Boring	04/09/2024	L1724777	1.07	< 4.00	9.22	0.0198	0.117	0.00410	0.432	0.0427	0.0758														< 0.0125	
20240409-YCF XOM 2-35-1-(SB15)@1	Soil Boring	04/09/2024	L1724777	**5300**	**3030**	< 100	**7.73**	103	**12.5**	**239**	**49.0**	**44.4**														**3.35**	
20240409-YCF XOM 2-35-1-(SB16)@12.5	Soil Boring	04/09/2024	L1724778	478	28.4	29.3	0.395	4.88	0.472	10.8	1.75	1.56														< 0.250	
20240409-YCF XOM 2-35-1-(SB16)@15	Soil Boring	04/09/2024	L1724778	3.71	< 4.00	< 4.00	0.0555	0.0820	< 0.00250	0.128	0.0149	0.0170														< 0.0125	

Notes:
Bold with silver highlight: Exceeds RSSLs
"<" (as in, less than laboratory reporting detection limit)

SOIL ANALYTICAL RESULTS TABLE
YCF XOM 2-35-1

Analyte				EC	SAR	pH	Boron	Arsenic	Barium	Cadmium	Chromium VI	Copper	Lead	Nickel	Selenium	Silver	Zinc
915-1 RESIDENTIAL SOIL				4	6	8.3	2	0.68	15000	71	0.3	3100	400	1500	390	390	23000
Units				mmhos/cm	No Unit	SU	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample Name	**Sample Type**	**Sample Date**	**Lab Report**														
20240221-YCF XOM 2-35-1-(POR)@0.5	POR	02/21/2024	L1708787	1.22	**11.2**	**8.76**	0.636	**5.27**	754	< 1.00	**< 1.00**	24.3	4.55	40.4	< 2.50	< 0.500	43.5
20240221-YCF XOM 2-35-1-(SB01)@0.5	Soil Boring	02/21/2024	L1708786	0.351	1.47	7.87	0.765	**4.68**	1150	< 1.00	**< 1.00**	13.7	7.16	24.4	< 2.50	< 0.500	37.7
20240221-YCF XOM 2-35-1-(SB02)@0.5	Soil Boring	02/21/2024	L1708786	0.325	2.60	8.18	0.811	**5.47**	604	< 1.00	**< 1.00**	13.6	18.3	27.2	< 2.50	< 0.500	36.2
20240221-YCF XOM 2-35-1-(SB03)@0.5	Soil Boring	02/21/2024	L1708786	0.474	0.861	7.96	0.751	**4.04**	273	< 1.00	**< 1.00**	12.1	9.23	13.7	< 2.50	< 0.500	39.4
20240221-YCF XOM 2-35-1-(SB04)@0.5	Soil Boring	02/21/2024	L1708786	0.255	1.31	**8.35**	0.629	**2.97**	1580	< 1.00	**< 1.00**	8.67	14.7	13.6	< 2.50	< 0.500	65.4
20240221-YCF XOM 2-35-1-(SB05)@0.5	Soil Boring	02/21/2024	L1708786	0.839	**6.50**	7.95	0.884	**4.28**	199	< 1.00	**< 1.00**	9.06	8.30	13.0	< 2.50	< 0.500	34.1
20240221-YCF XOM 2-35-1-(SB06)@0.5	Soil Boring	02/21/2024	L1708786	1.02	**6.53**	8.28	1.60	**4.21**	194	< 1.00	**< 1.00**	8.28	8.25	11.6	< 2.50	< 0.500	33.7
20240221-YCF XOM 2-35-1-(SB07)@0.5	Soil Boring	02/21/2024	L1708786	0.584	2.39	8.01	0.891	**5.31**	264	< 1.00	**< 1.00**	12.2	10.7	14.8	< 2.50	< 0.500	43.0
20240306-YCF XOM 2-35-1-(POR)@0.5	POR	03/06/2024	L1713590	1.39	**6.93**	**8.88**	**5.19**	**2.28**	181	< 1.00	**< 1.00**	6.76	6.63	3.60	< 2.50	< 0.500	< 25.0
20240306-YCF XOM 2-35-1-(SB01)@0.5	Soil Boring	03/06/2024	L1713592	0.222	1.46	**8.71**	0.826	**4.15**	1160	< 1.00	**< 1.00**	10.5	7.11	15.2	< 2.50	< 0.500	32.1
20240306-YCF XOM 2-35-1-(SB02)@0.6	Soil Boring	03/06/2024	L1713592	0.592	**6.52**	**8.80**	1.78	**3.76**	1060	< 1.00	**< 1.00**	10.2	6.87	12.8	< 2.50	< 0.500	< 25.0
20240320-YCF XOM 2-35-1-(SB08)@0.5	Soil Boring	03/20/2024	L1718413		1.48	8.03		**5.63**									
20240320-YCF XOM 2-35-1-(SB09)@0.5	Soil Boring	03/20/2024	L1718413		1.58	**8.30**		**5.09**									
20240320-YCF XOM 2-35-1-(SB10)@0.5	Soil Boring	03/20/2024	L1718413		1.78	7.97		**3.84**									
20240320-YCF XOM 2-35-1-(SB11)@0.5	Soil Boring	03/20/2024	L1718413		0.721	**8.52**		**4.95**									
20240320-YCF XOM 2-35-1-(SB12)@0.5	Soil Boring	03/20/2024	L1718413		0.737	8.20		**4.95**									
20240320-YCF XOM 2-35-1-(SB13)@0.5	Soil Boring	03/20/2024	L1718413		1.57	7.79		**3.88**									
20240409-YCF XOM 2-35-1-(MOI)@4	MOI	04/09/2024	L1724779	0.912	4.70	7.64	**2.29**	**5.25**	350	< 1.00	**< 1.00**	15.4	11.4	15.7	< 2.50	< 0.500	47.8
20240409-YCF XOM 2-35-1-(MOI)@6	MOI	04/09/2024	L1724780	0.727	3.09	8.07	0.279	**5.53**	273	< 1.00	**< 1.00**	10.9	9.75	14.6	< 2.50	< 0.500	42.3
20240409-YCF XOM 2-35-1-(SB14)@0.5	Soil Boring	04/09/2024	L1724777		1.50	8.02		**5.42**									
20240409-YCF XOM 2-35-1-(SB15)@1	Soil Boring	04/09/2024	L1724777		0.894	7.85		**7.21**									
20240409-YCF XOM 2-35-1-(SB16)@12.5	Soil Boring	04/09/2024	L1724778		3.70	8.10		**6.64**									
20240409-YCF XOM 2-35-1-(SB16)@15	Soil Boring	04/09/2024	L1724778		1.86	7.84		**5.03**									

Notes:
Bold with silver highlight: Exceeds RSSLs
"<" (as in, less than laboratory reporting detection limit)

SOURCE ANALYTICAL RESULTS TABLE
YCF XOM 2-35-1

			Analyte	pH	Arsenic
			Units		mg/kg
Sample Name	**Sample Type**	**Sample Date**	**Lab Report**		
20230411-YCFSOURCE-(YCF35-33-1-T)	Produced Water	04/11/2023	L1605150	7.41	<1.00

Notes:
Bold with silver highlight: Exceeds RSSLs
"<" (as in, less than laboratory reporting detection limit)

ANALYTICAL REPORT

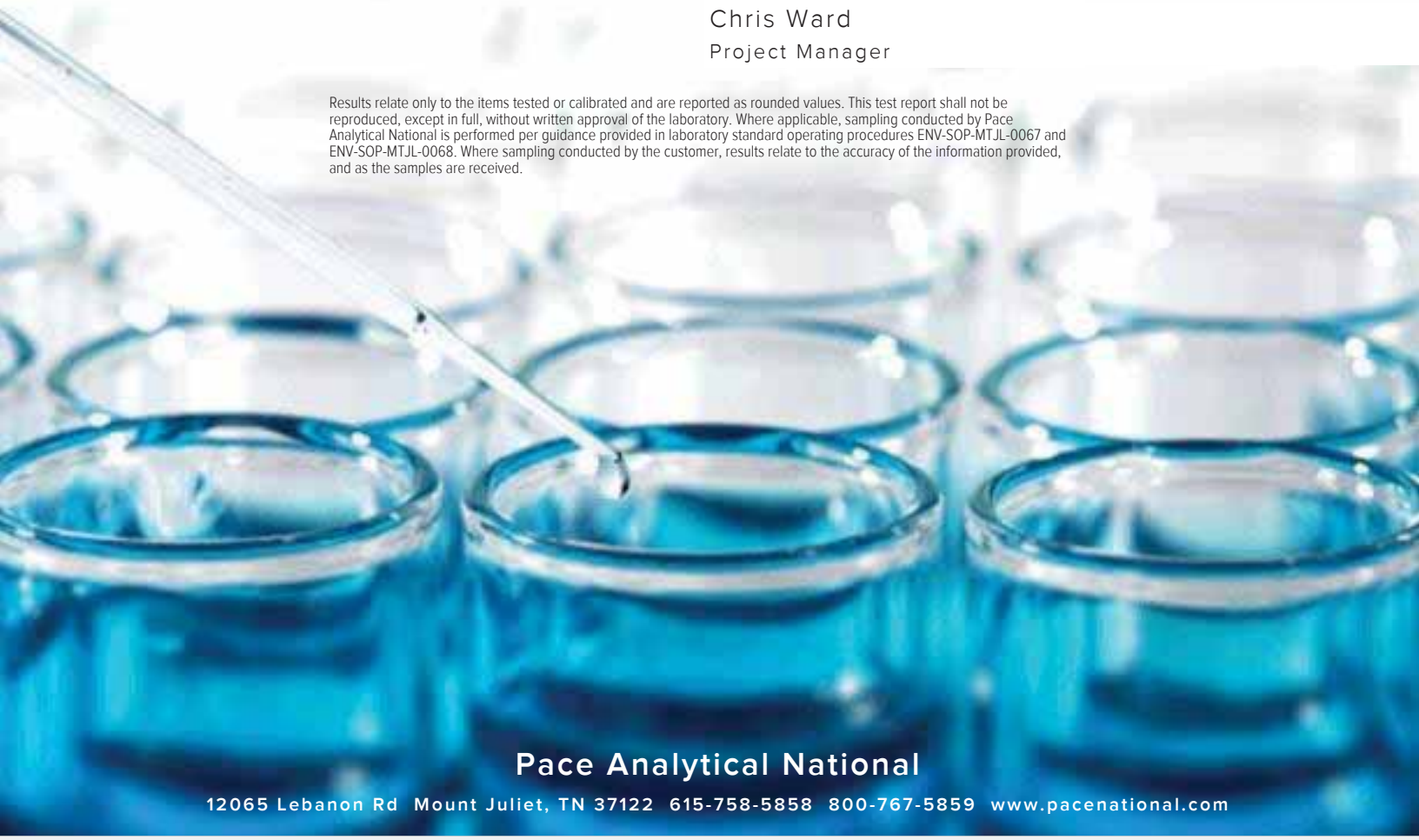
April 23, 2024

Caerus Oil and Gas

Sample Delivery Group:	L1724777
Samples Received:	04/11/2024
Project Number:	
Description:	YCF XOM 2-35-1 Gathering Pipeline Release
Site:	YCF XOM 2-35-1
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

20240409-YCF XOM 2-35-1-(SB14)@0.5 L1724777-01 Solid

Collected by: Alex Slorby
Collected date/time: 04/09/24 10:30
Received date/time: 04/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2268966	1	04/18/24 15:11	04/18/24 15:11	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2266545	1	04/13/24 18:46	04/13/24 22:10	KRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2266071	5	04/15/24 09:27	04/17/24 22:41	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2268453	1	04/14/24 14:07	04/17/24 02:08	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2267012	1	04/14/24 14:07	04/14/24 23:17	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2266730	1	04/14/24 14:57	04/16/24 11:22	JAS	Mt. Juliet, TN

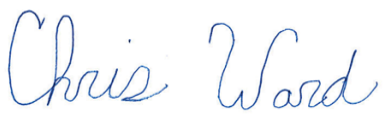
20240409-YCF XOM 2-35-1-(SB15)@1 L1724777-02 Solid

Collected by: Alex Slorby
Collected date/time: 04/09/24 11:00
Received date/time: 04/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2268966	1	04/18/24 15:15	04/18/24 15:15	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2266545	1	04/13/24 18:46	04/13/24 22:10	KRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2266071	5	04/15/24 09:27	04/17/24 22:44	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2268463	1000	04/14/24 14:07	04/17/24 04:22	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2267012	80	04/14/24 14:07	04/15/24 04:02	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2266730	25	04/14/24 14:57	04/16/24 12:37	JAS	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	1.50		1	04/18/2024 15:11	WG2268966

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	8.02	T8	1	04/13/2024 22:10	WG2266545

Sample Narrative:

L1724777-01 WG2266545: 8.02 at 20.6C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	5.42		1.00	5	04/17/2024 22:41	WG2266071

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	1.07		0.100	1	04/17/2024 02:08	WG2268453
(S) a,a,a-Trifluorotoluene(FID)	*82.7*		*77.0-120*		*04/17/2024 02:08*	WG2268453

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Benzene	0.0198		0.00100	1	04/14/2024 23:17	WG2267012
Toluene	0.117		0.00500	1	04/14/2024 23:17	WG2267012
Ethylbenzene	0.00410		0.00250	1	04/14/2024 23:17	WG2267012
Xylenes, Total	0.432		0.00650	1	04/14/2024 23:17	WG2267012
Naphthalene	ND		0.0125	1	04/14/2024 23:17	WG2267012
1,2,4-Trimethylbenzene	0.0427		0.00500	1	04/14/2024 23:17	WG2267012
1,3,5-Trimethylbenzene	0.0758		0.00500	1	04/14/2024 23:17	WG2267012
(S) Toluene-d8	*93.5*		*75.0-131*		*04/14/2024 23:17*	WG2267012
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*04/14/2024 23:17*	WG2267012
(S) 1,2-Dichloroethane-d4	*117*		*70.0-130*		*04/14/2024 23:17*	WG2267012

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
C10-C28 Diesel Range	ND		4.00	1	04/16/2024 11:22	WG2266730
C28-C36 Motor Oil Range	9.22		4.00	1	04/16/2024 11:22	WG2266730
(S) o-Terphenyl	*52.1*		*18.0-148*		*04/16/2024 11:22*	WG2266730

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.894		1	04/18/2024 15:15	WG2268966

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.85	T8	1	04/13/2024 22:10	WG2266545

Sample Narrative:

L1724777-02 WG2266545: 7.85 at 20.3C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.21		1.00	5	04/17/2024 22:44	WG2266071

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	5300		100	1000	04/17/2024 04:22	WG2268463
(S) a,a,a-Trifluorotoluene(FID)	*91.8*		*77.0-120*		*04/17/2024 04:22*	WG2268463

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	7.73	J5	0.0800	80	04/15/2024 04:02	WG2267012
Toluene	103	V	0.400	80	04/15/2024 04:02	WG2267012
Ethylbenzene	12.5	J5	0.200	80	04/15/2024 04:02	WG2267012
Xylenes, Total	239	V	0.520	80	04/15/2024 04:02	WG2267012
Naphthalene	3.35		1.00	80	04/15/2024 04:02	WG2267012
1,2,4-Trimethylbenzene	49.0	V	0.400	80	04/15/2024 04:02	WG2267012
1,3,5-Trimethylbenzene	44.4	V	0.400	80	04/15/2024 04:02	WG2267012
(S) Toluene-d8	*92.9*		*75.0-131*		*04/15/2024 04:02*	WG2267012
(S) 4-Bromofluorobenzene	*111*		*67.0-138*		*04/15/2024 04:02*	WG2267012
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*04/15/2024 04:02*	WG2267012

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	3030		100	25	04/16/2024 12:37	WG2266730
C28-C36 Motor Oil Range	ND		100	25	04/16/2024 12:37	WG2266730
(S) o-Terphenyl	*127*	J7	*18.0-148*		*04/16/2024 12:37*	WG2266730

Sample Narrative:

L1724777-02 WG2266730: Dilution due to matrix.

L1724777-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1724777-02 04/13/24 22:10 • (DUP) R4057397-2 04/13/24 22:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	7.85	7.87	1	0.254		1

Sample Narrative:

OS: 7.85 at 20.3C

DUP: 7.87 at 20.9C

L1725252-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1725252-11 04/13/24 22:10 • (DUP) R4057397-3 04/13/24 22:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.14	7.16	1	0.280		1

Sample Narrative:

OS: 7.14 at 21.3C

DUP: 7.16 at 21.3C

Laboratory Control Sample (LCS)

(LCS) R4057397-1 04/13/24 22:10

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

Sample Narrative:

LCS: 10 at 20.3C

QUALITY CONTROL SUMMARY

L1724777-01,02

Method Blank (MB)

(MB) R4058979-1 04/17/24 21:47

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

Laboratory Control Sample (LCS)

(LCS) R4058979-2 04/17/24 21:51

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

L1724588-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724588-08 04/17/24 21:54 • (MS) R4058979-5 04/17/24 22:04 • (MSD) R4058979-6 04/17/24 22:07

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	5.16	102	99.4	97.0	94.2	5	75.0-125			2.80	20

Method Blank (MB)

(MB) R4059299-2 04/16/24 19:24

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*91.6*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R4059299-1 04/16/24 17:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.58	91.6	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*99.2*	*77.0-120*	

Method Blank (MB)

(MB) R4058810-2 04/16/24 23:37

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R4058810-1 04/16/24 22:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.66	93.2	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*104*	*77.0-120*	

L1724700-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724700-01 04/17/24 00:46 • (MS) R4058810-3 04/17/24 07:54 • (MSD) R4058810-4 04/17/24 08:13

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 %
TPH (GC/FID) Low Fraction	104	2.81	108	105	101	98.3	25	10.0-151			2.82	28
(S) a,a,a-Trifluorotoluene(FID)					*103*	*104*		*77.0-120*				

Method Blank (MB)

(MB) R4057572-3 04/14/24 21:01

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
Naphthalene	U		0.00488	0.0125
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	*90.8*			*75.0-131*
(S) 4-Bromofluorobenzene	*99.2*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*121*			*70.0-130*

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

(LCS) R4057572-1 04/14/24 18:07 • (LCSD) R4057572-2 04/14/24 18:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.121	0.126	96.8	101	70.0-123			4.05	20
Toluene	0.125	0.100	0.0979	80.0	78.3	75.0-121			2.12	20
Ethylbenzene	0.125	0.105	0.103	84.0	82.4	74.0-126			1.92	20
Xylenes, Total	0.375	0.306	0.307	81.6	81.9	72.0-127			0.326	20
Naphthalene	0.125	0.109	0.0996	87.2	79.7	59.0-130			9.01	20
1,2,4-Trimethylbenzene	0.125	0.107	0.115	85.6	92.0	70.0-126			7.21	20
1,3,5-Trimethylbenzene	0.125	0.102	0.113	81.6	90.4	73.0-127			10.2	20
(S) Toluene-d8				*87.4*	*86.0*	*75.0-131*				
(S) 4-Bromofluorobenzene				*104*	*99.4*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*125*	*126*	*70.0-130*				

L1724777-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724777-02 04/15/24 04:02 • (MS) R4057572-4 04/15/24 04:40 • (MSD) R4057572-5 04/15/24 04:59

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	10.0	7.73	28.1	25.8	204	181	80	10.0-149	J5	J5	8.53	37
Toluene	10.0	103	179	164	760	610	80	10.0-156	V	V	8.75	38
Ethylbenzene	10.0	12.5	30.4	28.2	179	157	80	10.0-160	J5		7.51	38
Xylenes, Total	30.0	239	396	362	523	410	80	10.0-160	V	V	8.97	38
Naphthalene	10.0	3.35	16.2	16.1	129	128	80	10.0-160			0.619	36
1,2,4-Trimethylbenzene	10.0	49.0	81.2	75.0	322	260	80	10.0-160	V	V	7.94	36
1,3,5-Trimethylbenzene	10.0	44.4	72.8	67.4	284	230	80	10.0-160	V	V	7.70	38

L1724777-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724777-02 04/15/24 04:02 • (MS) R4057572-4 04/15/24 04:40 • (MSD) R4057572-5 04/15/24 04:59

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 %
(S) Toluene-d8					*89.5*	*91.4*		*75.0-131*				
(S) 4-Bromofluorobenzene					*108*	*109*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*104*	*101*		*70.0-130*				

Method Blank (MB)

(MB) R4057930-1 04/15/24 10:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U	U	1.61	4.00
C28-C36 Motor Oil Range	U	U	0.274	4.00
(S) o-Terphenyl	*51.2*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4057930-2 04/15/24 10:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	32.5	65.0	50.0-150	
(S) o-Terphenyl			*49.8*	*18.0-148*	

