August 23, 2023

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Report of Work Completed – Well P&A

ECMC Location Name (ID)	ROLES-67S93W /13NESE (334558)
Client Location Name	J13W
ECMC Well Name	Roles #13-10 (J13W)
ECMC Remediation Project Number	25814
Legal Description	NWSE Sec. 13 T7S-R93W
Coordinates (Lat/Long)	39.444210 / -107.721290
County	Garfield County, Colorado

Mr. Rollins,

Confluence Compliance Companies, LLC (Confluence) prepared this Report of Work Completed (ROWC) for Caerus Oil & Gas LLC (Caerus) to document findings of the site investigation conducted in association with well plugging and abandonment (P&A) of Roles #13-10 (J13W) (API #05-045-06953) and associated flowline at the J13W well pad (Location). The Location is 6.6 miles southeast of Rifle, Colorado, in Garfield County, as illustrated in the attached Topographic Location Map. Additional information on the Location is provided in the title block above, attached Site Diagrams, 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

In October 2022, the Roles #13-10 (J13W) well and associated flowline at the Location were plugged and abandoned. Energy & Carbon Management Commission (ECMC) Form 27 Document 403209457 was submitted to open Remediation Project Number 25814.

On October 6, 2022, Confluence provided sampling support to characterize soil beneath the plugged and abandoned equipment in accordance with ECMC Rule 911.a. Following cut and cap operations, soil around the wellhead had been removed to a depth of 8 feet below ground surface (bgs), and soil beneath the separator inlet had been removed to a depth of 5 feet bgs. One base sample was collected from the wellhead excavation at 8 feet bgs. One soil sample was collected from the base of the flowline excavation at 5 feet bgs.

On November 4, 2022, Confluence returned to the location to collect additional material from the wellhead base sample for sodium adsorption ratio (SAR) analysis due to laboratory analytical limitations from the amount of soil collected on October 6, 2022.

On January 17, 2023, Confluence returned to the Location to collect a characterization sample of the produced water on site. One comingled produced water sample was collected from the drain valve of the western production storage tank on site.

On March 29, 2023, Confluence returned to the Location with a hydro vacuum truck to continue remedial investigation. The wellhead excavation was expanded to approximately 18 feet long by 15 feet wide by 10 feet bgs. The separator excavation was expanded to approximately 12 feet long by 10 feet wide by 8 feet bgs. A total of 10 soil samples were collected: five from the wellhead excavation and five from the separator excavation. However, upon review it was determined that the sampler made a nomenclature error, and the samples could not be positively identified. The samples were deemed non-representative and were disposed of. The situation was reported to the ECMC in Form 27 Document 403373375.

Methodology

On July 11, 2023, Confluence returned to the location to resample the wellhead and separator excavations. Using hand tools, 10 soil samples were collected: one from the base of the wellhead excavation immediately adjacent to the wellhead, one from the base of the separator excavation, and four from each of the excavation's sidewalls. Samples were characterized using visual and olfactory observations and field-screened using a photoionization detector (PID).

On July 24, 2023, Confluence returned to the location with a hydro vacuum truck to continue remedial excavation of the south sidewall of the separator excavation. The sidewall was advanced approximately 4 feet. Final excavation extents were approximately 16 feet long by 10 feet wide by 8 feet bgs. One soil sample was collected from the south sidewall and was characterized using visual and olfactory observations and field-screened using a PID.

All soil samples were collected in laboratory provided jars, immediately placed on ice, and shipped under a completed chain-of-custody form to Pace Analytical Services (Pace) for the reduced analyte suite of 1,2,4 trimethylbenzene, 1,3,5 trimethylbenzene, pH, arsenic, barium, and cadmium that was approved by the ECMC in Form 27 Document 403241280. The south sidewall sample collected from the separator excavation on July 24, 2023, was analyzed for both the approved reduced suite as well as ECMC Full Table 915-1 constituents of concern due to potential soil impacts noted during field screening.

Results

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

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

Lithology and Hydrogeology

Lithology at the Location is characterized as sandy clay with gravel. Groundwater is expected to flow southeast toward West Mamm Creek and ultimately to the Colorado River, located 6.0 miles north of the Location. No groundwater was observed during sampling activities. Although precise depth to groundwater data at the Location is not available, Division of Water Resources (DWR) well permit 191875, located approximately 0.6 miles south of the Location, has depth to water listed at approximately 30 feet bgs and DWR well permit 1930121, located approximately 0.78 miles east of the Location, has depth to water listed at approximately 70 feet bgs. These wells represent the nearest applicable data points. Both wells exist within the West Mamm Creek drainage system with one well representing the nearest upgradient data point and one well representing the nearest downgradient data point. Therefore, it can be assumed that groundwater at the Location would range between 30 to 70 feet bgs at the Location.