L1724578-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724578-03 04/15/24 11:53 • (MS) R4057930-3 04/15/24 12:06 • (MSD) R4057930-4 04/15/24 12:18

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.2	5.16	46.1	41.7	83.2	73.4	1	50.0-150			10.0	20
(S) o-Terphenyl					*58.8*	*56.6*		*18.0-148*				

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
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
T8	Sample(s) received past/too close to holding time expiration.
U	Below Detectable Limits: Indicates that the analyte was not detected.
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.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

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

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

ALL BOLD OUTLINED AREAS are for L

A203

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins, Andy Verbonitz	Email To: info on file
Copy To: --	Site Collection Info/Address: NA
Customer Project Name/Number: YCF XOM 2-35-1 Gathering Pipeline Release	State: CO / County/City: Rio Blanco / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: 701-721-5415 Email: alex.slorby@confluence-cc.com	Site/Facility ID #: YCF XOM 2-35-1
Collected By (print): Alex Slorby	Purchase Order # : NA Quote #: NA
Collected By (signature): Alex Slorby	Turnaround Date Required: **Standard Turnaround**
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold:	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day

Compliance Monitoring? [ ] Yes [X] No
DW PWS ID #: NA
DW Location Code: NA
Immediately Packed on Ice: [X] Yes [ ] No
Field Filtered (if applicable): [ ] Yes [ ] No
Analysis: NA

Container Preservative Type **

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

Lab Project

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

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	TPH (ORO, GRO, DRO)	BTEX	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	naphthalene	SAR, pH	arsenic			
20240409-YCF XOM 2-35-1-(SB14)@0.5	SL	G	4/9/2024	1030				3	G	X	X	X	X	X	X	X			
20240409-YCF XOM 2-35-1-(SB15)@1	SL	G	4/9/2024	1100				3	G	X	X	X	X	X	X	X			

Analyses

Lab Profile/Line:

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

LAB USE ONLY:
Lab Sample # / Comments:
L1734777
-01
-02

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None
Packing Material Used: 6426 8306 8425
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 0 NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: _____oC
Comments:
DPAT 3.4, 3.5

Relinquished by/Company: (Signature) Alex Slorby	Date/Time: 4/10/2024 1615	Received by/Company: (Signature)	Date/Time:	MTJL LAB USE ONLY Table #:
Relinquished by/Company: (Signature)	Date/Time: 410 1700	Received by/Company: (Signature)	Date/Time:	Acctnum: Template: Prelogin:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 4-11-24 9:00	PM: PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

ANALYTICAL REPORT

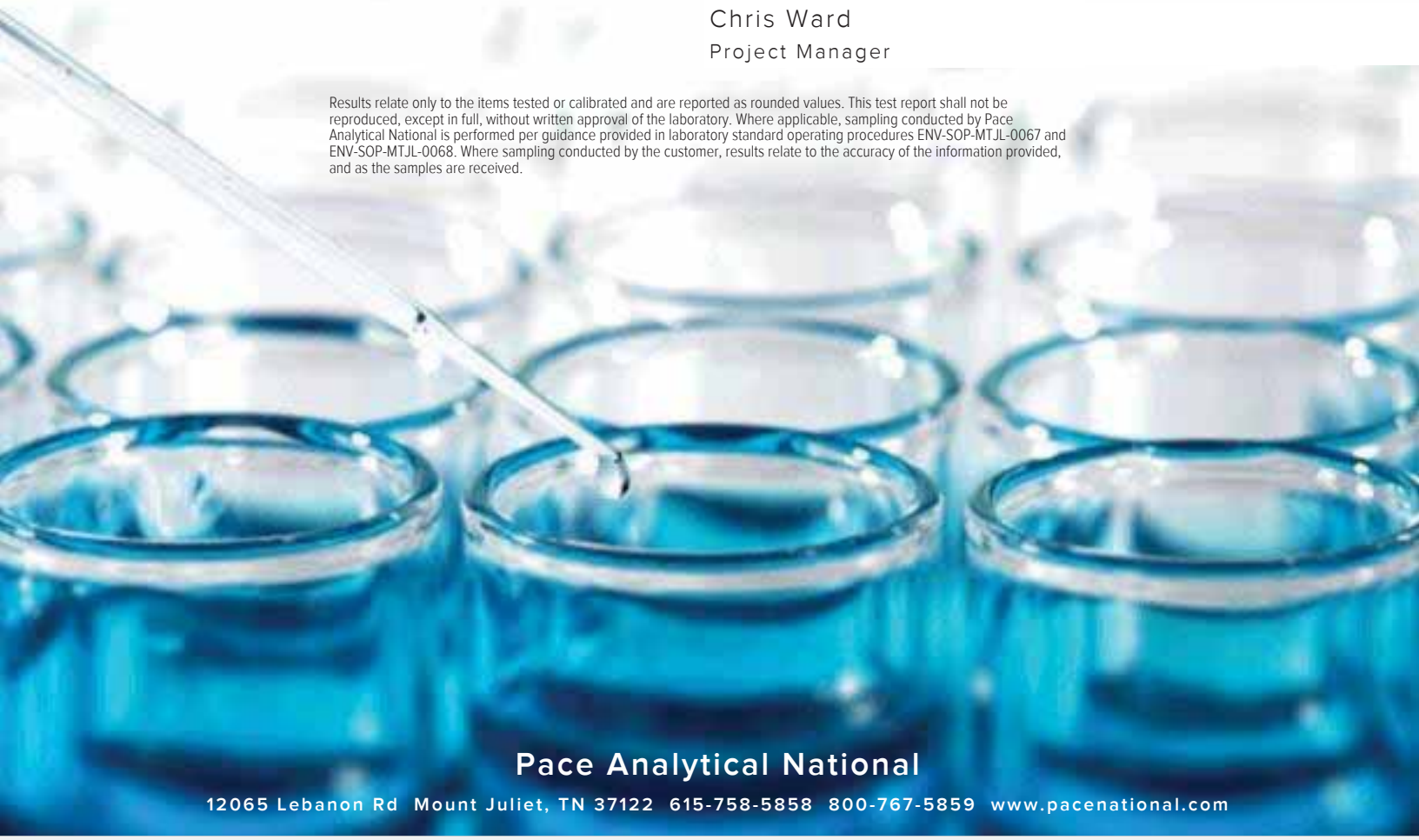
April 22, 2024

Caerus Oil and Gas

Sample Delivery Group:	L1724779
Samples Received:	04/11/2024
Project Number:	
Description:	YCF XOM 2-35-1 Gathering Pipeline Release
Site:	YCF XOM 2-35-1
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

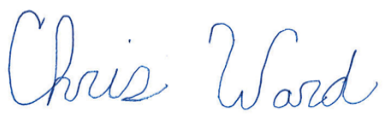
20240409-YCF XOM 2-35-1-(MOI)@4 L1724779-01 Solid

Collected by: Alex Slorby
Collected date/time: 04/09/24 11:50
Received date/time: 04/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2266771	1	04/17/24 15:57	04/17/24 15:57	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2267047	1	04/15/24 07:53	04/16/24 16:08	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2269303	1	04/17/24 19:38	04/17/24 22:10	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2269319	1	04/17/24 19:36	04/17/24 23:10	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2266772	1	04/16/24 13:21	04/16/24 14:39	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2267954	5	04/18/24 10:47	04/19/24 18:32	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2269582	200	04/14/24 14:07	04/19/24 03:21	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2267346	20	04/14/24 14:07	04/15/24 15:49	JBE	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2269060	5.15	04/17/24 15:51	04/19/24 06:27	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2268524	1	04/17/24 10:13	04/17/24 20:38	JRM	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	4.70		1	04/17/2024 15:57	WG2266771

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Hexavalent Chromium	ND		1.00	1	04/16/2024 16:08	WG2267047

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	7.64	T8	1	04/17/2024 22:10	WG2269303

Sample Narrative:

L1724779-01 WG2269303: 7.64 at 22.1C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	912		10.0	1	04/17/2024 23:10	WG2269319

Sample Narrative:

L1724779-01 WG2269319: at 25C

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/l		mg/l			
Hot Water Sol. Boron	2.29		0.200	1	04/16/2024 14:39	WG2266772

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	5.25		1.00	5	04/19/2024 18:32	WG2267954
Barium	350		2.50	5	04/19/2024 18:32	WG2267954
Cadmium	ND		1.00	5	04/19/2024 18:32	WG2267954
Copper	15.4		5.00	5	04/19/2024 18:32	WG2267954
Lead	11.4		2.00	5	04/19/2024 18:32	WG2267954
Nickel	15.7		2.50	5	04/19/2024 18:32	WG2267954
Selenium	ND		2.50	5	04/19/2024 18:32	WG2267954
Silver	ND		0.500	5	04/19/2024 18:32	WG2267954
Zinc	47.8		25.0	5	04/19/2024 18:32	WG2267954

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	827		20.0	200	04/19/2024 03:21	WG2269582
(S) a,a,a-Trifluorotoluene(FID)	*92.4*		*77.0-120*		*04/19/2024 03:21*	WG2269582

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.624		0.0200	20	04/15/2024 15:49	WG2267346
Ethylbenzene	1.56		0.0500	20	04/15/2024 15:49	WG2267346
Toluene	11.8		0.100	20	04/15/2024 15:49	WG2267346
1,2,4-Trimethylbenzene	8.55		0.100	20	04/15/2024 15:49	WG2267346
1,3,5-Trimethylbenzene	7.76		0.100	20	04/15/2024 15:49	WG2267346
Xylenes, Total	38.8		0.130	20	04/15/2024 15:49	WG2267346
(S) Toluene-d8	*101*		*75.0-131*		*04/15/2024 15:49*	WG2267346
(S) 4-Bromofluorobenzene	*108*		*67.0-138*		*04/15/2024 15:49*	WG2267346
(S) 1,2-Dichloroethane-d4	*111*		*70.0-130*		*04/15/2024 15:49*	WG2267346

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	559	J3 V	20.6	5.15	04/19/2024 06:27	WG2269060
C28-C36 Motor Oil Range	ND		20.6	5.15	04/19/2024 06:27	WG2269060
(S) o-Terphenyl	*58.0*		*18.0-148*		*04/19/2024 06:27*	WG2269060

Sample Narrative:

L1724779-01 WG2269060: 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
Anthracene	ND		0.00600	1	04/17/2024 20:38	WG2268524
Acenaphthene	ND		0.00600	1	04/17/2024 20:38	WG2268524
Benzo(a)anthracene	ND		0.00600	1	04/17/2024 20:38	WG2268524
Benzo(a)pyrene	ND		0.00600	1	04/17/2024 20:38	WG2268524
Benzo(b)fluoranthene	ND		0.00600	1	04/17/2024 20:38	WG2268524
Benzo(k)fluoranthene	ND		0.00600	1	04/17/2024 20:38	WG2268524
Chrysene	ND		0.00600	1	04/17/2024 20:38	WG2268524
Dibenz(a,h)anthracene	ND		0.00600	1	04/17/2024 20:38	WG2268524
Fluoranthene	ND		0.00600	1	04/17/2024 20:38	WG2268524
Fluorene	0.00905		0.00600	1	04/17/2024 20:38	WG2268524
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	04/17/2024 20:38	WG2268524
Naphthalene	0.170		0.0200	1	04/17/2024 20:38	WG2268524
Pyrene	ND		0.00600	1	04/17/2024 20:38	WG2268524
1-Methylnaphthalene	0.0999		0.0200	1	04/17/2024 20:38	WG2268524
2-Methylnaphthalene	0.337		0.0200	1	04/17/2024 20:38	WG2268524
(S) p-Terphenyl-d14	*70.7*		*23.0-120*		*04/17/2024 20:38*	WG2268524
(S) Nitrobenzene-d5	*147*		*14.0-149*		*04/17/2024 20:38*	WG2268524
(S) 2-Fluorobiphenyl	*60.5*		*34.0-125*		*04/17/2024 20:38*	WG2268524

Method Blank (MB)

(MB) R4058490-1 04/16/24 15:53

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

L1725382-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1725382-07 04/16/24 17:35 • (DUP) R4058490-7 04/16/24 17:41

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

L1725382-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1725382-14 04/16/24 19:01 • (DUP) R4058490-12 04/16/24 19:08

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	1.34	1.16	1	14.0		20

Laboratory Control Sample (LCS)

(LCS) R4058490-2 04/16/24 16:02

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.1	101	80.0-120	

L1725382-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1725382-01 04/16/24 16:20 • (MS) R4058490-4 04/16/24 16:33 • (MSD) R4058490-5 04/16/24 16:39

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	ND	5.26	4.84	26.3	24.2	1	75.0-125	J6	J6	8.29	20

L1725382-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1725382-11 04/16/24 18:06 • (MS) R4058490-9 04/16/24 18:30 • (MSD) R4058490-10 04/16/24 18:37

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	ND	5.94	8.83	29.7	44.2	1	75.0-125	J6	J3 J6	39.2	20

L1725382-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1725382-01 04/16/24 16:20 • (MS) R4058490-6 04/16/24 16:45

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	643	ND	517	80.4	50	75.0-125	

L1725382-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L1725382-11 04/16/24 18:06 • (MS) R4058490-11 04/16/24 18:43

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	648	ND	561	86.5	50	75.0-125	

L1726239-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1726239-01 04/17/24 22:10 • (DUP) R4058983-2 04/17/24 22:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	4.73	4.72	1	0.212		1

Sample Narrative:

OS: 4.73 at 21.7C

DUP: 4.72 at 21.2C

Laboratory Control Sample (LCS)

(LCS) R4058983-1 04/17/24 22:10

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

Sample Narrative:

LCS: 10 at 22C

Method Blank (MB)

(MB) R4058990-1 04/17/24 23:10

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

Sample Narrative:

BLANK: at 25C

L1725647-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1725647-02 04/17/24 23:10 • (DUP) R4058990-3 04/17/24 23:10

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	246	246	1	0.163		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4058990-2 04/17/24 23:10

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	327	332	102	85.0-115	

Sample Narrative:

LCS: at 25C

Method Blank (MB)

(MB) R4058319-1 04/16/24 14:31

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) R4058319-2 04/16/24 14:32 • (LCSD) R4058319-3 04/16/24 14:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.08	1.13	108	113	80.0-120			4.73	20

QUALITY CONTROL SUMMARY

L1724779-01

Method Blank (MB)

(MB) R4059987-2 04/19/24 18:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Copper	0.198	J	0.133	5.00
Lead	U		0.0990	2.00
Nickel	U		0.197	2.50
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500
Zinc	U		0.740	25.0

Laboratory Control Sample (LCS)

(LCS) R4059987-3 04/19/24 18:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	104	104	80.0-120	
Barium	100	107	107	80.0-120	
Cadmium	100	107	107	80.0-120	
Copper	100	107	107	80.0-120	
Lead	100	108	108	80.0-120	
Nickel	100	106	106	80.0-120	
Selenium	100	104	104	80.0-120	
Silver	20.0	21.9	110	80.0-120	
Zinc	100	102	102	80.0-120	

L1725631-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1725631-16 04/19/24 18:12 • (MS) R4059987-6 04/19/24 18:22 • (MSD) R4059987-7 04/19/24 18:25

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	3.09	91.2	89.2	88.1	86.2	5	75.0-125			2.16	20
Barium	100	176	343	325	166	149	5	75.0-125	J5	J5	5.39	20
Cadmium	100	ND	95.5	91.8	95.2	91.4	5	75.0-125			4.03	20
Copper	100	7.47	99.2	98.4	91.7	90.9	5	75.0-125			0.777	20
Lead	100	6.10	101	97.4	94.7	91.3	5	75.0-125			3.44	20
Nickel	100	7.66	104	102	96.3	94.6	5	75.0-125			1.61	20
Selenium	100	ND	80.5	80.1	79.9	79.4	5	75.0-125			0.586	20
Silver	20.0	ND	19.3	18.9	96.5	94.3	5	75.0-125			2.34	20
Zinc	100	25.2	129	126	104	101	5	75.0-125			2.39	20

Method Blank (MB)

(MB) R4059809-2 04/18/24 20:53

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	*96.9*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R4059809-1 04/18/24 19:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	5.72	114	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*106*	*77.0-120*	

L1725320-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1725320-01 04/19/24 02:23 • (MS) R4059809-3 04/19/24 04:00 • (MSD) R4059809-4 04/19/24 04:19

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 %
TPH (GC/FID) Low Fraction	296	ND	356	342	140	134	51	10.0-151			4.01	28
(S) a,a,a-Trifluorotoluene(FID)					*110*	*109*		*77.0-120*				

Method Blank (MB)

(MB) R4059221-2 04/15/24 11:45

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	*101*			*75.0-131*
(S) 4-Bromofluorobenzene	*102*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4059221-1 04/15/24 10:27

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.113	90.4	70.0-123	
Toluene	0.125	0.117	93.6	75.0-121	
Ethylbenzene	0.125	0.123	98.4	74.0-126	
Xylenes, Total	0.375	0.354	94.4	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.112	89.6	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.106	84.8	73.0-127	
(S) Toluene-d8			*99.4*	*75.0-131*	
(S) 4-Bromofluorobenzene			*107*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*107*	*70.0-130*	

L1724771-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724771-02 04/15/24 14:08 • (MS) R4059221-3 04/15/24 20:22 • (MSD) R4059221-4 04/15/24 20:41

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.199	ND	0.147	0.160	91.9	100	1.28	10.0-149			8.47	37
Toluene	0.199	ND	0.154	0.173	94.0	106	1.28	10.0-156			11.6	38
Ethylbenzene	0.199	ND	0.160	0.177	98.9	110	1.28	10.0-160			10.1	38
Xylenes, Total	0.595	ND	0.471	0.526	98.1	110	1.28	10.0-160			11.0	38
1,2,4-Trimethylbenzene	0.199	ND	0.150	0.173	93.8	108	1.28	10.0-160			14.2	36
1,3,5-Trimethylbenzene	0.199	ND	0.144	0.164	90.0	103	1.28	10.0-160			13.0	38
(S) Toluene-d8					*101*	*104*		*75.0-131*				
(S) 4-Bromofluorobenzene					*104*	*106*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*115*	*95.3*		*70.0-130*				

L1725653-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1725653-03 04/15/24 18:26 • (MS) R4059221-5 04/15/24 21:00 • (MSD) R4059221-6 04/15/24 21:20

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0990	ND	0.100	0.100	101	101	1	10.0-149			0.000	37
Toluene	0.0990	ND	0.112	0.109	113	110	1	10.0-156			2.71	38
Ethylbenzene	0.0990	ND	0.114	0.111	115	112	1	10.0-160			2.67	38
Xylenes, Total	0.297	ND	0.340	0.331	114	111	1	10.0-160			2.68	38
1,2,4-Trimethylbenzene	0.0990	ND	0.105	0.109	106	110	1	10.0-160			3.74	36
1,3,5-Trimethylbenzene	0.0990	ND	0.103	0.106	104	107	1	10.0-160			2.87	38
(S) Toluene-d8					*105*	*105*		*75.0-131*				
(S) 4-Bromofluorobenzene					*109*	*106*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*110*	*107*		*70.0-130*				

Method Blank (MB)

(MB) R4059649-1 04/19/24 01:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	*59.8*			*18.0-148*

Method Blank (MB)

(MB) R4059649-5 04/19/24 09:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	*64.1*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4059649-2 04/19/24 01:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	31.7	63.4	50.0-150	
(S) o-Terphenyl			*70.7*	*18.0-148*	

L1724779-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724779-01 04/19/24 06:27 • (MS) R4059649-3 04/19/24 06:39 • (MSD) R4059649-4 04/19/24 06:51

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.6	559	873	1320	621	1510	5.05	50.0-150	V	J3 V	40.8	20
(S) o-Terphenyl					*66.0*	*59.8*		*18.0-148*				

Sample Narrative:

OS: Dilution due to matrix.

Method Blank (MB)

(MB) R4059504-2 04/17/24 19:09

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	*82.4*			*23.0-120*
(S) Nitrobenzene-d5	*104*			*14.0-149*
(S) 2-Fluorobiphenyl	*83.8*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R4059504-1 04/17/24 18:51

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0679	84.9	50.0-120	
Anthracene	0.0800	0.0811	101	50.0-126	
Benzo(a)anthracene	0.0800	0.0802	100	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0724	90.5	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0646	80.7	49.0-125	
Benzo(a)pyrene	0.0800	0.0612	76.5	42.0-120	
Chrysene	0.0800	0.0778	97.3	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0742	92.8	47.0-125	
Fluoranthene	0.0800	0.0820	103	49.0-129	
Fluorene	0.0800	0.0760	95.0	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0742	92.8	46.0-125	
1-Methylnaphthalene	0.0800	0.0821	103	51.0-121	
2-Methylnaphthalene	0.0800	0.0785	98.1	50.0-120	
Naphthalene	0.0800	0.0772	96.5	50.0-120	
Pyrene	0.0800	0.0789	98.6	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4059504-1 04/17/24 18:51

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*80.8*	*23.0-120*	
(S) Nitrobenzene-d5			*105*	*14.0-149*	
(S) 2-Fluorobiphenyl			*78.7*	*34.0-125*	

L1724747-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724747-09 04/17/24 23:19 • (MS) R4059504-3 04/17/24 23:37 • (MSD) R4059504-4 04/17/24 23:55

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0784	0.00693	0.0694	0.0697	79.7	80.5	1	14.0-127			0.431	27
Anthracene	0.0784	0.00920	0.0883	0.0868	101	99.5	1	10.0-145			1.71	30
Benzo(a)anthracene	0.0784	0.230	0.304	0.187	94.4	0.000	1	10.0-139		J3 J6	47.7	30
Benzo(b)fluoranthene	0.0784	0.213	0.294	0.187	103	0.000	1	10.0-140		J3 J6	44.5	36
Benzo(k)fluoranthene	0.0784	0.0533	0.124	0.0925	90.2	50.3	1	10.0-137			29.1	31
Benzo(a)pyrene	0.0784	0.268	0.366	0.213	125	0.000	1	10.0-141		J3 J6	52.8	31
Chrysene	0.0784	0.246	0.402	0.226	199	0.000	1	10.0-145	J5	J3 J6	56.1	30
Dibenz(a,h)anthracene	0.0784	0.0763	0.161	0.116	108	50.9	1	10.0-132		J3	32.5	31
Fluoranthene	0.0784	0.183	0.202	0.159	24.2	0.000	1	10.0-153		J6	23.8	33
Fluorene	0.0784	ND	0.0773	0.0790	95.4	98.1	1	11.0-130			2.18	29
Indeno(1,2,3-cd)pyrene	0.0784	0.133	0.232	0.168	126	44.9	1	10.0-137			32.0	32
1-Methylnaphthalene	0.0784	ND	0.0823	0.0839	105	108	1	10.0-142			1.93	28
2-Methylnaphthalene	0.0784	ND	0.0812	0.0828	104	106	1	10.0-137			1.95	28
Naphthalene	0.0784	ND	0.0762	0.0776	97.2	99.5	1	10.0-135			1.82	27
Pyrene	0.0784	0.159	0.178	0.140	24.2	0.000	1	10.0-148		J6	23.9	35
(S) p-Terphenyl-d14					*75.6*	*78.4*		*23.0-120*				
(S) Nitrobenzene-d5					*113*	*118*		*14.0-149*				
(S) 2-Fluorobiphenyl					*74.1*	*74.9*		*34.0-125*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

Abbreviations and Definitions

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

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.
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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

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

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

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

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

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

A205

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins, Andrew Verbonitz	Email To: info on file
Copy To: --	Site Collection Info/Address: NA
Customer Project Name/Number: YCF XOM 2-35-1 Gathering Pipeline Release	State: CO / County/City: Rio Blanco / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: (701) 721-5415 Email: alex.slorby@confluence-cc.com	Site/Facility ID #: YCF XOM 2-35-1 / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Alex Slorby	Purchase Order # : NA / Quote #: NA / DW PWS ID #: NA / DW Location Code: NA
Collected By (signature): Alex Slorby	Turnaround Date Required: HOLD / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold:	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No Analysis: NA

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

Container Preservative Type **

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

Lab Project

Analyses

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	Table 915-1 VOC's	TPH (ORO, GRO, DRO)	Table 915-1 Metal's	Table 915-1 PAHs	pH, EC, SAR	Boron (Hot Water Soluble Soil)	CR6IC
20240409-YCF XOM 2-35-1-(MOI)@4	SL	G	4/9/2024	1150				3	G	X	X	X	X	X	X	X

Lab Profile/Line:

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

LAB USE ONLY:
Lab Sample # / Comments:
617477 9
-01

Customer Remarks / Special Conditions / Possible Hazards:

HOLD FOR ANALYSIS

Type of Ice Used: Wet Blue Dry None

Packing Material Used: 6426 8306 8425

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: 0
Temp Blnk Received: Y NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: _____oC
Comments:
DPA7 3.4, 3.5

Relinquished by/Company: (Signature) Alex Slorby	Date/Time: 4/10/2024 1615	Received by/Company: (Signature)	Date/Time:	MTJL LAB USE ONLY Table #:
Relinquished by/Company: (Signature)	Date/Time: 4/10 1700	Received by/Company: (Signature)	Date/Time:	Acctnum: Template: Prelogin:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 4-11-24 9:00	PM: PB:

Trip Blank Received: Y (N) NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 1 of: 1

ANALYTICAL REPORT

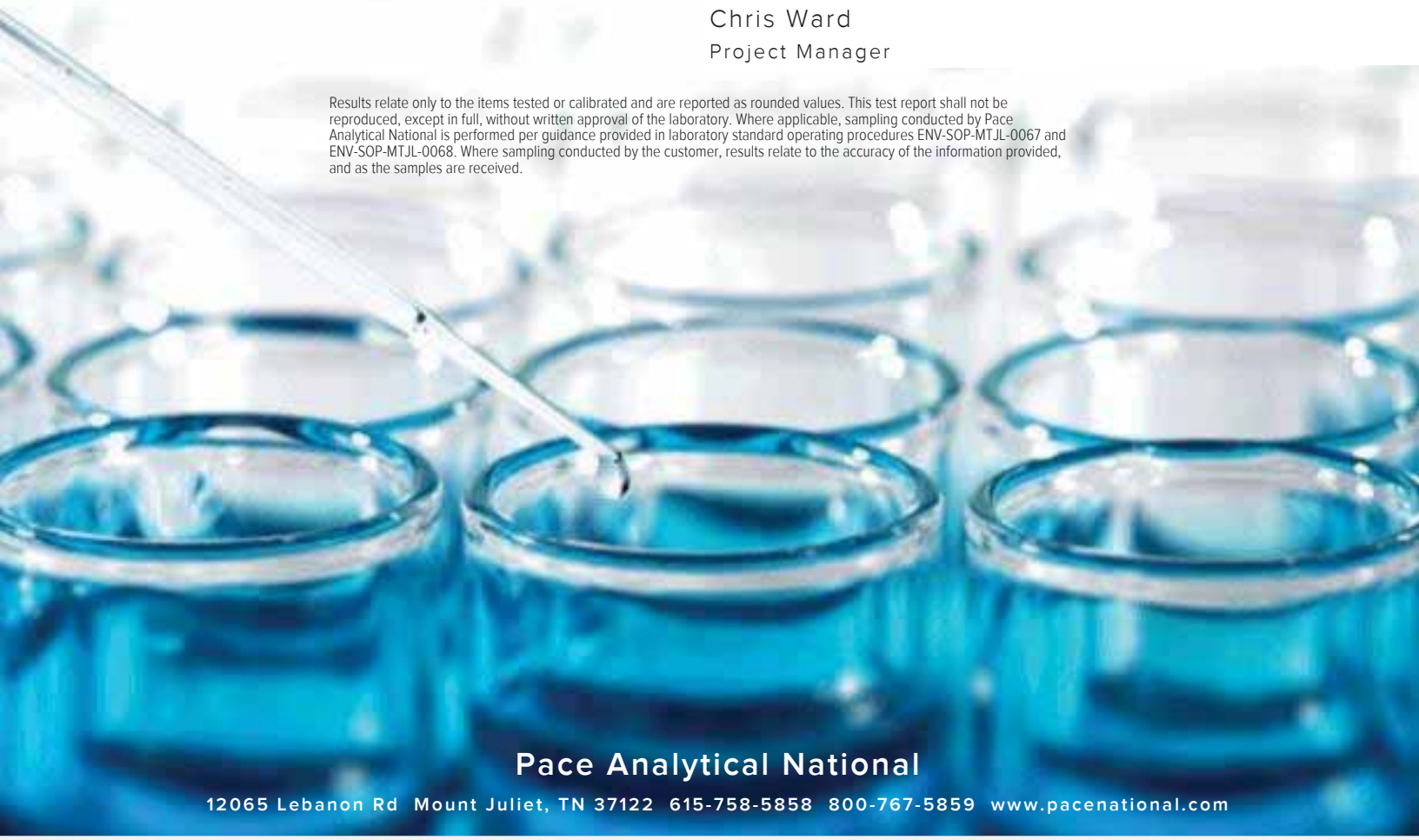
April 19, 2024

Caerus Oil and Gas

Sample Delivery Group:	L1724778
Samples Received:	04/11/2024
Project Number:	
Description:	YCF XOM 2-35-1 Gathering Pipeline Release
Site:	YCF XOM 2-35-1
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

20240409-YCF XOM 2-35-1-(SB16)@12.5 L1724778-01 Solid

Collected by: Alex Slorby
Collected date/time: 04/09/24 13:35
Received date/time: 04/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2268966	1	04/18/24 15:18	04/18/24 15:18	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2266068	1	04/12/24 15:28	04/13/24 16:10	KRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2266071	5	04/15/24 09:27	04/17/24 22:48	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2268463	200	04/14/24 14:07	04/17/24 04:41	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2267012	20	04/14/24 14:07	04/15/24 03:43	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2266730	1	04/14/24 14:57	04/15/24 15:06	KDB	Mt. Juliet, TN

20240409-YCF XOM 2-35-1-(SB16)@15 L1724778-02 Solid

Collected by: Alex Slorby
Collected date/time: 04/09/24 14:05
Received date/time: 04/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2268966	1	04/18/24 15:22	04/18/24 15:22	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2266068	1	04/12/24 15:28	04/13/24 16:10	KRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2266071	5	04/15/24 09:27	04/17/24 22:51	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2268453	1	04/14/24 14:07	04/17/24 11:35	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2267012	1	04/14/24 14:07	04/14/24 23:35	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2266730	1	04/14/24 14:57	04/15/24 11:01	KDB	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	3.70		1	04/18/2024 15:18	WG2268966

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	8.10	T8	1	04/13/2024 16:10	WG2266068

Sample Narrative:

L1724778-01 WG2266068: 8.1 at 20.1C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	6.64		1.00	5	04/17/2024 22:48	WG2266071

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	478		20.0	200	04/17/2024 04:41	WG2268463
(S) a,a,a-Trifluorotoluene(FID)	*94.6*		*77.0-120*		*04/17/2024 04:41*	WG2268463

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Benzene	0.395		0.0200	20	04/15/2024 03:43	WG2267012
Toluene	4.88		0.100	20	04/15/2024 03:43	WG2267012
Ethylbenzene	0.472		0.0500	20	04/15/2024 03:43	WG2267012
Xylenes, Total	10.8		0.130	20	04/15/2024 03:43	WG2267012
Naphthalene	ND		0.250	20	04/15/2024 03:43	WG2267012
1,2,4-Trimethylbenzene	1.75		0.100	20	04/15/2024 03:43	WG2267012
1,3,5-Trimethylbenzene	1.56		0.100	20	04/15/2024 03:43	WG2267012
(S) Toluene-d8	*92.6*		*75.0-131*		*04/15/2024 03:43*	WG2267012
(S) 4-Bromofluorobenzene	*106*		*67.0-138*		*04/15/2024 03:43*	WG2267012
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*04/15/2024 03:43*	WG2267012

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
C10-C28 Diesel Range	28.4		4.00	1	04/15/2024 15:06	WG2266730
C28-C36 Motor Oil Range	29.3		4.00	1	04/15/2024 15:06	WG2266730
(S) o-Terphenyl	*53.1*		*18.0-148*		*04/15/2024 15:06*	WG2266730

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	1.86		1	04/18/2024 15:22	WG2268966

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	7.84	T8	1	04/13/2024 16:10	WG2266068

Sample Narrative:

L1724778-02 WG2266068: 7.84 at 19.9C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	5.03		1.00	5	04/17/2024 22:51	WG2266071

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	3.71		0.100	1	04/17/2024 11:35	WG2268453
(S) a,a,a-Trifluorotoluene(FID)	*80.0*		*77.0-120*		*04/17/2024 11:35*	WG2268453

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Benzene	0.0555		0.00100	1	04/14/2024 23:35	WG2267012
Toluene	0.0820		0.00500	1	04/14/2024 23:35	WG2267012
Ethylbenzene	ND		0.00250	1	04/14/2024 23:35	WG2267012
Xylenes, Total	0.128		0.00650	1	04/14/2024 23:35	WG2267012
Naphthalene	ND		0.0125	1	04/14/2024 23:35	WG2267012
1,2,4-Trimethylbenzene	0.0149		0.00500	1	04/14/2024 23:35	WG2267012
1,3,5-Trimethylbenzene	0.0170		0.00500	1	04/14/2024 23:35	WG2267012
(S) Toluene-d8	*91.7*		*75.0-131*		*04/14/2024 23:35*	WG2267012
(S) 4-Bromofluorobenzene	*101*		*67.0-138*		*04/14/2024 23:35*	WG2267012
(S) 1,2-Dichloroethane-d4	*114*		*70.0-130*		*04/14/2024 23:35*	WG2267012

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
C10-C28 Diesel Range	ND		4.00	1	04/15/2024 11:01	WG2266730
C28-C36 Motor Oil Range	ND		4.00	1	04/15/2024 11:01	WG2266730
(S) o-Terphenyl	*34.9*		*18.0-148*		*04/15/2024 11:01*	WG2266730

L1724647-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1724647-04 04/13/24 16:10 • (DUP) R4057363-2 04/13/24 16:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.77	7.78	1	0.129		1

Sample Narrative:

OS: 7.77 at 20.2C

DUP: 7.78 at 20.3C

L1724653-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1724653-01 04/13/24 16:10 • (DUP) R4057363-3 04/13/24 16:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	9.10	9.11	1	0.110		1

Sample Narrative:

OS: 9.1 at 20C

DUP: 9.11 at 19.9C

Laboratory Control Sample (LCS)

(LCS) R4057363-1 04/13/24 16:10

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

Sample Narrative:

LCS: 10.01 at 19.1C

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

Method Blank (MB)

(MB) R4058979-1 04/17/24 21:47

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

Laboratory Control Sample (LCS)

(LCS) R4058979-2 04/17/24 21:51

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

L1724588-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724588-08 04/17/24 21:54 • (MS) R4058979-5 04/17/24 22:04 • (MSD) R4058979-6 04/17/24 22:07

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	5.16	102	99.4	97.0	94.2	5	75.0-125			2.80	20

Method Blank (MB)

(MB) R4059299-2 04/16/24 19:24

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*91.6*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R4059299-1 04/16/24 17:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.58	91.6	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*99.2*	*77.0-120*	

Method Blank (MB)

(MB) R4058810-2 04/16/24 23:37

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R4058810-1 04/16/24 22:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.66	93.2	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*104*	*77.0-120*	

L1724700-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724700-01 04/17/24 00:46 • (MS) R4058810-3 04/17/24 07:54 • (MSD) R4058810-4 04/17/24 08:13

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 %
TPH (GC/FID) Low Fraction	104	2.81	108	105	101	98.3	25	10.0-151			2.82	28
(S) a,a,a-Trifluorotoluene(FID)					*103*	*104*		*77.0-120*				

Method Blank (MB)

(MB) R4057572-3 04/14/24 21:01

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
Naphthalene	U		0.00488	0.0125
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	*90.8*			*75.0-131*
(S) 4-Bromofluorobenzene	*99.2*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*121*			*70.0-130*

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

(LCS) R4057572-1 04/14/24 18:07 • (LCSD) R4057572-2 04/14/24 18:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.121	0.126	96.8	101	70.0-123			4.05	20
Toluene	0.125	0.100	0.0979	80.0	78.3	75.0-121			2.12	20
Ethylbenzene	0.125	0.105	0.103	84.0	82.4	74.0-126			1.92	20
Xylenes, Total	0.375	0.306	0.307	81.6	81.9	72.0-127			0.326	20
Naphthalene	0.125	0.109	0.0996	87.2	79.7	59.0-130			9.01	20
1,2,4-Trimethylbenzene	0.125	0.107	0.115	85.6	92.0	70.0-126			7.21	20
1,3,5-Trimethylbenzene	0.125	0.102	0.113	81.6	90.4	73.0-127			10.2	20
(S) Toluene-d8				*87.4*	*86.0*	*75.0-131*				
(S) 4-Bromofluorobenzene				*104*	*99.4*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*125*	*126*	*70.0-130*				

L1724777-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724777-02 04/15/24 04:02 • (MS) R4057572-4 04/15/24 04:40 • (MSD) R4057572-5 04/15/24 04:59

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	10.0	7.73	28.1	25.8	204	181	80	10.0-149	J5	J5	8.53	37
Toluene	10.0	103	179	164	760	610	80	10.0-156	V	V	8.75	38
Ethylbenzene	10.0	12.5	30.4	28.2	179	157	80	10.0-160	J5		7.51	38
Xylenes, Total	30.0	239	396	362	523	410	80	10.0-160	V	V	8.97	38
Naphthalene	10.0	3.35	16.2	16.1	129	128	80	10.0-160			0.619	36
1,2,4-Trimethylbenzene	10.0	49.0	81.2	75.0	322	260	80	10.0-160	V	V	7.94	36
1,3,5-Trimethylbenzene	10.0	44.4	72.8	67.4	284	230	80	10.0-160	V	V	7.70	38

L1724777-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724777-02 04/15/24 04:02 • (MS) R4057572-4 04/15/24 04:40 • (MSD) R4057572-5 04/15/24 04:59

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 %
(S) Toluene-d8					*89.5*	*91.4*		*75.0-131*				
(S) 4-Bromofluorobenzene					*108*	*109*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*104*	*101*		*70.0-130*				

Method Blank (MB)

(MB) R4057930-1 04/15/24 10:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U	U	1.61	4.00
C28-C36 Motor Oil Range	U	U	0.274	4.00
(S) o-Terphenyl	*51.2*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4057930-2 04/15/24 10:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	32.5	65.0	50.0-150	
(S) o-Terphenyl			*49.8*	*18.0-148*	

L1724578-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724578-03 04/15/24 11:53 • (MS) R4057930-3 04/15/24 12:06 • (MSD) R4057930-4 04/15/24 12:18

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.2	5.16	46.1	41.7	83.2	73.4	1	50.0-150			10.0	20
(S) o-Terphenyl					*58.8*	*56.6*		*18.0-148*				

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
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
T8	Sample(s) received past/too close to holding time expiration.
U	Below Detectable Limits: Indicates that the analyte was not detected.
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	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.

Pace Analytical®

CHAIN-OF-CUSTODY Analytical Request Document

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

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

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins, Andy Verbonitz	Email To: info on file
Copy To: --	Site Collection Info/Address: NA
Customer Project Name/Number: YCF XOM 2-35-1 Gathering Pipeline Release	State: CO / County/City: Rio Blanco / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: 701-721-5415 Email: alex.slorby@confluence-cc.com	Site/Facility ID #: YCF XOM 2-35-1 / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Alex Slorby	Purchase Order # : NA Quote #: NA / DW PWS ID #: NA DW Location Code: NA
Collected By (signature): Alex Slorby	Turnaround Date Required: **Standard Turnaround** / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold:	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No Analysis: NA

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

Container Preservative Type **

Lab Project Mar- A204

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hy
(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 _____

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	TPH (ORO, GRO, DRO)	BTEX	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	naphthalene	SAR, pH	arsenic
20240409-YCF XOM 2-35-1-(SB16)@12.5	SL	G	4/9/2024	1335				3	G	X	X	X	X	X	X	X
20240409-YCF XOM 2-35-1-(SB16)@15	SL	G	4/9/2024	1405				3	G	X	X	X	X	X	X	X

Analyses

Lab Profile/Line:

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

LAB USE ONLY:
Lab Sample # / Comments:
L1724778
-01
-02

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used: 6426 8306 8425

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:
RBA7 3.47.1=3.