Wellhead Investigation

Field screening results indicated potential impacts to soil with staining noted in the base of the excavation. PID measurements range from 0.0 parts per million (ppm) in the base of the excavation to 30.4 ppm within the east sidewall. Analytical results of soil samples when compared to ECMC Table 915-1 Protection of Groundwater Soil Screening Levels are compliant for all constituents of concern except for pH, arsenic, barium, and cadmium. Exceedances for pH range from 8.37 in the west sidewall to 9.44 in the base. Arsenic exceedances range from 5.39 milligrams per kilogram (mg/kg) in the south side wall to 7.04 mg/kg in the west sidewall. Barium exceedances range from 246 mg/kg in the south sidewall to 436 mg/kg in the base. A cadmium exceedance of 0.413 mg/kg was observed in the east sidewall. Analytical results of soil samples when compared to ECMC Table 915-1 Residential Soil Screening Levels are compliant for all constituents of concern except for pH, and arsenic.

Separator Investigation

July 11, 2023, field screening results indicated potential impacts to soil with staining noted in the north, west, and south sidewalls. PID measurements range from 0.0 ppm in the south sidewall to 0.4 ppm within the north sidewall. Analytical results of soil samples are within ECMC Table 915-1 Protection of Groundwater Soil Screening Levels for all constituents of concern except for pH, arsenic, barium, and cadmium. Exceedances of pH range from 8.50 in the base to 8.75 in the north sidewall. Arsenic exceedances range from 5.52 mg/kg in the south sidewall to 6.64 mg/kg in the east sidewall. Barium exceedances range from 171 mg/kg in the west sidewall to 482 mg/kg in the south sidewall. Cadmium exceedances range from 0.444 mg/kg in the west sidewall to 0.716 mg/kg in the south sidewall. Analytical results of soil samples when compared to ECMC Table 915-1 Residential Soil Screening Levels are compliant for all constituents of concern except for pH and arsenic.

July 24, 2023, field screening results indicated potential impacts to soil with odor and staining noted in the south sidewall. PID measurement of the south sidewall sample was 398.6 ppm. Two samples were collected from the same location in the south sidewall, one to analyze for the approved reduced suite and one to characterize the potential impacts for full ECMC Table 915-1 constituents of concern.

When analyzed for the approved reduced analyte suite, results exceed ECMC Table 915-1 Protection of Groundwater Soil Screening Levels for all constituents of concern except for cadmium. Exceedances of 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene are 5.42 mg/kg and 4.68 mg/kg, respectively. A value of pH measured 7.94. Arsenic exceeds at 5.82 mg/kg.

Barium exceeds at 191 mg/kg. Analytical results of soil samples when compared to ECMC Table 915-1 Residential Soil Screening Levels are compliant for all constituents of concern except for arsenic.

Results of the sample when analyzed for ECMC Full Table 915-1 constituents of concern are within ECMC Table 915-1 Protection of Groundwater Soil Screening Levels except for 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1- Methylnaphthalene, 2- Methylnaphthalene, naphthalene, arsenic, barium, cadmium, and selenium. Exceedances of 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene are 0.641 mg/kg and 0.550 mg/kg, respectively. A value of pH measured 7.94. Arsenic exceeds at 5.82 mg/kg. Barium exceeds at 191 mg/kg. Exceedances of 1-Methylnaphthalene, 2- Methylnaphthalene, and naphthalene are 0.00706 mg/kg, 0.0191 mg/kg, and 0.0218 mg/kg, respectively. Analytical results of soil samples when compared to ECMC Table 915-1 Residential Soil Screening Levels are compliant for all constituents of concern except for arsenic.

Recommendations and Analysis

Based on the approximate depth to groundwater being between 30 and 70 feet bgs, Confluence recommends that Caerus request to compare analytical results for site investigation to ECMC Table 915-1 Residential Soil Screening Levels as no reasonable pathway to groundwater appears to exist.

Assuming the alternative screening levels are approved, values of pH and arsenic exceeding ECMC Table 915-1 Residential Soil Screening Levels still exist within the project area. Produced water data collected from the Location indicates a pH value of 6.65 while arsenic concentrations were not detected above laboratory detection limits. Confluence recommends that Caerus request consideration of Rule 915.e.(2).C to remove pH and arsenic as constituents of concern for this remediation project based on analytical results of the produced water characterization.