Relinquished by/Company: (Signature) Alex Slorby	Date/Time: 4/10/2024 1615	Received by/Company: (Signature)	Date/Time:	MTJL LAB USE ONLY Table #:
Relinquished by/Company: (Signature)	Date/Time: 4/10/24 1700	Received by/Company: (Signature)	Date/Time:	Acctnum: Template: Prelogin:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 4-11-24 9:0	PM: PB:

Trip Blank Received: Y (N) NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 1 of: 1

ANALYTICAL REPORT

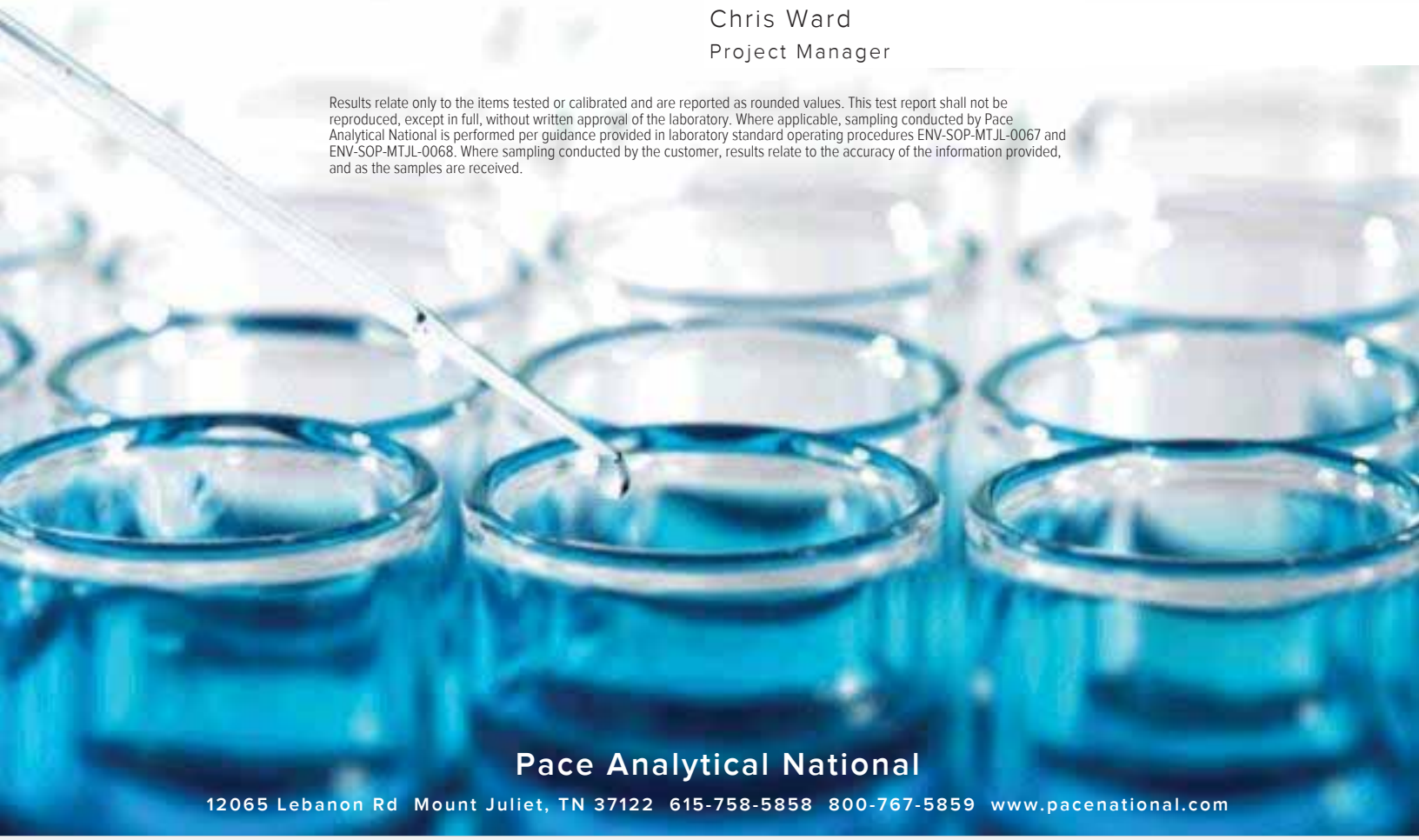
April 19, 2024

Caerus Oil and Gas

Sample Delivery Group:	L1724780
Samples Received:	04/11/2024
Project Number:	
Description:	YCF XOM 2-35-1 Gathering Pipeline Release
Site:	YCF XOM 2-35-1
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

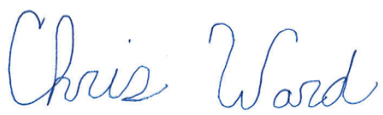
20240409-YCF XOM 2-35-1-(MOI)@6 L1724780-01 Solid

Collected by: Alex Slorby
Collected date/time: 04/09/24 12:15
Received date/time: 04/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2268966	1	04/18/24 15:26	04/18/24 15:26	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2265570	1	04/12/24 13:27	04/15/24 17:34	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2266068	1	04/12/24 15:28	04/13/24 16:10	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2266584	1	04/16/24 10:52	04/17/24 14:24	BJM	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2268973	1	04/17/24 12:48	04/18/24 02:18	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2266071	5	04/15/24 09:27	04/17/24 22:54	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2269898	1	04/14/24 14:07	04/19/24 03:33	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2267346	1	04/14/24 14:07	04/15/24 16:08	JBE	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2266730	1	04/14/24 14:57	04/15/24 11:14	KDB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2268523	1	04/17/24 06:09	04/17/24 12:25	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

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	3.09		1	04/18/2024 15:26	WG2268966

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Hexavalent Chromium	ND		1.00	1	04/15/2024 17:34	WG2265570

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	8.07	T8	1	04/13/2024 16:10	WG2266068

Sample Narrative:

L1724780-01 WG2266068: 8.07 at 19.7C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	727		10.0	1	04/17/2024 14:24	WG2266584

Sample Narrative:

L1724780-01 WG2266584: at 25C

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/l		mg/l			
Hot Water Sol. Boron	0.279		0.200	1	04/18/2024 02:18	WG2268973

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	5.53		1.00	5	04/17/2024 22:54	WG2266071
Barium	273		2.50	5	04/17/2024 22:54	WG2266071
Cadmium	ND		1.00	5	04/17/2024 22:54	WG2266071
Copper	10.9		5.00	5	04/17/2024 22:54	WG2266071
Lead	9.75		2.00	5	04/17/2024 22:54	WG2266071
Nickel	14.6		2.50	5	04/17/2024 22:54	WG2266071
Selenium	ND		2.50	5	04/17/2024 22:54	WG2266071
Silver	ND		0.500	5	04/17/2024 22:54	WG2266071
Zinc	42.3		25.0	5	04/17/2024 22:54	WG2266071

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	ND	V3	0.100	1	04/19/2024 03:33	WG2269898
(S) a,a,a-Trifluorotoluene(FID)	*97.2*		*77.0-120*		*04/19/2024 03:33*	WG2269898

Sample Narrative:

L1724780-01 WG2269898: Previous run also had low IS/SURR recovery. Matrix effect.

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	04/15/2024 16:08	WG2267346
Toluene	ND		0.00500	1	04/15/2024 16:08	WG2267346
Ethylbenzene	ND		0.00250	1	04/15/2024 16:08	WG2267346
Xylenes, Total	ND		0.00650	1	04/15/2024 16:08	WG2267346
1,2,4-Trimethylbenzene	ND		0.00500	1	04/15/2024 16:08	WG2267346
1,3,5-Trimethylbenzene	0.00560		0.00500	1	04/15/2024 16:08	WG2267346
(S) Toluene-d8	*102*		*75.0-131*		*04/15/2024 16:08*	WG2267346
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*04/15/2024 16:08*	WG2267346
(S) 1,2-Dichloroethane-d4	*105*		*70.0-130*		*04/15/2024 16:08*	WG2267346

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	04/15/2024 11:14	WG2266730
C28-C36 Motor Oil Range	4.26		4.00	1	04/15/2024 11:14	WG2266730
(S) o-Terphenyl	*53.6*		*18.0-148*		*04/15/2024 11:14*	WG2266730

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	04/17/2024 12:25	WG2268523
Anthracene	ND		0.00600	1	04/17/2024 12:25	WG2268523
Benzo(a)anthracene	ND		0.00600	1	04/17/2024 12:25	WG2268523
Benzo(b)fluoranthene	ND		0.00600	1	04/17/2024 12:25	WG2268523
Benzo(k)fluoranthene	ND		0.00600	1	04/17/2024 12:25	WG2268523
Benzo(a)pyrene	ND		0.00600	1	04/17/2024 12:25	WG2268523
Chrysene	0.00624		0.00600	1	04/17/2024 12:25	WG2268523
Dibenz(a,h)anthracene	ND		0.00600	1	04/17/2024 12:25	WG2268523
Fluoranthene	0.00685		0.00600	1	04/17/2024 12:25	WG2268523
Fluorene	ND		0.00600	1	04/17/2024 12:25	WG2268523
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	04/17/2024 12:25	WG2268523
1-Methylnaphthalene	ND		0.0200	1	04/17/2024 12:25	WG2268523
2-Methylnaphthalene	ND		0.0200	1	04/17/2024 12:25	WG2268523
Naphthalene	ND		0.0200	1	04/17/2024 12:25	WG2268523
Pyrene	0.00675		0.00600	1	04/17/2024 12:25	WG2268523
(S) p-Terphenyl-d14	*41.9*		*23.0-120*		*04/17/2024 12:25*	WG2268523
(S) Nitrobenzene-d5	*47.5*		*14.0-149*		*04/17/2024 12:25*	WG2268523
(S) 2-Fluorobiphenyl	*40.6*		*34.0-125*		*04/17/2024 12:25*	WG2268523

Method Blank (MB)

(MB) R4058008-1 04/15/24 14:51

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

L1725285-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1725285-01 04/15/24 17:40 • (DUP) R4058008-11 04/15/24 17:46

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

L1725285-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1725285-04 04/15/24 21:56 • (DUP) R4058008-12 04/15/24 22:02

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

Laboratory Control Sample (LCS)

(LCS) R4058008-2 04/15/24 14:59

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.0	100	80.0-120	

L1724594-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724594-01 04/15/24 15:05 • (MS) R4058008-3 04/15/24 15:11 • (MSD) R4058008-4 04/15/24 15:17

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	ND	15.4	13.8	76.9	68.8	1	75.0-125		J6	11.2	20

L1724594-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724594-02 04/15/24 15:36 • (MS) R4058008-7 04/15/24 15:42 • (MSD) R4058008-8 04/15/24 15:48

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	ND	9.15	7.31	45.7	36.6	1	75.0-125	J6	J3 J6	22.3	20

L1724594-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1724594-01 04/15/24 15:05 • (MS) R4058008-5 04/15/24 15:24

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	641	ND	609	95.0	50	75.0-125	

L1724594-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1724594-02 04/15/24 15:36 • (MS) R4058008-9 04/15/24 16:07

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	636	ND	551	86.6	50	75.0-125	

L1724647-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1724647-04 04/13/24 16:10 • (DUP) R4057363-2 04/13/24 16:10

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.77	7.78	1	0.129		1

Sample Narrative:

OS: 7.77 at 20.2C

DUP: 7.78 at 20.3C

L1724653-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1724653-01 04/13/24 16:10 • (DUP) R4057363-3 04/13/24 16:10

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	9.10	9.11	1	0.110		1

Sample Narrative:

OS: 9.1 at 20C

DUP: 9.11 at 19.9C

Laboratory Control Sample (LCS)

(LCS) R4057363-1 04/13/24 16:10

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

Sample Narrative:

LCS: 10.01 at 19.1C

Method Blank (MB)

(MB) R4058845-1 04/17/24 14:24

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

Sample Narrative:
BLANK: at 25C

L1724887-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1724887-02 04/17/24 14:24 • (DUP) R4058845-3 04/17/24 14:24

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	475	475	1	0.000		20

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

L1724895-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1724895-01 04/17/24 14:24 • (DUP) R4058845-4 04/17/24 14:24

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	18300	17700	1	3.29		20

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

Laboratory Control Sample (LCS)

(LCS) R4058845-2 04/17/24 14:24

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	327	332	102	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4059030-1 04/18/24 01:26

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) R4059030-2 04/18/24 01:30 • (LCSD) R4059030-3 04/18/24 01:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.08	1.08	108	108	80.0-120			0.520	20

Method Blank (MB)

(MB) R4058979-1 04/17/24 21:47

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

Laboratory Control Sample (LCS)

(LCS) R4058979-2 04/17/24 21:51

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	106	106	80.0-120	
Barium	100	114	114	80.0-120	
Cadmium	100	103	103	80.0-120	
Copper	100	107	107	80.0-120	
Lead	100	112	112	80.0-120	
Nickel	100	108	108	80.0-120	
Selenium	100	102	102	80.0-120	
Silver	20.0	21.5	107	80.0-120	
Zinc	100	103	103	80.0-120	

L1724588-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724588-08 04/17/24 21:54 • (MS) R4058979-5 04/17/24 22:04 • (MSD) R4058979-6 04/17/24 22:07

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	5.16	102	99.4	97.0	94.2	5	75.0-125			2.80	20
Barium	100	203	318	334	115	131	5	75.0-125		J5	4.80	20
Cadmium	100	ND	102	97.3	102	97.1	5	75.0-125			4.39	20
Copper	100	10.2	108	107	97.5	97.1	5	75.0-125			0.327	20
Lead	100	11.5	113	111	102	99.0	5	75.0-125			2.36	20
Nickel	100	15.6	115	113	99.3	97.6	5	75.0-125			1.49	20
Selenium	100	ND	101	94.6	101	94.2	5	75.0-125			6.54	20
Silver	20.0	ND	20.4	20.0	102	99.8	5	75.0-125			2.38	20
Zinc	100	40.1	135	134	94.6	93.5	5	75.0-125			0.798	20

Method Blank (MB)

(MB) R4059850-3 04/19/24 02:24

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R4059850-2 04/19/24 01:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	3.94	78.8	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*110*	*77.0-120*	

Method Blank (MB)

(MB) R4059221-2 04/15/24 11:45

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	*101*			*75.0-131*
(S) 4-Bromofluorobenzene	*102*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4059221-1 04/15/24 10:27

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.113	90.4	70.0-123	
Toluene	0.125	0.117	93.6	75.0-121	
Ethylbenzene	0.125	0.123	98.4	74.0-126	
Xylenes, Total	0.375	0.354	94.4	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.112	89.6	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.106	84.8	73.0-127	
(S) Toluene-d8			*99.4*	*75.0-131*	
(S) 4-Bromofluorobenzene			*107*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*107*	*70.0-130*	

L1724771-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724771-02 04/15/24 14:08 • (MS) R4059221-3 04/15/24 20:22 • (MSD) R4059221-4 04/15/24 20:41

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.199	ND	0.147	0.160	91.9	100	1.28	10.0-149			8.47	37
Toluene	0.199	ND	0.154	0.173	94.0	106	1.28	10.0-156			11.6	38
Ethylbenzene	0.199	ND	0.160	0.177	98.9	110	1.28	10.0-160			10.1	38
Xylenes, Total	0.595	ND	0.471	0.526	98.1	110	1.28	10.0-160			11.0	38
1,2,4-Trimethylbenzene	0.199	ND	0.150	0.173	93.8	108	1.28	10.0-160			14.2	36
1,3,5-Trimethylbenzene	0.199	ND	0.144	0.164	90.0	103	1.28	10.0-160			13.0	38
(S) Toluene-d8					*101*	*104*		*75.0-131*				
(S) 4-Bromofluorobenzene					*104*	*106*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*115*	*95.3*		*70.0-130*				

L1725653-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1725653-03 04/15/24 18:26 • (MS) R4059221-5 04/15/24 21:00 • (MSD) R4059221-6 04/15/24 21:20

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0990	ND	0.100	0.100	101	101	1	10.0-149			0.000	37
Toluene	0.0990	ND	0.112	0.109	113	110	1	10.0-156			2.71	38
Ethylbenzene	0.0990	ND	0.114	0.111	115	112	1	10.0-160			2.67	38
Xylenes, Total	0.297	ND	0.340	0.331	114	111	1	10.0-160			2.68	38
1,2,4-Trimethylbenzene	0.0990	ND	0.105	0.109	106	110	1	10.0-160			3.74	36
1,3,5-Trimethylbenzene	0.0990	ND	0.103	0.106	104	107	1	10.0-160			2.87	38
(S) Toluene-d8					*105*	*105*		*75.0-131*				
(S) 4-Bromofluorobenzene					*109*	*106*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*110*	*107*		*70.0-130*				

Method Blank (MB)

(MB) R4057930-1 04/15/24 10:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U	U	1.61	4.00
C28-C36 Motor Oil Range	U	U	0.274	4.00
(S) o-Terphenyl	*51.2*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4057930-2 04/15/24 10:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	32.5	65.0	50.0-150	
(S) o-Terphenyl			*49.8*	*18.0-148*	

L1724578-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724578-03 04/15/24 11:53 • (MS) R4057930-3 04/15/24 12:06 • (MSD) R4057930-4 04/15/24 12:18

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.2	5.16	46.1	41.7	83.2	73.4	1	50.0-150			10.0	20
(S) o-Terphenyl					*58.8*	*56.6*		*18.0-148*				

Method Blank (MB)

(MB) R4059249-2 04/17/24 10:58

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	*94.7*			*23.0-120*
(S) Nitrobenzene-d5	*93.8*			*14.0-149*
(S) 2-Fluorobiphenyl	*92.0*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R4059249-1 04/17/24 10:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0753	94.1	50.0-120	
Anthracene	0.0800	0.0806	101	50.0-126	
Benzo(a)anthracene	0.0800	0.0820	103	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0805	101	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0736	92.0	49.0-125	
Benzo(a)pyrene	0.0800	0.0680	85.0	42.0-120	
Chrysene	0.0800	0.0823	103	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0750	93.8	47.0-125	
Fluoranthene	0.0800	0.0854	107	49.0-129	
Fluorene	0.0800	0.0820	103	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0731	91.4	46.0-125	
1-Methylnaphthalene	0.0800	0.0812	102	51.0-121	
2-Methylnaphthalene	0.0800	0.0795	99.4	50.0-120	
Naphthalene	0.0800	0.0761	95.1	50.0-120	
Pyrene	0.0800	0.0831	104	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4059249-1 04/17/24 10:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*96.9*	*23.0-120*	
(S) Nitrobenzene-d5			*102*	*14.0-149*	
(S) 2-Fluorobiphenyl			*95.9*	*34.0-125*	

L1724771-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1724771-02 04/17/24 15:18 • (MS) R4059249-3 04/17/24 15:35 • (MSD) R4059249-4 04/17/24 15:52

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	0.0754	ND	0.0613	0.0568	81.1	75.5	1	14.0-127			7.62	27
Anthracene	0.0754	ND	0.0678	0.0607	89.7	80.7	1	10.0-145			11.1	30
Benzo(a)anthracene	0.0754	ND	0.0682	0.0612	90.2	81.4	1	10.0-139			10.8	30
Benzo(b)fluoranthene	0.0754	ND	0.0616	0.0557	79.0	71.6	1	10.0-140			10.1	36
Benzo(k)fluoranthene	0.0754	ND	0.0571	0.0532	75.5	70.7	1	10.0-137			7.07	31
Benzo(a)pyrene	0.0754	ND	0.0629	0.0567	83.2	75.4	1	10.0-141			10.4	31
Chrysene	0.0754	ND	0.0693	0.0618	91.7	82.2	1	10.0-145			11.4	30
Dibenz(a,h)anthracene	0.0754	ND	0.0610	0.0585	80.7	77.8	1	10.0-132			4.18	31
Fluoranthene	0.0754	ND	0.0771	0.0649	102	86.3	1	10.0-153			17.2	33
Fluorene	0.0754	ND	0.0676	0.0611	89.4	81.3	1	11.0-130			10.1	29
Indeno(1,2,3-cd)pyrene	0.0754	ND	0.0623	0.0601	82.4	79.9	1	10.0-137			3.59	32
1-Methylnaphthalene	0.0754	ND	0.0664	0.0616	87.8	81.9	1	10.0-142			7.50	28
2-Methylnaphthalene	0.0754	ND	0.0635	0.0596	84.0	79.3	1	10.0-137			6.34	28
Naphthalene	0.0754	ND	0.0622	0.0582	82.3	77.4	1	10.0-135			6.64	27
Pyrene	0.0754	ND	0.0714	0.0625	94.4	83.1	1	10.0-148			13.3	35
(S) p-Terphenyl-d14					*82.9*	*79.2*		*23.0-120*				
(S) Nitrobenzene-d5					*90.0*	*84.8*		*14.0-149*				
(S) 2-Fluorobiphenyl					*85.0*	*79.6*		*34.0-125*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

Abbreviations and Definitions

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

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.
U	Below Detectable Limits: Indicates that the analyte was not detected.
V3	The internal standard exhibited poor recovery due to sample matrix interference. The analytical results will be biased high. BDL results will be unaffected.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

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

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

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

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

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins, Andrew Verbonitz	Email To: info on file
Copy To: --	Site Collection Info/Address: NA
Customer Project Name/Number: YCF XOM 2-35-1 Gathering Pipeline Release	State: CO / County/City: Rio Blanco / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: (701) 721-5415 Email: alex.slorby@confluence-cc.com	Site/Facility ID #: YCF XOM 2-35-1 / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Alex Slorby	Purchase Order # : NA Quote #: NA / DW PWS ID #: NA DW Location Code: NA
Collected By (signature): Alex Slorby	Turnaround Date Required: **Standard Turnaround** / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold:	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No Analysis: NA

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

Container Preservative Type **

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

Lab Project Manager: A206

Analyses

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	Table 915-1 VOC's	TPH (ORO, GRO, DRO)	Table 915-1 Metal's	Table 915-1 PAHs	pH, EC, SAR	Boron (Hot Water Soluble Soil)	CR6IC
20240409-YCF XOM 2-35-1-(MOI)@6	SL	G	4/9/2024	1215				3	G	X	X	X	X	X	X	X

Lab Profile/Line:

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

LAB USE ONLY:
Lab Sample # / Comments: L1734780 -01

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used: 6426 8306 8425

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: OPA-7 3.4 1=3.5

Relinquished by/Company: (Signature) Alex Slorby	Date/Time: 4/10/2024 1615	Received by/Company: (Signature)	Date/Time:	MTJL LAB USE ONLY Table #:
Relinquished by/Company: (Signature)	Date/Time: 4/10 1700	Received by/Company: (Signature)	Date/Time:	Acctnum: Template: Prelogin:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature) Lab MUM	Date/Time: 4-11-24 9:00	PM: PB:

Trip Blank Received: Y (N) NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 1 of: 1

ANALYTICAL REPORT

April 01, 2024

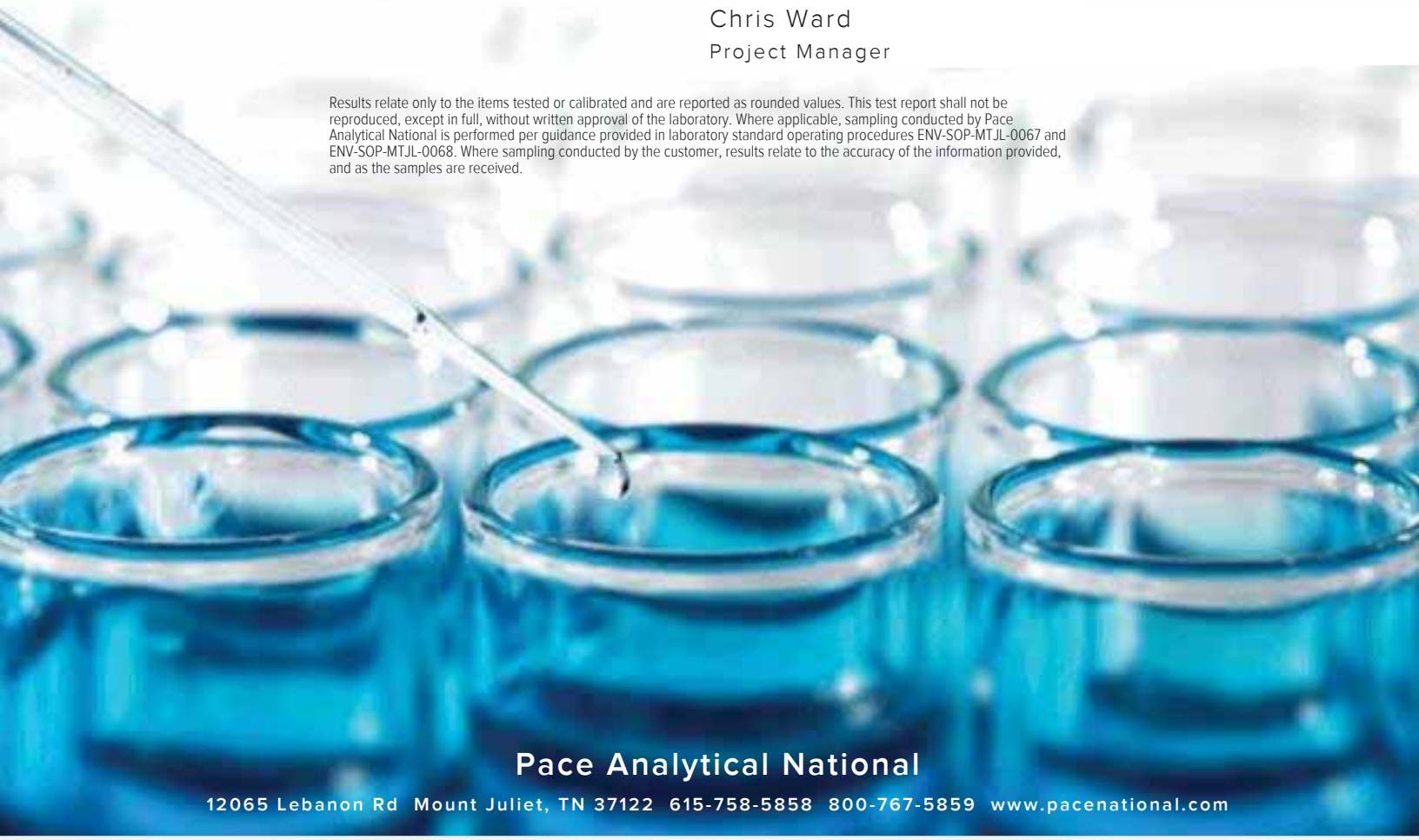
1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Caerus Oil and Gas

Sample Delivery Group:	L1718413
Samples Received:	03/23/2024
Project Number:	
Description:	YCF 2-35-1 Waterline Release
Site:	YCF XOM 2-35-1
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

20240320-YCF XOM 2-35-1-(SB08)@0.5 L1718413-01 Solid

Collected by: Olivia Floyd | Collected date/time: 03/20/24 14:20 | Received date/time: 03/23/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2255130	1	03/29/24 11:44	03/29/24 11:44	JTM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2254443	1	03/26/24 17:05	03/26/24 21:00	KRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2252923	5	03/25/24 07:14	03/27/24 00:19	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2256317	1	03/28/24 22:04	03/29/24 03:54	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2256486	1	03/28/24 22:04	03/30/24 13:36	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2256349	1	03/29/24 20:20	03/30/24 11:16	KKS	Mt. Juliet, TN

20240320-YCF XOM 2-35-1-(SB09)@0.5 L1718413-02 Solid

Collected by: Olivia Floyd | Collected date/time: 03/20/24 14:35 | Received date/time: 03/23/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2255130	1	03/29/24 11:46	03/29/24 11:46	JTM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2254443	1	03/26/24 17:05	03/26/24 21:00	KRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2252923	5	03/25/24 07:14	03/27/24 00:23	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2256317	1	03/28/24 22:04	03/29/24 04:23	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2256486	1	03/28/24 22:04	03/30/24 13:55	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2256349	1	03/29/24 20:20	03/30/24 11:29	KKS	Mt. Juliet, TN

20240320-YCF XOM 2-35-1-(SB10)@0.5 L1718413-03 Solid

Collected by: Olivia Floyd | Collected date/time: 03/20/24 14:45 | Received date/time: 03/23/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2255130	1	03/29/24 11:47	03/29/24 11:47	JTM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2254443	1	03/26/24 17:05	03/26/24 21:00	KRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2252923	5	03/25/24 07:14	03/27/24 00:26	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2256317	1	03/28/24 22:04	03/29/24 04:46	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2256486	1	03/28/24 22:04	03/30/24 14:14	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2256349	1	03/29/24 20:20	03/30/24 11:42	KKS	Mt. Juliet, TN

20240320-YCF XOM 2-35-1-(SB11)@0.5 L1718413-04 Solid

Collected by: Olivia Floyd | Collected date/time: 03/20/24 14:55 | Received date/time: 03/23/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2255130	1	03/29/24 11:49	03/29/24 11:49	JTM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2254443	1	03/26/24 17:05	03/26/24 21:00	KRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2252923	5	03/25/24 07:14	03/27/24 00:29	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2256317	1	03/28/24 22:04	03/29/24 05:09	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2256486	1	03/28/24 22:04	03/30/24 14:33	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2256349	1	03/29/24 20:20	03/30/24 10:37	KKS	Mt. Juliet, TN

20240320-YCF XOM 2-35-1-(SB12)@0.5 L1718413-05 Solid

Collected by: Olivia Floyd | Collected date/time: 03/20/24 15:00 | Received date/time: 03/23/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2255130	1	03/29/24 11:51	03/29/24 11:51	JTM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2254443	1	03/26/24 17:05	03/26/24 21:00	KRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2252923	5	03/25/24 07:14	03/27/24 00:32	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2256317	1	03/28/24 22:04	03/29/24 06:14	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2256486	1	03/28/24 22:04	03/30/24 14:52	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2256349	1	03/29/24 20:20	03/30/24 10:50	KKS	Mt. Juliet, TN

SAMPLE SUMMARY

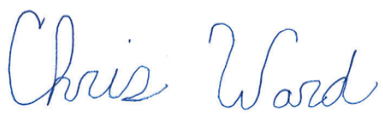
20240320-YCF XOM 2-35-1-(SB13)@0.5 L1718413-06 Solid

Collected by: Olivia Floyd
Collected date/time: 03/20/24 15:05
Received date/time: 03/23/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2255130	1	03/29/24 11:52	03/29/24 11:52	JTM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2254443	1	03/26/24 17:05	03/26/24 21:00	KRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2252923	5	03/25/24 07:14	03/27/24 00:35	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2256317	1	03/28/24 22:04	03/29/24 07:02	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2256486	1	03/28/24 22:04	03/30/24 15:11	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2256349	1	03/29/24 20:20	03/30/24 12:08	KKS	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	1.48		1	03/29/2024 11:44	WG2255130

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	8.03	T8	1	03/26/2024 21:00	WG2254443

Sample Narrative:

L1718413-01 WG2254443: 8.03 at 21C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	5.63		1.00	5	03/27/2024 00:19	WG2252923

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	ND		0.100	1	03/29/2024 03:54	WG2256317
(S) a,a,a-Trifluorotoluene(FID)	*86.9*		*77.0-120*		*03/29/2024 03:54*	WG2256317

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Benzene	ND		0.00100	1	03/30/2024 13:36	WG2256486
Toluene	ND		0.00500	1	03/30/2024 13:36	WG2256486
Ethylbenzene	ND		0.00250	1	03/30/2024 13:36	WG2256486
Xylenes, Total	ND		0.00650	1	03/30/2024 13:36	WG2256486
Naphthalene	ND		0.0125	1	03/30/2024 13:36	WG2256486
1,2,4-Trimethylbenzene	ND		0.00500	1	03/30/2024 13:36	WG2256486
1,3,5-Trimethylbenzene	ND		0.00500	1	03/30/2024 13:36	WG2256486
(S) Toluene-d8	*106*		*75.0-131*		*03/30/2024 13:36*	WG2256486
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*03/30/2024 13:36*	WG2256486
(S) 1,2-Dichloroethane-d4	*92.2*		*70.0-130*		*03/30/2024 13:36*	WG2256486

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
C10-C28 Diesel Range	ND		4.00	1	03/30/2024 11:16	WG2256349
C28-C36 Motor Oil Range	11.7		4.00	1	03/30/2024 11:16	WG2256349
(S) o-Terphenyl	*45.6*		*18.0-148*		*03/30/2024 11:16*	WG2256349

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	1.58		1	03/29/2024 11:46	WG2255130

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	8.30	T8	1	03/26/2024 21:00	WG2254443

Sample Narrative:

L1718413-02 WG2254443: 8.3 at 21.1C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	5.09		1.00	5	03/27/2024 00:23	WG2252923

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	ND		0.100	1	03/29/2024 04:23	WG2256317
(S) a,a,a-Trifluorotoluene(FID)	*86.7*		*77.0-120*		*03/29/2024 04:23*	WG2256317

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Benzene	ND		0.00100	1	03/30/2024 13:55	WG2256486
Toluene	ND		0.00500	1	03/30/2024 13:55	WG2256486
Ethylbenzene	ND		0.00250	1	03/30/2024 13:55	WG2256486
Xylenes, Total	ND		0.00650	1	03/30/2024 13:55	WG2256486
Naphthalene	ND		0.0125	1	03/30/2024 13:55	WG2256486
1,2,4-Trimethylbenzene	ND		0.00500	1	03/30/2024 13:55	WG2256486
1,3,5-Trimethylbenzene	ND		0.00500	1	03/30/2024 13:55	WG2256486
(S) Toluene-d8	*106*		*75.0-131*		*03/30/2024 13:55*	WG2256486
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*03/30/2024 13:55*	WG2256486
(S) 1,2-Dichloroethane-d4	*95.8*		*70.0-130*		*03/30/2024 13:55*	WG2256486

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
C10-C28 Diesel Range	67.2		4.00	1	03/30/2024 11:29	WG2256349
C28-C36 Motor Oil Range	37.7		4.00	1	03/30/2024 11:29	WG2256349
(S) o-Terphenyl	*46.3*		*18.0-148*		*03/30/2024 11:29*	WG2256349

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	1.78		1	03/29/2024 11:47	WG2255130

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	7.97	T8	1	03/26/2024 21:00	WG2254443

Sample Narrative:

L1718413-03 WG2254443: 7.97 at 21.2C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	3.84		1.00	5	03/27/2024 00:26	WG2252923

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	ND		0.100	1	03/29/2024 04:46	WG2256317
(S) a,a,a-Trifluorotoluene(FID)	*87.4*		*77.0-120*		*03/29/2024 04:46*	WG2256317

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Benzene	ND		0.00100	1	03/30/2024 14:14	WG2256486
Toluene	ND		0.00500	1	03/30/2024 14:14	WG2256486
Ethylbenzene	ND		0.00250	1	03/30/2024 14:14	WG2256486
Xylenes, Total	ND		0.00650	1	03/30/2024 14:14	WG2256486
Naphthalene	ND		0.0125	1	03/30/2024 14:14	WG2256486
1,2,4-Trimethylbenzene	ND		0.00500	1	03/30/2024 14:14	WG2256486
1,3,5-Trimethylbenzene	ND		0.00500	1	03/30/2024 14:14	WG2256486
(S) Toluene-d8	*105*		*75.0-131*		*03/30/2024 14:14*	WG2256486
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*03/30/2024 14:14*	WG2256486
(S) 1,2-Dichloroethane-d4	*93.2*		*70.0-130*		*03/30/2024 14:14*	WG2256486

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
C10-C28 Diesel Range	7.58		4.00	1	03/30/2024 11:42	WG2256349
C28-C36 Motor Oil Range	31.6		4.00	1	03/30/2024 11:42	WG2256349
(S) o-Terphenyl	*32.9*		*18.0-148*		*03/30/2024 11:42*	WG2256349

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	0.721		1	03/29/2024 11:49	WG2255130

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	8.52	T8	1	03/26/2024 21:00	WG2254443

Sample Narrative:

L1718413-04 WG2254443: 8.52 at 21C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	4.95		1.00	5	03/27/2024 00:29	WG2252923

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	ND		0.100	1	03/29/2024 05:09	WG2256317
(S) a,a,a-Trifluorotoluene(FID)	*87.1*		*77.0-120*		*03/29/2024 05:09*	WG2256317

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Benzene	ND		0.00100	1	03/30/2024 14:33	WG2256486
Toluene	ND		0.00500	1	03/30/2024 14:33	WG2256486
Ethylbenzene	ND		0.00250	1	03/30/2024 14:33	WG2256486
Xylenes, Total	ND		0.00650	1	03/30/2024 14:33	WG2256486
Naphthalene	ND		0.0125	1	03/30/2024 14:33	WG2256486
1,2,4-Trimethylbenzene	ND		0.00500	1	03/30/2024 14:33	WG2256486
1,3,5-Trimethylbenzene	ND		0.00500	1	03/30/2024 14:33	WG2256486
(S) Toluene-d8	*106*		*75.0-131*		*03/30/2024 14:33*	WG2256486
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*03/30/2024 14:33*	WG2256486
(S) 1,2-Dichloroethane-d4	*94.6*		*70.0-130*		*03/30/2024 14:33*	WG2256486

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
C10-C28 Diesel Range	ND		4.00	1	03/30/2024 10:37	WG2256349
C28-C36 Motor Oil Range	6.98		4.00	1	03/30/2024 10:37	WG2256349
(S) o-Terphenyl	*51.7*		*18.0-148*		*03/30/2024 10:37*	WG2256349

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.737		1	03/29/2024 11:51	WG2255130

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.20	T8	1	03/26/2024 21:00	WG2254443

Sample Narrative:

L1718413-05 WG2254443: 8.2 at 20.8C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.95		1.00	5	03/27/2024 00:32	WG2252923

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	03/29/2024 06:14	WG2256317
(S) a,a,a-Trifluorotoluene(FID)	*86.9*		*77.0-120*		*03/29/2024 06:14*	WG2256317

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	03/30/2024 14:52	WG2256486
Toluene	ND		0.00500	1	03/30/2024 14:52	WG2256486
Ethylbenzene	ND		0.00250	1	03/30/2024 14:52	WG2256486
Xylenes, Total	ND		0.00650	1	03/30/2024 14:52	WG2256486
Naphthalene	ND		0.0125	1	03/30/2024 14:52	WG2256486
1,2,4-Trimethylbenzene	ND		0.00500	1	03/30/2024 14:52	WG2256486
1,3,5-Trimethylbenzene	ND		0.00500	1	03/30/2024 14:52	WG2256486
(S) Toluene-d8	*108*		*75.0-131*		*03/30/2024 14:52*	WG2256486
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*03/30/2024 14:52*	WG2256486
(S) 1,2-Dichloroethane-d4	*94.5*		*70.0-130*		*03/30/2024 14:52*	WG2256486

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	03/30/2024 10:50	WG2256349
C28-C36 Motor Oil Range	6.27		4.00	1	03/30/2024 10:50	WG2256349
(S) o-Terphenyl	*55.1*		*18.0-148*		*03/30/2024 10:50*	WG2256349

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.57		1	03/29/2024 11:52	WG2255130

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.79	T8	1	03/26/2024 21:00	WG2254443

Sample Narrative:

L1718413-06 WG2254443: 7.79 at 20.4C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.88		1.00	5	03/27/2024 00:35	WG2252923

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	03/29/2024 07:02	WG2256317
(S) a,a,a-Trifluorotoluene(FID)	*86.7*		*77.0-120*		*03/29/2024 07:02*	WG2256317

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	03/30/2024 15:11	WG2256486
Toluene	ND		0.00500	1	03/30/2024 15:11	WG2256486
Ethylbenzene	ND		0.00250	1	03/30/2024 15:11	WG2256486
Xylenes, Total	ND		0.00650	1	03/30/2024 15:11	WG2256486
Naphthalene	ND		0.0125	1	03/30/2024 15:11	WG2256486
1,2,4-Trimethylbenzene	ND		0.00500	1	03/30/2024 15:11	WG2256486
1,3,5-Trimethylbenzene	ND		0.00500	1	03/30/2024 15:11	WG2256486
(S) Toluene-d8	*107*		*75.0-131*		*03/30/2024 15:11*	WG2256486
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*03/30/2024 15:11*	WG2256486
(S) 1,2-Dichloroethane-d4	*92.9*		*70.0-130*		*03/30/2024 15:11*	WG2256486

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	18.3		4.00	1	03/30/2024 12:08	WG2256349
C28-C36 Motor Oil Range	48.4		4.00	1	03/30/2024 12:08	WG2256349
(S) o-Terphenyl	*59.0*		*18.0-148*		*03/30/2024 12:08*	WG2256349

L1718384-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1718384-15 03/26/24 21:00 • (DUP) R4050231-3 03/26/24 21:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.42	7.43	1	0.135		1

Sample Narrative:

OS: 7.42 at 21.7C

DUP: 7.43 at 21.5C

L1718458-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1718458-09 03/26/24 21:00 • (DUP) R4050231-4 03/26/24 21:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.72	8.73	1	0.115		1

Sample Narrative:

OS: 8.72 at 20.5C

DUP: 8.73 at 20.3C

Laboratory Control Sample (LCS)

(LCS) R4050231-1 03/26/24 21:00

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

Sample Narrative:

LCS: 10 at 19.8C

Method Blank (MB)

(MB) R4050256-1 03/26/24 23:02

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

Laboratory Control Sample (LCS)

(LCS) R4050256-2 03/26/24 23:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	103	103	80.0-120	

L1717611-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1717611-01 03/26/24 23:09 • (MS) R4050256-5 03/26/24 23:19 • (MSD) R4050256-6 03/26/24 23:22

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	99.9	2.92	91.1	94.7	88.2	91.8	5	75.0-125			3.88	20

Method Blank (MB)

(MB) R4051741-2 03/29/24 00:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0282	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*89.6*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R4051741-1 03/28/24 23:34

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.15	83.0	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*96.1*	*77.0-120*	

Method Blank (MB)

(MB) R4052246-3 03/30/24 10:24

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
Naphthalene	U		0.00488	0.0125
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	*106*			*75.0-131*
(S) 4-Bromofluorobenzene	*101*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*91.1*			*70.0-130*

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

(LCS) R4052246-1 03/30/24 08:50 • (LCSD) R4052246-2 03/30/24 09:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.129	0.126	103	101	70.0-123			2.35	20
Toluene	0.125	0.136	0.131	109	105	75.0-121			3.75	20
Ethylbenzene	0.125	0.131	0.128	105	102	74.0-126			2.32	20
Xylenes, Total	0.375	0.392	0.389	105	104	72.0-127			0.768	20
Naphthalene	0.125	0.125	0.140	100	112	59.0-130			11.3	20
1,2,4-Trimethylbenzene	0.125	0.140	0.143	112	114	70.0-126			2.12	20
1,3,5-Trimethylbenzene	0.125	0.141	0.145	113	116	73.0-127			2.80	20
(S) Toluene-d8				*105*	*103*	*75.0-131*				
(S) 4-Bromofluorobenzene				*103*	*102*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*99.6*	*98.6*	*70.0-130*				

Method Blank (MB)

(MB) R4051870-1 03/30/24 09:44

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

Laboratory Control Sample (LCS)

(LCS) R4051870-2 03/30/24 09:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	42.4	84.8	50.0-150	
(S) o-Terphenyl			*73.1*	*18.0-148*	

L1719113-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1719113-03 03/30/24 12:42 • (MS) R4051877-1 03/30/24 12:55 • (MSD) R4051877-2 03/30/24 13:07

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	48.9	5.97	30.4	44.1	50.0	78.1	1	50.0-150		J3	36.8	20
(S) o-Terphenyl					*40.5*	*55.4*		*18.0-148*				

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
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

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

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

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

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

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Blair Rollins, Brett Middleton, Jake Janicek	Email To: Info on File
Copy To: N/A	Site Collection Info/Address: Info on File
Customer Project Name/Number: YCF 2-35-1 Waterline Release	State: CO / County/City: Rio Blanco / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: Info on File Email: Info on File Olivia Floyd	Site/Facility ID #: YCF XOM 2-35-1 / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Olivia Floyd	Purchase Order # : N/A / Quote #: N/A / DW PWS ID #: N/A / DW Location Code: N/A
Collected By (signature):	Turnaround Date Required: **Standard Turnaround** / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): N/A [ ] Yes [ ] No / Analysis: _____

Container Preservative Type **

Lab Project Manager: A170

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

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

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	BTEX	TPH (ORO, GRO, DRO)	1,2,4 Trimethylbenzene	1,3,5 Trimethylbenzene	Naphthalene	Arsenic	pH	SAR			Lab Sample # / Comments:
20240320-YCF XOM 2-35-1-(SB08)@0.5	SL	G	3/20/2024	1420				4	G	X	X	X	X	X	X	X	X			L1718413-01
20240320-YCF XOM 2-35-1-(SB09)@0.5	SL	G	3/20/2024	1435				4	G	X	X	X	X	X	X	X	X			-02
20240320-YCF XOM 2-35-1-(SB10)@0.5	SL	G	3/20/2024	1445				4	G	X	X	X	X	X	X	X	X			-03
20240320-YCF XOM 2-35-1-(SB11)@0.5	SL	G	3/20/2024	1455				4	G	X	X	X	X	X	X	X	X			-04
20240320-YCF XOM 2-35-1-(SB12)@0.5	SL	G	3/20/2024	1500				4	G	X	X	X	X	X	X	X	X			-05
20240320-YCF XOM 2-35-1-(SB13)@0.5	SL	G	3/20/2024	1505				4	G	X	X	X	X	X	X	X	X			-06

Lab Profile/Line:

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

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used: 5882 7524 8441

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 0 NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: _____oC
Comments:
TLA9.1402.1

Relinquished by/Company: Olivia Floyd	Date/Time: 3/22/24 1625	Received by/Company:	Date/Time:	MTJL LAB USE ONLY Table #:
Relinquished by/Company: (Signature)	Date/Time: 3/22/24 1700	Received by/Company: (Signature)	Date/Time:	Acctnum: Template: Prelogin:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 3-23-24 9:00	PM: PB:

Trip Blank Received: Y (N) NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

ANALYTICAL REPORT

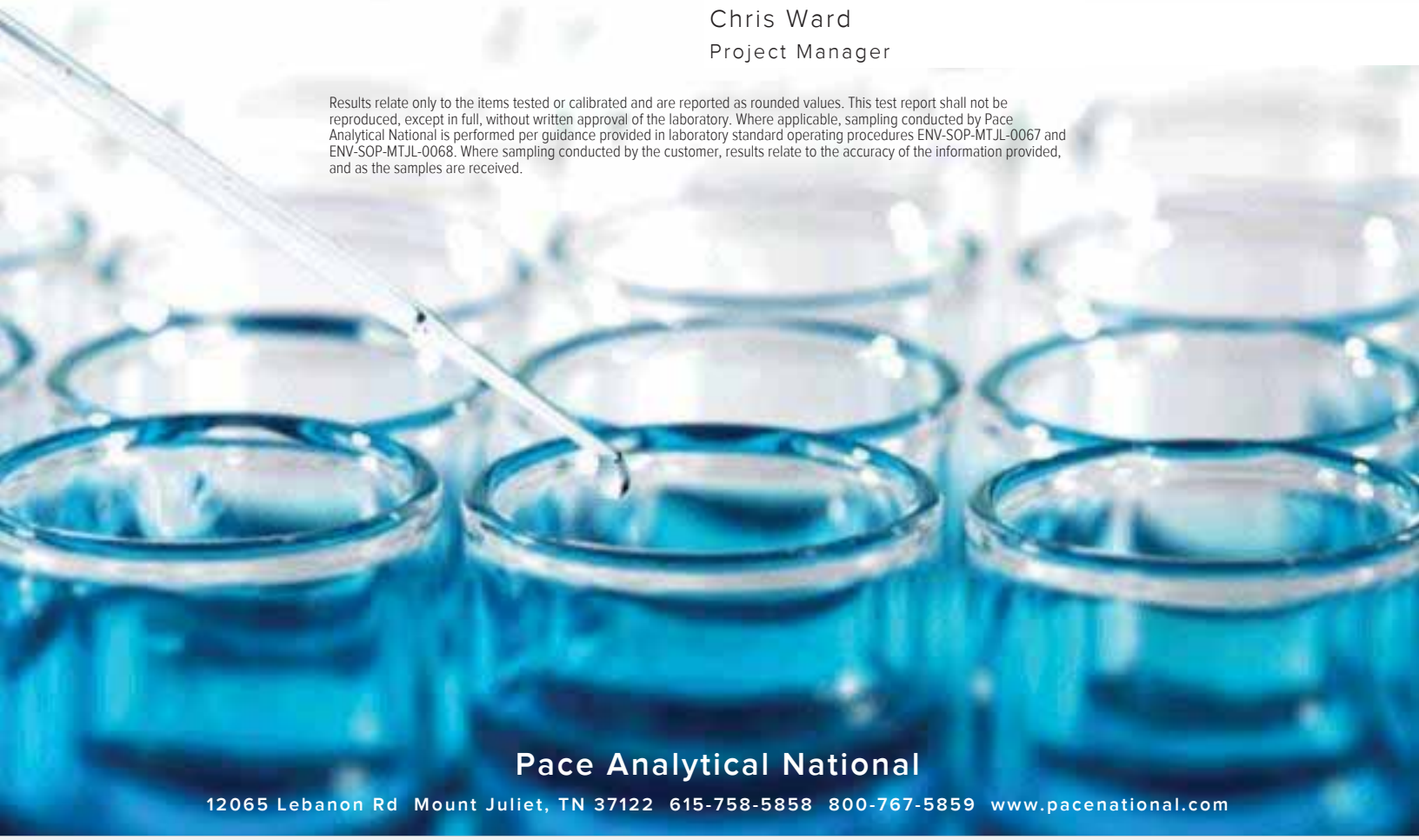
March 18, 2024

Caerus Oil and Gas

Sample Delivery Group:	L1713592
Samples Received:	03/08/2024
Project Number:	
Description:	YCF XOM 3-25-1 Waterline Release
Site:	YCF XOM 3-25-1
Report To:	Jake J. / Brett M. / Blair R. / Andy V. 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By:

Chris Ward
Project Manager



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

TABLE OF CONTENTS

20240306-YCF XOM 2-35-1-(SB01)@0.5 L1713592-01 Solid

Collected by: Alex Slorby
Collected date/time: 03/06/24 16:20
Received date/time: 03/08/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2247227	1	03/16/24 12:51	03/16/24 12:51	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2243801	1	03/11/24 10:40	03/12/24 09:24	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2243650	1	03/10/24 12:27	03/12/24 18:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2243651	1	03/12/24 15:10	03/13/24 22:50	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2247228	1	03/15/24 12:09	03/15/24 17:16	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2243516	5	03/14/24 10:08	03/14/24 17:27	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2243516	50	03/14/24 10:08	03/14/24 17:42	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2245393	1	03/12/24 11:36	03/13/24 07:14	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2245882	1	03/12/24 11:36	03/13/24 17:10	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2243508	5	03/12/24 07:59	03/12/24 21:22	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2243503	1	03/11/24 14:58	03/12/24 07:01	JRM	Mt. Juliet, TN

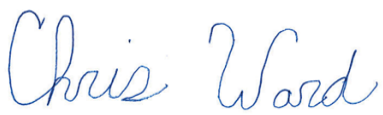
20240306-YCF XOM 2-35-1-(SB02)@0.6 L1713592-02 Solid

Collected by: Alex Slorby
Collected date/time: 03/06/24 16:10
Received date/time: 03/08/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2247227	1	03/16/24 12:54	03/16/24 12:54	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2243801	1	03/11/24 10:40	03/12/24 09:30	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2243650	1	03/10/24 12:27	03/12/24 18:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2243651	1	03/12/24 15:10	03/13/24 22:50	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2247228	1	03/15/24 12:09	03/15/24 17:19	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2243516	5	03/14/24 10:08	03/14/24 17:30	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2243516	50	03/14/24 10:08	03/14/24 17:45	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2245393	1	03/12/24 11:36	03/13/24 07:38	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2245882	1	03/12/24 11:36	03/13/24 17:30	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2243508	5	03/12/24 07:59	03/12/24 22:47	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2243503	1	03/11/24 14:58	03/12/24 07:18	JRM	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	1.46		1	03/16/2024 12:51	WG2247227

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Hexavalent Chromium	ND		1.00	1	03/12/2024 09:24	WG2243801

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	8.71	T8	1	03/12/2024 18:00	WG2243650

Sample Narrative:

L1713592-01 WG2243650: 8.71 at 20.6C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	222		10.0	1	03/13/2024 22:50	WG2243651

Sample Narrative:

L1713592-01 WG2243651: at 25C

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/l		mg/l			
Hot Water Sol. Boron	0.826		0.200	1	03/15/2024 17:16	WG2247228

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	4.15		1.00	5	03/14/2024 17:27	WG2243516
Barium	1160		25.0	50	03/14/2024 17:42	WG2243516
Cadmium	ND		1.00	5	03/14/2024 17:27	WG2243516
Copper	10.5		5.00	5	03/14/2024 17:27	WG2243516
Lead	7.11		2.00	5	03/14/2024 17:27	WG2243516
Nickel	15.2		2.50	5	03/14/2024 17:27	WG2243516
Selenium	ND		2.50	5	03/14/2024 17:27	WG2243516
Silver	ND		0.500	5	03/14/2024 17:27	WG2243516
Zinc	32.1		25.0	5	03/14/2024 17:27	WG2243516

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	0.191	B	0.100	1	03/13/2024 07:14	WG2245393
(S) a,a,a-Trifluorotoluene(FID)	*86.2*		*77.0-120*		*03/13/2024 07:14*	WG2245393

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	03/13/2024 17:10	WG2245882
Toluene	0.00888		0.00500	1	03/13/2024 17:10	WG2245882
Ethylbenzene	ND		0.00250	1	03/13/2024 17:10	WG2245882
Xylenes, Total	0.0220		0.00650	1	03/13/2024 17:10	WG2245882
1,2,4-Trimethylbenzene	0.0121		0.00500	1	03/13/2024 17:10	WG2245882
1,3,5-Trimethylbenzene	0.0103		0.00500	1	03/13/2024 17:10	WG2245882
(S) Toluene-d8	*104*		*75.0-131*		*03/13/2024 17:10*	WG2245882
(S) 4-Bromofluorobenzene	*93.7*		*67.0-138*		*03/13/2024 17:10*	WG2245882
(S) 1,2-Dichloroethane-d4	*90.3*		*70.0-130*		*03/13/2024 17:10*	WG2245882

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	411		20.0	5	03/12/2024 21:22	WG2243508
C28-C36 Motor Oil Range	53.2		20.0	5	03/12/2024 21:22	WG2243508
(S) o-Terphenyl	*37.8*		*18.0-148*		*03/12/2024 21:22*	WG2243508

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.0100		0.00600	1	03/12/2024 07:01	WG2243503
Anthracene	ND		0.00600	1	03/12/2024 07:01	WG2243503
Benzo(a)anthracene	ND		0.00600	1	03/12/2024 07:01	WG2243503
Benzo(b)fluoranthene	ND		0.00600	1	03/12/2024 07:01	WG2243503
Benzo(k)fluoranthene	ND		0.00600	1	03/12/2024 07:01	WG2243503
Benzo(a)pyrene	ND		0.00600	1	03/12/2024 07:01	WG2243503
Chrysene	ND		0.00600	1	03/12/2024 07:01	WG2243503
Dibenz(a,h)anthracene	ND		0.00600	1	03/12/2024 07:01	WG2243503
Fluoranthene	ND		0.00600	1	03/12/2024 07:01	WG2243503
Fluorene	0.0237		0.00600	1	03/12/2024 07:01	WG2243503
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	03/12/2024 07:01	WG2243503
1-Methylnaphthalene	0.0477		0.0200	1	03/12/2024 07:01	WG2243503
2-Methylnaphthalene	0.145		0.0200	1	03/12/2024 07:01	WG2243503
Naphthalene	0.0263	B	0.0200	1	03/12/2024 07:01	WG2243503
Pyrene	ND		0.00600	1	03/12/2024 07:01	WG2243503
(S) p-Terphenyl-d14	*89.3*		*23.0-120*		*03/12/2024 07:01*	WG2243503
(S) Nitrobenzene-d5	*76.1*		*14.0-149*		*03/12/2024 07:01*	WG2243503
(S) 2-Fluorobiphenyl	*68.3*		*34.0-125*		*03/12/2024 07:01*	WG2243503

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	6.52		1	03/16/2024 12:54	WG2247227

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Hexavalent Chromium	ND		1.00	1	03/12/2024 09:30	WG2243801

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	8.80	T8	1	03/12/2024 18:00	WG2243650

Sample Narrative:

L1713592-02 WG2243650: 8.8 at 20.3C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	592		10.0	1	03/13/2024 22:50	WG2243651

Sample Narrative:

L1713592-02 WG2243651: at 25C

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/l		mg/l			
Hot Water Sol. Boron	1.78		0.200	1	03/15/2024 17:19	WG2247228

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	3.76		1.00	5	03/14/2024 17:30	WG2243516
Barium	1060		25.0	50	03/14/2024 17:45	WG2243516
Cadmium	ND		1.00	5	03/14/2024 17:30	WG2243516
Copper	10.2		5.00	5	03/14/2024 17:30	WG2243516
Lead	6.87		2.00	5	03/14/2024 17:30	WG2243516
Nickel	12.8		2.50	5	03/14/2024 17:30	WG2243516
Selenium	ND		2.50	5	03/14/2024 17:30	WG2243516
Silver	ND		0.500	5	03/14/2024 17:30	WG2243516
Zinc	ND		25.0	5	03/14/2024 17:30	WG2243516

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	1.32		0.100	1	03/13/2024 07:38	WG2245393
(S) a,a,a-Trifluorotoluene(FID)	*88.3*		*77.0-120*		*03/13/2024 07:38*	WG2245393

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00150		0.00100	1	03/13/2024 17:30	WG2245882
Toluene	0.0151		0.00500	1	03/13/2024 17:30	WG2245882
Ethylbenzene	0.00275		0.00250	1	03/13/2024 17:30	WG2245882
Xylenes, Total	0.0968		0.00650	1	03/13/2024 17:30	WG2245882
1,2,4-Trimethylbenzene	0.259		0.00500	1	03/13/2024 17:30	WG2245882
1,3,5-Trimethylbenzene	0.223		0.00500	1	03/13/2024 17:30	WG2245882
(S) Toluene-d8	*99.3*		*75.0-131*		*03/13/2024 17:30*	WG2245882
(S) 4-Bromofluorobenzene	*97.8*		*67.0-138*		*03/13/2024 17:30*	WG2245882
(S) 1,2-Dichloroethane-d4	*88.0*		*70.0-130*		*03/13/2024 17:30*	WG2245882

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	349		20.0	5	03/12/2024 22:47	WG2243508
C28-C36 Motor Oil Range	35.6	B	20.0	5	03/12/2024 22:47	WG2243508
(S) o-Terphenyl	*55.8*		*18.0-148*		*03/12/2024 22:47*	WG2243508

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.0411		0.00600	1	03/12/2024 07:18	WG2243503
Anthracene	ND		0.00600	1	03/12/2024 07:18	WG2243503
Benzo(a)anthracene	ND		0.00600	1	03/12/2024 07:18	WG2243503
Benzo(b)fluoranthene	ND		0.00600	1	03/12/2024 07:18	WG2243503
Benzo(k)fluoranthene	ND		0.00600	1	03/12/2024 07:18	WG2243503
Benzo(a)pyrene	ND		0.00600	1	03/12/2024 07:18	WG2243503
Chrysene	ND		0.00600	1	03/12/2024 07:18	WG2243503
Dibenz(a,h)anthracene	ND		0.00600	1	03/12/2024 07:18	WG2243503
Fluoranthene	ND		0.00600	1	03/12/2024 07:18	WG2243503
Fluorene	0.0831		0.00600	1	03/12/2024 07:18	WG2243503
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	03/12/2024 07:18	WG2243503
1-Methylnaphthalene	0.290		0.0200	1	03/12/2024 07:18	WG2243503
2-Methylnaphthalene	0.958		0.0200	1	03/12/2024 07:18	WG2243503
Naphthalene	0.197		0.0200	1	03/12/2024 07:18	WG2243503
Pyrene	ND		0.00600	1	03/12/2024 07:18	WG2243503
(S) p-Terphenyl-d14	*78.2*		*23.0-120*		*03/12/2024 07:18*	WG2243503
(S) Nitrobenzene-d5	*0.000*	J2	*14.0-149*		*03/12/2024 07:18*	WG2243503
(S) 2-Fluorobiphenyl	*62.9*		*34.0-125*		*03/12/2024 07:18*	WG2243503

Sample Narrative:

L1713592-02 WG2243503: Surrogate failure due to matrix interference.

Method Blank (MB)

(MB) R4044435-1 03/12/24 06:47

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

L1713345-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1713345-05 03/12/24 08:03 • (DUP) R4044435-7 03/12/24 08:09

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

L1713583-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1713583-15 03/12/24 08:46 • (DUP) R4044435-8 03/12/24 08:53

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	ND	ND	1	200	P1	20

Laboratory Control Sample (LCS)

(LCS) R4044435-2 03/12/24 06:55

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

L1713345-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1713345-03 03/12/24 07:14 • (MS) R4044435-4 03/12/24 07:26 • (MSD) R4044435-5 03/12/24 07:32

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	ND	12.1	14.1	60.5	70.5	1	75.0-125	J6	J6	15.2	20

L1713598-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1713598-13 03/12/24 10:01 • (MS) R4044435-10 03/12/24 10:13 • (MSD) R4044435-11 03/12/24 10:32

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	ND	14.9	14.5	72.4	70.6	1	75.0-125	J6	J6	2.44	20

L1713345-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1713345-03 03/12/24 07:14 • (MS) R4044435-13 03/12/24 07:38

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	641	ND	ND	0.000	50	75.0-125	J6

L1713598-13 Original Sample (OS) • Matrix Spike (MS)

(OS) L1713598-13 03/12/24 10:01 • (MS) R4044435-14 03/12/24 10:38

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	631	ND	ND	0.000	50	75.0-125	J6

L1713519-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1713519-01 03/12/24 18:00 • (DUP) R4044684-2 03/12/24 18:00

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.62	7.63	1	0.131		1

Sample Narrative:

OS: 7.62 at 20.8C

DUP: 7.63 at 20.3C

L1713592-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1713592-02 03/12/24 18:00 • (DUP) R4044684-3 03/12/24 18:00

Analyte	Original Result pH	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.80	8.82	1	0.227		1

Sample Narrative:

OS: 8.8 at 20.3C

DUP: 8.82 at 20.1C

Laboratory Control Sample (LCS)

(LCS) R4044684-1 03/12/24 18:00

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

Sample Narrative:

LCS: 10 at 19.8C

Method Blank (MB)

(MB) R4045294-1 03/13/24 22:50

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

Sample Narrative:

BLANK: at 25C

L1713933-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1713933-02 03/13/24 22:50 • (DUP) R4045294-3 03/13/24 22:50

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	218	218	1	0.230		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4045294-2 03/13/24 22:50

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	327	331	101	85.0-115	

Sample Narrative:

LCS: at 25C

Method Blank (MB)

(MB) R4046333-1 03/15/24 17:05

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) R4046333-2 03/15/24 17:07 • (LCSD) R4046333-3 03/15/24 17:10

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	1.02	1.03	102	103	80.0-120			0.0976	20

QUALITY CONTROL SUMMARY

L1713592-01,02

Method Blank (MB)

(MB) R4045807-1 03/14/24 17:05

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

Laboratory Control Sample (LCS)

(LCS) R4045807-2 03/14/24 17:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	109	109	80.0-120	
Barium	100	102	102	80.0-120	
Cadmium	100	106	106	80.0-120	
Copper	100	104	104	80.0-120	
Lead	100	103	103	80.0-120	
Nickel	100	109	109	80.0-120	
Selenium	100	108	108	80.0-120	
Silver	20.0	20.7	104	80.0-120	
Zinc	100	106	106	80.0-120	

L1713590-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1713590-01 03/14/24 17:11 • (MS) R4045807-5 03/14/24 17:21 • (MSD) R4045807-6 03/14/24 17:24

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	2.28	95.5	107	93.3	104	5	75.0-125			10.9	20
Barium	100	181	344	357	163	176	5	75.0-125	E J5	E J5	3.62	20
Cadmium	100	ND	93.1	104	92.8	104	5	75.0-125			11.0	20
Copper	100	6.76	101	105	93.9	98.4	5	75.0-125			4.33	20
Lead	100	6.63	101	112	94.7	105	5	75.0-125			9.65	20
Nickel	100	3.60	101	112	97.7	108	5	75.0-125			9.75	20
Selenium	100	ND	93.3	102	93.0	102	5	75.0-125			8.99	20
Silver	20.0	ND	18.1	20.0	90.5	99.8	5	75.0-125			9.74	20
Zinc	100	ND	128	138	120	130	5	75.0-125		J5	7.34	20

Method Blank (MB)

(MB) R4045691-3 03/12/24 22:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0671	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*91.1*			*77.0-120*

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

(LCS) R4045691-1 03/12/24 21:06 • (LCSD) R4045691-2 03/12/24 21:30

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 %
TPH (GC/FID) Low Fraction	5.00	4.28	4.50	85.6	90.0	72.0-127			5.01	20
(S) a,a,a-Trifluorotoluene(FID)				*102*	*101*	*77.0-120*				

Method Blank (MB)

(MB) R4045576-3 03/13/24 10:29

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	*104*			*75.0-131*
(S) 4-Bromofluorobenzene	*94.9*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*93.1*			*70.0-130*

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

(LCS) R4045576-1 03/13/24 08:51 • (LCSD) R4045576-2 03/13/24 09:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.111	0.112	88.8	89.6	70.0-123			0.897	20
Toluene	0.125	0.123	0.121	98.4	96.8	75.0-121			1.64	20
Ethylbenzene	0.125	0.114	0.113	91.2	90.4	74.0-126			0.881	20
Xylenes, Total	0.375	0.350	0.344	93.3	91.7	72.0-127			1.73	20
1,2,4-Trimethylbenzene	0.125	0.101	0.106	80.8	84.8	70.0-126			4.83	20
1,3,5-Trimethylbenzene	0.125	0.112	0.120	89.6	96.0	73.0-127			6.90	20
(S) Toluene-d8				*103*	*98.6*	*75.0-131*				
(S) 4-Bromofluorobenzene				*96.6*	*94.6*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*97.1*	*100*	*70.0-130*				

Method Blank (MB)

(MB) R4044847-1 03/12/24 20:08

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	0.724	J	0.274	4.00
(S) o-Terphenyl	*43.5*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4044847-2 03/12/24 20:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	34.2	68.4	50.0-150	
(S) o-Terphenyl			*57.5*	*18.0-148*	

L1713493-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1713493-01 03/13/24 12:32 • (MS) R4045046-1 03/13/24 12:45 • (MSD) R4045046-2 03/13/24 12:57

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	48.5	8.45	45.2	51.2	75.8	88.1	1	50.0-150			12.4	20
(S) o-Terphenyl					*44.0*	*50.5*		*18.0-148*				

Method Blank (MB)

(MB) R4045269-2 03/12/24 01:35

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	0.00496	J	0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	*88.8*			*23.0-120*
(S) Nitrobenzene-d5	*70.6*			*14.0-149*
(S) 2-Fluorobiphenyl	*80.2*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R4045269-1 03/12/24 01:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0718	89.8	50.0-120	
Anthracene	0.0800	0.0765	95.6	50.0-126	
Benzo(a)anthracene	0.0800	0.0773	96.6	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0749	93.6	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0720	90.0	49.0-125	
Benzo(a)pyrene	0.0800	0.0667	83.4	42.0-120	
Chrysene	0.0800	0.0779	97.4	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0705	88.1	47.0-125	
Fluoranthene	0.0800	0.0805	101	49.0-129	
Fluorene	0.0800	0.0744	93.0	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0711	88.9	46.0-125	
1-Methylnaphthalene	0.0800	0.0760	95.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0739	92.4	50.0-120	
Naphthalene	0.0800	0.0808	101	50.0-120	
Pyrene	0.0800	0.0769	96.1	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4045269-1 03/12/24 01:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*95.3*	*23.0-120*	
(S) Nitrobenzene-d5			*76.4*	*14.0-149*	
(S) 2-Fluorobiphenyl			*83.2*	*34.0-125*	

L1713513-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1713513-01 03/12/24 04:09 • (MS) R4045269-3 03/12/24 04:27 • (MSD) R4045269-4 03/12/24 04:44

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	0.0776	ND	0.0691	0.0693	89.0	89.3	1	14.0-127			0.289	27
Anthracene	0.0776	ND	0.0741	0.0735	95.5	94.7	1	10.0-145			0.813	30
Benzo(a)anthracene	0.0776	ND	0.0737	0.0736	95.0	94.8	1	10.0-139			0.136	30
Benzo(b)fluoranthene	0.0776	ND	0.0709	0.0731	91.4	94.2	1	10.0-140			3.06	36
Benzo(k)fluoranthene	0.0776	ND	0.0681	0.0686	87.8	88.4	1	10.0-137			0.732	31
Benzo(a)pyrene	0.0776	ND	0.0713	0.0699	91.9	90.1	1	10.0-141			1.98	31
Chrysene	0.0776	ND	0.0749	0.0743	96.5	95.7	1	10.0-145			0.804	30
Dibenz(a,h)anthracene	0.0776	ND	0.0671	0.0661	86.5	85.2	1	10.0-132			1.50	31
Fluoranthene	0.0776	ND	0.0773	0.0766	99.6	98.7	1	10.0-153			0.910	33
Fluorene	0.0776	ND	0.0711	0.0721	88.9	90.2	1	11.0-130			1.40	29
Indeno(1,2,3-cd)pyrene	0.0776	ND	0.0666	0.0653	85.8	84.1	1	10.0-137			1.97	32
1-Methylnaphthalene	0.0776	ND	0.0737	0.0732	93.3	92.6	1	10.0-142			0.681	28
2-Methylnaphthalene	0.0776	ND	0.0726	0.0700	91.0	87.6	1	10.0-137			3.65	28
Naphthalene	0.0776	ND	0.0712	0.0698	91.8	89.9	1	10.0-135			1.99	27
Pyrene	0.0776	ND	0.0732	0.0717	94.3	92.4	1	10.0-148			2.07	35
(S) p-Terphenyl-d14					*91.0*	*94.1*		*23.0-120*				
(S) Nitrobenzene-d5					*73.2*	*78.2*		*14.0-149*				
(S) 2-Fluorobiphenyl					*78.7*	*84.3*		*34.0-125*				

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
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

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.

Pace Analytical®

CHAIN-OF-CUSTODY Analytical Request Document

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

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

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC

Billing Information: Info on file

Address: Info on file

Report To: Jake Janicek, Brett Middleton, Blair Rollins, Andrew Verbonitz

Email To: info on file

Copy To: --

Site Collection Info/Address: NA

Customer Project Name/Number: YCF XOM 3-25-1 Waterline Release

State: CO / County/City: Rio Blanco / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET

Phone: (701) 721-5415

Email: alex.slorby@confluence-cc.com

Site/Facility ID #: YCF XOM 2-35-1

Compliance Monitoring? [ ] Yes [X] No

Collected By (print): Alex Slorby

Purchase Order # : NA

Quote #: NA

DW PWS ID #:

DW Location Code:

Collected By (signature): Alex Slorby

Turnaround Date Required: **STANDARD TURNAROUND**

Immediately Packed on Ice: [X] Yes [ ] No

Sample Disposal:
[X] Dispose as appropriate
[ ] Return
[ ] Archive: _____
[ ] Hold:

Rush: (Expedite Charges Apply)
[ ] Same Day [ ] Next Day
[ ] 2 Day [ ] 3 Day
[ ] 4 Day [ ] 5 Day

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: NA

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

Container Preservative Type **

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 _____

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	Table 915-1 VOC's	TPH (ORO, GRO, DRO)	Table 915-1 Metal's	Table 915-1 PAHs	pH, EC, SAR	Boron (Hot Water Soluble Soil)	CR6IC
20240306-YCF XOM 2-35-1-(SB01)@0.5	SL	G	3/6/2024	1620				4	G	X	X	X	X	X	X	X
20240306-YCF XOM 2-35-1-(SB02)@0.6	SL	G	3/6/2024	1610				4	G	X	X	X	X	X	X	X

Analyses

Lab Profile/Line:

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

LAB USE ONLY:
Lab Sample # / Comments:
L1713592
-01
-02

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

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

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

Lab Tracking #: 6426 8307 0322

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: MSA1 3.5 +0=3.5
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: __oC
Comments:

Relinquished by/Company: (Signature) Alex Slorby	Date/Time: 3/7/2024 1230	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time: 3724 1300	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature) Ei Dent 17 / Pace	Date/Time: 3-8-24/ 900

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

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 1 of: 1

ANALYTICAL REPORT

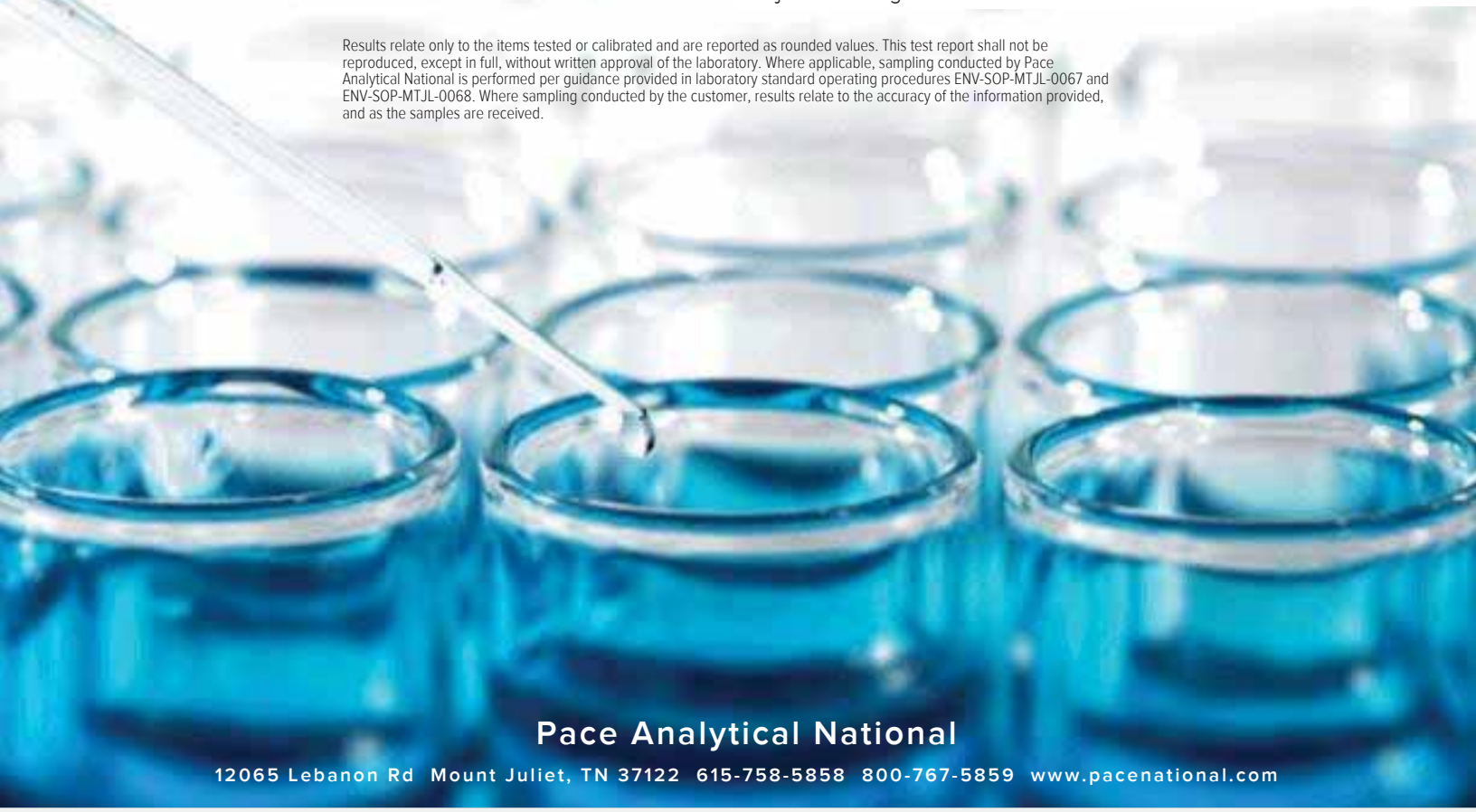
March 18, 2024

Caerus Oil and Gas

Sample Delivery Group:	L1713590
Samples Received:	03/08/2024
Project Number:	
Description:	YCF XOM 3-25-1 Waterline Release
Site:	YCF XOM 2-35-1
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

20240306-YCF XOM 2-35-1-(POR)@0.5 L1713590-01 Solid

Collected by: Alex Slorby
Collected date/time: 03/06/24 16:25
Received date/time: 03/08/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2247227	1	03/16/24 12:48	03/16/24 12:48	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2243800	1	03/11/24 02:55	03/12/24 02:34	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2243650	1	03/10/24 12:27	03/12/24 18:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2243651	1	03/12/24 15:10	03/13/24 22:50	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2247228	10	03/15/24 12:09	03/15/24 17:13	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2243516	5	03/14/24 10:08	03/14/24 17:11	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2246115	500	03/12/24 11:36	03/14/24 05:16	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2245882	8	03/12/24 11:36	03/13/24 19:46	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2246848	100	03/12/24 11:36	03/14/24 20:25	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2243508	1	03/12/24 07:59	03/13/24 12:32	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2243503	1	03/11/24 14:58	03/12/24 06:44	JRM	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	6.93		1	03/16/2024 12:48	WG2247227

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Hexavalent Chromium	ND		1.00	1	03/12/2024 02:34	WG2243800

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	8.88	T8	1	03/12/2024 18:00	WG2243650

Sample Narrative:

L1713590-01 WG2243650: 8.88 at 20.7C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	1390		10.0	1	03/13/2024 22:50	WG2243651

Sample Narrative:

L1713590-01 WG2243651: at 25C

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/l		mg/l			
Hot Water Sol. Boron	5.19		2.00	10	03/15/2024 17:13	WG2247228

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	2.28	O1	1.00	5	03/14/2024 17:11	WG2243516
Barium	181	J5	2.50	5	03/14/2024 17:11	WG2243516
Cadmium	ND		1.00	5	03/14/2024 17:11	WG2243516
Copper	6.76		5.00	5	03/14/2024 17:11	WG2243516
Lead	6.63		2.00	5	03/14/2024 17:11	WG2243516
Nickel	3.60	O1	2.50	5	03/14/2024 17:11	WG2243516
Selenium	ND		2.50	5	03/14/2024 17:11	WG2243516
Silver	ND	O1	0.500	5	03/14/2024 17:11	WG2243516
Zinc	ND	J5 O1	25.0	5	03/14/2024 17:11	WG2243516

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	2130		50.0	500	03/14/2024 05:16	WG2246115
(S) a,a,a-Trifluorotoluene(FID)	*89.3*		*77.0-120*		*03/14/2024 05:16*	WG2246115

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	4.12		0.00800	8	03/13/2024 19:46	WG2245882
Toluene	74.7		0.500	100	03/14/2024 20:25	WG2246848
Ethylbenzene	5.05		0.0200	8	03/13/2024 19:46	WG2245882
Xylenes, Total	176		0.650	100	03/14/2024 20:25	WG2246848
1,2,4-Trimethylbenzene	29.0		0.500	100	03/14/2024 20:25	WG2246848
1,3,5-Trimethylbenzene	25.7		0.500	100	03/14/2024 20:25	WG2246848
(S) Toluene-d8	*90.3*		*75.0-131*		*03/13/2024 19:46*	WG2245882
(S) Toluene-d8	*96.8*		*75.0-131*		*03/14/2024 20:25*	WG2246848
(S) 4-Bromofluorobenzene	*88.0*		*67.0-138*		*03/13/2024 19:46*	WG2245882
(S) 4-Bromofluorobenzene	*123*		*67.0-138*		*03/14/2024 20:25*	WG2246848
(S) 1,2-Dichloroethane-d4	*89.3*		*70.0-130*		*03/13/2024 19:46*	WG2245882
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*03/14/2024 20:25*	WG2246848

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	03/13/2024 12:32	WG2243508
C28-C36 Motor Oil Range	13.9		4.00	1	03/13/2024 12:32	WG2243508
(S) o-Terphenyl	*53.1*		*18.0-148*		*03/13/2024 12:32*	WG2243508

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.0359		0.00600	1	03/12/2024 06:44	WG2243503
Anthracene	ND		0.00600	1	03/12/2024 06:44	WG2243503
Benzo(a)anthracene	ND		0.00600	1	03/12/2024 06:44	WG2243503
Benzo(b)fluoranthene	ND		0.00600	1	03/12/2024 06:44	WG2243503
Benzo(k)fluoranthene	ND		0.00600	1	03/12/2024 06:44	WG2243503
Benzo(a)pyrene	ND		0.00600	1	03/12/2024 06:44	WG2243503
Chrysene	ND		0.00600	1	03/12/2024 06:44	WG2243503
Dibenz(a,h)anthracene	ND		0.00600	1	03/12/2024 06:44	WG2243503
Fluoranthene	ND		0.00600	1	03/12/2024 06:44	WG2243503
Fluorene	0.0716		0.00600	1	03/12/2024 06:44	WG2243503
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	03/12/2024 06:44	WG2243503
1-Methylnaphthalene	0.508		0.0200	1	03/12/2024 06:44	WG2243503
2-Methylnaphthalene	1.59		0.0200	1	03/12/2024 06:44	WG2243503
Naphthalene	0.592		0.0200	1	03/12/2024 06:44	WG2243503
Pyrene	ND		0.00600	1	03/12/2024 06:44	WG2243503
(S) p-Terphenyl-d14	*84.3*		*23.0-120*		*03/12/2024 06:44*	WG2243503
(S) Nitrobenzene-d5	*0.000*	J2	*14.0-149*		*03/12/2024 06:44*	WG2243503
(S) 2-Fluorobiphenyl	*84.0*		*34.0-125*		*03/12/2024 06:44*	WG2243503

Sample Narrative:

L1713590-01 WG2243503: Surrogate failure due to matrix interference.

Method Blank (MB)

(MB) R4044341-1 03/12/24 00:34

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

L1713008-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1713008-01 03/12/24 00:55 • (DUP) R4044341-3 03/12/24 01:01

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

L1713023-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1713023-01 03/12/24 02:21 • (DUP) R4044341-4 03/12/24 02:27

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

Laboratory Control Sample (LCS)

(LCS) R4044341-2 03/12/24 00:42

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.5	105	80.0-120	

L1713705-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1713705-02 03/12/24 02:46 • (MS) R4044341-5 03/12/24 03:05 • (MSD) R4044341-6 03/12/24 03:11

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	ND	21.0	21.1	105	106	1	75.0-125			0.780	20

L1713756-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1713756-01 03/12/24 03:42 • (MS) R4044341-10 03/12/24 03:48 • (MSD) R4044341-12 03/12/24 03:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	ND	19.7	20.1	98.5	100	1	75.0-125			1.87	20

L1713705-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1713705-02 03/12/24 02:46 • (MS) R4044341-8 03/12/24 03:17

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	641	ND	ND	0.000	50	75.0-125	J6

L1713756-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1713756-01 03/12/24 03:42 • (MS) R4044341-13 03/12/24 04:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	656	ND	ND	0.000	50	75.0-125	J6

L1713519-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1713519-01 03/12/24 18:00 • (DUP) R4044684-2 03/12/24 18:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.62	7.63	1	0.131		1

Sample Narrative:

OS: 7.62 at 20.8C

DUP: 7.63 at 20.3C

L1713592-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1713592-02 03/12/24 18:00 • (DUP) R4044684-3 03/12/24 18:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	8.80	8.82	1	0.227		1

Sample Narrative:

OS: 8.8 at 20.3C

DUP: 8.82 at 20.1C

Laboratory Control Sample (LCS)

(LCS) R4044684-1 03/12/24 18:00

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

Sample Narrative:

LCS: 10 at 19.8C

Method Blank (MB)

(MB) R4045294-1 03/13/24 22:50

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

Sample Narrative:

BLANK: at 25C

L1713933-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1713933-02 03/13/24 22:50 • (DUP) R4045294-3 03/13/24 22:50

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	218	218	1	0.230		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4045294-2 03/13/24 22:50

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	327	331	101	85.0-115	

Sample Narrative:

LCS: at 25C

Method Blank (MB)

(MB) R4046333-1 03/15/24 17:05

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) R4046333-2 03/15/24 17:07 • (LCSD) R4046333-3 03/15/24 17:10

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	1.02	1.03	102	103	80.0-120			0.0976	20

Method Blank (MB)

(MB) R4045807-1 03/14/24 17:05

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

Laboratory Control Sample (LCS)

(LCS) R4045807-2 03/14/24 17:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	109	109	80.0-120	
Barium	100	102	102	80.0-120	
Cadmium	100	106	106	80.0-120	
Copper	100	104	104	80.0-120	
Lead	100	103	103	80.0-120	
Nickel	100	109	109	80.0-120	
Selenium	100	108	108	80.0-120	
Silver	20.0	20.7	104	80.0-120	
Zinc	100	106	106	80.0-120	

L1713590-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1713590-01 03/14/24 17:11 • (MS) R4045807-5 03/14/24 17:21 • (MSD) R4045807-6 03/14/24 17:24

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	2.28	95.5	107	93.3	104	5	75.0-125			10.9	20
Barium	100	181	344	357	163	176	5	75.0-125	E J5	E J5	3.62	20
Cadmium	100	ND	93.1	104	92.8	104	5	75.0-125			11.0	20
Copper	100	6.76	101	105	93.9	98.4	5	75.0-125			4.33	20
Lead	100	6.63	101	112	94.7	105	5	75.0-125			9.65	20
Nickel	100	3.60	101	112	97.7	108	5	75.0-125			9.75	20
Selenium	100	ND	93.3	102	93.0	102	5	75.0-125			8.99	20
Silver	20.0	ND	18.1	20.0	90.5	99.8	5	75.0-125			9.74	20
Zinc	100	ND	128	138	120	130	5	75.0-125		J5	7.34	20

Method Blank (MB)

(MB) R4045572-2 03/13/24 22:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	*99.2*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R4045572-1 03/13/24 21:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	5.56	111	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*105*	*77.0-120*	

Method Blank (MB)

(MB) R4045576-3 03/13/24 10:29

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
(S) Toluene-d8	*104*			*75.0-131*
(S) 4-Bromofluorobenzene	*94.9*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*93.1*			*70.0-130*

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

(LCS) R4045576-1 03/13/24 08:51 • (LCSD) R4045576-2 03/13/24 09:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.111	0.112	88.8	89.6	70.0-123			0.897	20
Ethylbenzene	0.125	0.114	0.113	91.2	90.4	74.0-126			0.881	20
(S) Toluene-d8				*103*	*98.6*	*75.0-131*				
(S) 4-Bromofluorobenzene				*96.6*	*94.6*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*97.1*	*100*	*70.0-130*				

Method Blank (MB)

(MB) R4046112-2 03/14/24 10:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Toluene	U		0.00130	0.00500
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	*95.9*			*75.0-131*
(S) 4-Bromofluorobenzene	*95.3*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*

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

(LCS) R4046112-1 03/14/24 09:44 • (LCSD) R4046112-3 03/14/24 11:31

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 %
Toluene	0.125	0.124	0.126	99.2	101	75.0-121			1.60	20
Xylenes, Total	0.375	0.366	0.371	97.6	98.9	72.0-127			1.36	20
1,2,4-Trimethylbenzene	0.125	0.139	0.140	111	112	70.0-126			0.717	20
1,3,5-Trimethylbenzene	0.125	0.141	0.141	113	113	73.0-127			0.000	20
(S) Toluene-d8				*92.9*	*93.6*	*75.0-131*				
(S) 4-Bromofluorobenzene				*95.3*	*97.0*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*114*	*118*	*70.0-130*				

Method Blank (MB)

(MB) R4044847-1 03/12/24 20:08

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	0.724	J	0.274	4.00
(S) o-Terphenyl	*43.5*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4044847-2 03/12/24 20:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	34.2	68.4	50.0-150	
(S) o-Terphenyl			*57.5*	*18.0-148*	

L1713493-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1713493-01 03/13/24 12:32 • (MS) R4045046-1 03/13/24 12:45 • (MSD) R4045046-2 03/13/24 12:57

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	48.5	8.45	45.2	51.2	75.8	88.1	1	50.0-150			12.4	20
(S) o-Terphenyl					*44.0*	*50.5*		*18.0-148*				

Method Blank (MB)

(MB) R4045269-2 03/12/24 01:35

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	0.00496	J	0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	*88.8*			*23.0-120*
(S) Nitrobenzene-d5	*70.6*			*14.0-149*
(S) 2-Fluorobiphenyl	*80.2*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R4045269-1 03/12/24 01:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0718	89.8	50.0-120	
Anthracene	0.0800	0.0765	95.6	50.0-126	
Benzo(a)anthracene	0.0800	0.0773	96.6	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0749	93.6	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0720	90.0	49.0-125	
Benzo(a)pyrene	0.0800	0.0667	83.4	42.0-120	
Chrysene	0.0800	0.0779	97.4	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0705	88.1	47.0-125	
Fluoranthene	0.0800	0.0805	101	49.0-129	
Fluorene	0.0800	0.0744	93.0	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0711	88.9	46.0-125	
1-Methylnaphthalene	0.0800	0.0760	95.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0739	92.4	50.0-120	
Naphthalene	0.0800	0.0808	101	50.0-120	
Pyrene	0.0800	0.0769	96.1	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4045269-1 03/12/24 01:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*95.3*	*23.0-120*	
(S) Nitrobenzene-d5			*76.4*	*14.0-149*	
(S) 2-Fluorobiphenyl			*83.2*	*34.0-125*	

L1713513-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1713513-01 03/12/24 04:09 • (MS) R4045269-3 03/12/24 04:27 • (MSD) R4045269-4 03/12/24 04:44

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	0.0776	ND	0.0691	0.0693	89.0	89.3	1	14.0-127			0.289	27
Anthracene	0.0776	ND	0.0741	0.0735	95.5	94.7	1	10.0-145			0.813	30
Benzo(a)anthracene	0.0776	ND	0.0737	0.0736	95.0	94.8	1	10.0-139			0.136	30
Benzo(b)fluoranthene	0.0776	ND	0.0709	0.0731	91.4	94.2	1	10.0-140			3.06	36
Benzo(k)fluoranthene	0.0776	ND	0.0681	0.0686	87.8	88.4	1	10.0-137			0.732	31
Benzo(a)pyrene	0.0776	ND	0.0713	0.0699	91.9	90.1	1	10.0-141			1.98	31
Chrysene	0.0776	ND	0.0749	0.0743	96.5	95.7	1	10.0-145			0.804	30
Dibenz(a,h)anthracene	0.0776	ND	0.0671	0.0661	86.5	85.2	1	10.0-132			1.50	31
Fluoranthene	0.0776	ND	0.0773	0.0766	99.6	98.7	1	10.0-153			0.910	33
Fluorene	0.0776	ND	0.0711	0.0721	88.9	90.2	1	11.0-130			1.40	29
Indeno(1,2,3-cd)pyrene	0.0776	ND	0.0666	0.0653	85.8	84.1	1	10.0-137			1.97	32
1-Methylnaphthalene	0.0776	ND	0.0737	0.0732	93.3	92.6	1	10.0-142			0.681	28
2-Methylnaphthalene	0.0776	ND	0.0726	0.0700	91.0	87.6	1	10.0-137			3.65	28
Naphthalene	0.0776	ND	0.0712	0.0698	91.8	89.9	1	10.0-135			1.99	27
Pyrene	0.0776	ND	0.0732	0.0717	94.3	92.4	1	10.0-148			2.07	35
(S) p-Terphenyl-d14					*91.0*	*94.1*		*23.0-120*				
(S) Nitrobenzene-d5					*73.2*	*78.2*		*14.0-149*				
(S) 2-Fluorobiphenyl					*78.7*	*84.3*		*34.0-125*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
T8	Sample(s) received past/too close to holding time expiration.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

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

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

G128

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

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

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins, Andrew Verbonitz	Email To: info on file
Copy To: --	Site Collection Info/Address: NA
Customer Project Name/Number: YCF XOM 3-25-1 Waterline Release	State: CO / County/City: Rio Blanco / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: (701) 721-5415 Email: alex.slorby@confluence-cc.com	Site/Facility ID #: YCF XOM 2-35-1 / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Alex Slorby	Purchase Order # : NA Quote #: NA / DW PWS ID #: DW Location Code:
Collected By (signature): Alex Slorby	Turnaround Date Required: **STANDARD TURNAROUND** / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold:	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No Analysis: NA

Container Preservative Type **

Lab Project Manager:

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

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

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	Table 915-1 VOC's	TPH (ORO, GRO, DRO)	Table 915-1 Metal's	Table 915-1 PAHs	pH, EC, SAR	Boron (Hot Water Soluble Soil)	CR6IC	Lab Sample # / Comments
20240306-YCF XOM 2-35-1-(POR)@0.5	SL	G	3/6/2024	1625				4	G	X	X	X	X	X	X	X	4713590 -01

Lab Profile/Line:

Lab Sample Receipt Checklist:

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

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

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

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

Lab Tracking #: 6426 8307 0322

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:

Temp Blank Received: Y N NA

Therm ID#: MSA9 3.5+0=3.5

Cooler 1 Temp Upon Receipt: __oC

Cooler 1 Therm Corr. Factor: __oC

Cooler 1 Corrected Temp: __oC

Comments:

Relinquished by/Company: (Signature) Alex Slorby	Date/Time: 3/7/2024 1230	Received by/Company: (Signature)	Date/Time:	MTJL LAB USE ONLY Table #:
Relinquished by/Company: (Signature)	Date/Time: 3/7/24 1500	Received by/Company: (Signature)	Date/Time:	Acctnum: Template: Prelogin: PM: PB:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature) Ei Pace	Date/Time: 3-8-24 1900	

Trip Blank Received: Y N (NA) HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 1 of: 1

ANALYTICAL REPORT

April 20, 2023

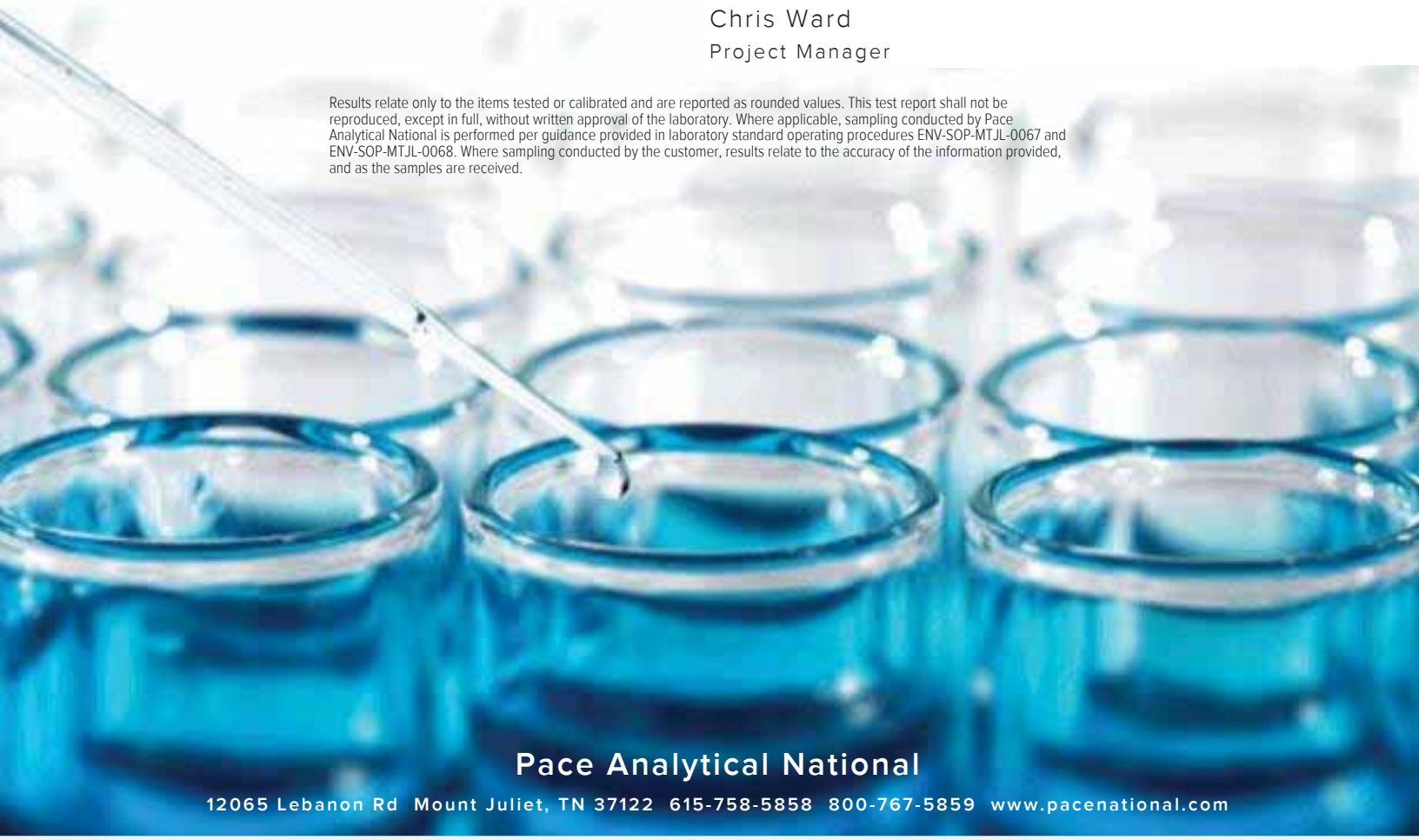
Caerus Oil and Gas

Sample Delivery Group:	L1605150
Samples Received:	04/13/2023
Project Number:	YCF 35-33-1
Description:	YCF 35-33-1
Site:	2954
Report To:	Brett M. , Jake J. , Blair R. 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

20230411-YCFSOURCE-(YCF35-33-1-T) L1605150-01 WW

Collected by: K. Moreland
Collected date/time: 04/11/23 10:20
Received date/time: 04/13/23 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500H+ B-2011	WG2041799	1	04/15/23 09:32	04/15/23 09:32	DB	Mt. Juliet, TN

20230411-YCFSOURCE-(YCF35-33-1-T) L1605150-03 Solid

Collected by: K. Moreland
Collected date/time: 04/11/23 10:20
Received date/time: 04/13/23 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2045449	5	04/20/23 08:44	04/20/23 14:42	JPD	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.41	T8	1	04/15/2023 09:32	WG2041799

Sample Narrative:

L1605150-01 WG2041799: 7.41 at 21.2C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	U		0.100	1.00	5	04/20/2023 14:42	WG2045449

L1604840-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1604840-04 04/15/23 09:32 • (DUP) R3913571-2 04/15/23 09:32

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.91	6.92	1	0.145		1

Sample Narrative:

OS: 6.91 at 20C

DUP: 6.92 at 19.7C

L1604840-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1604840-05 04/15/23 09:32 • (DUP) R3913571-3 04/15/23 09:32

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.82	7.84	1	0.255		1

Sample Narrative:

OS: 7.82 at 19.6C

DUP: 7.84 at 19.7C

Laboratory Control Sample (LCS)

(LCS) R3913571-1 04/15/23 09:32

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

Sample Narrative:

LCS: 10 at 20.3C

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

Method Blank (MB)

(MB) R3915511-1 04/20/23 14:36

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

Laboratory Control Sample (LCS)

(LCS) R3915511-2 04/20/23 14:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	94.0	94.0	80.0-120	

L1605150-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1605150-03 04/20/23 14:42 • (MS) R3915511-5 04/20/23 14:52 • (MSD) R3915511-6 04/20/23 14:56

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	U	92.2	89.3	92.2	89.3	5	75.0-125			3.12	20

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

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

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

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

Caerus Piceance LLC
143 Diamond Avenue
Parachute, CO 81635
970-285-9606

Billing Information:
Same as above

Report to: bmiddleton@caerusoilandgas.com

Email To: bmiddleton@caerusoilandgas.com

Project Description: YCF 35-33-1

City/State Collected:

Phone: 949-374-2506
Fax:

Client Project #: YCF 35-33-1

Lab Project #: YCF 35-33-1

Collected by (print): K. Moreland

Site/Facility ID #: 2954

P.O. #: YCF 35-33-1

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed: Standard TAT

Analysis / Container / Preservative

Pres Chk

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX	chloride, sulfate, TDS	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	naphthalene	Arsenic	pH	Remarks	Sample # (lab only)
20230411-YCF 35-33-1-(SOURCE)	Grab	WW		4/11/2023	1020	2						X	X		-01

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

L # L1605150
B006
Table #
Acctnt
Template:
Prelogin:
TSR:
PB:
Shipped Via:

* 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 # 612665375570

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes (No) HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0.5 0.0 °C Bottles Received: 2
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4.13.23 Time: 11:30

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

aerus Piceance LLC
43 Diamond Avenue
arachute, CO 81635
70-285-9606

Billing Information:
Same as above

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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National Center for Testing & Innovation

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

eport to: **middleton@caerusoilandgas.com**

Email To: **bmiddleton@caerusoilandgas.com**

roject escription: **YCF 35-33-1**

City/State Collected:

hone: **949-374-2506**
ax:

Client Project # **YCF 35-33-1**

Lab Project # **YCF 35-33-1**

ollected by (print): **. Moreland**

Site/Facility ID # **2954**

P.O. # **YCF 35-33-1**

ollected by (signature):

nmediately acked 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**

L #

Table #

Acctnum:
Template:
Prelogin:
TSR:
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX	chloride, sulfate, TDS	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	naphthalene	Arsenic	pH	Pres Chk	Remarks	Sample # (lab only)
0230411-YCFSOURCE-(YCF35-33-1-T)	Grab	WW		4/11/2023	1020	2						X	X			

Matrix:
- Soil **AIR** - Air **F** - Filter
W - Groundwater **B** - Bioassay
WW - WasteWater
W - Drinking Water
T - Other_____

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

elinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
elinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
elinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: / Condition: NCF / OK