Assuming the process knowledge and proposed screening levels are accepted, all constituents of concern are within ECMC Table 915-1 Residential Screening Levels or their respective alternative allowable limits. Based on these results, Confluence recommends that Caerus request closure with a no further action (NFA) determination.

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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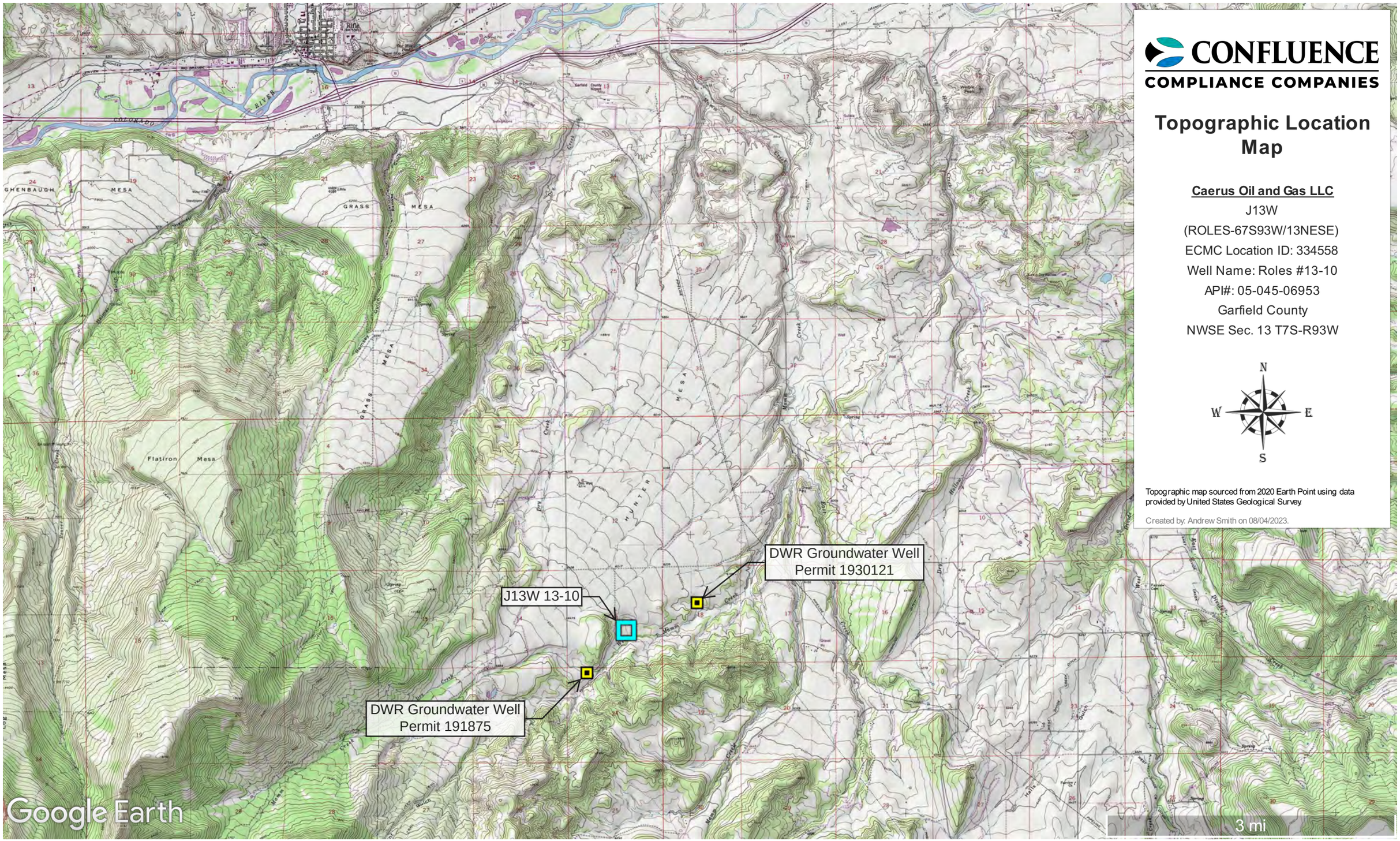
Attachments

- Topographic Location Map
- Site Diagram – Excavation
- Site Diagram – Produced Water
- Laboratory Results Summary Table – Residential Standards
- Laboratory Results Summary Table – Groundwater Protection Standards
- Laboratory Results Summary Table – Produced Water
- Laboratory Reports



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Topographic Location Map

Caerus Oil and Gas LLC

J13W

(ROLES-67S93W/13NESE)

ECMC Location ID: 334558

Well Name: Roles #13-10

API#: 05-045-06953

Garfield County

NWSE Sec. 13 T7S-R93W

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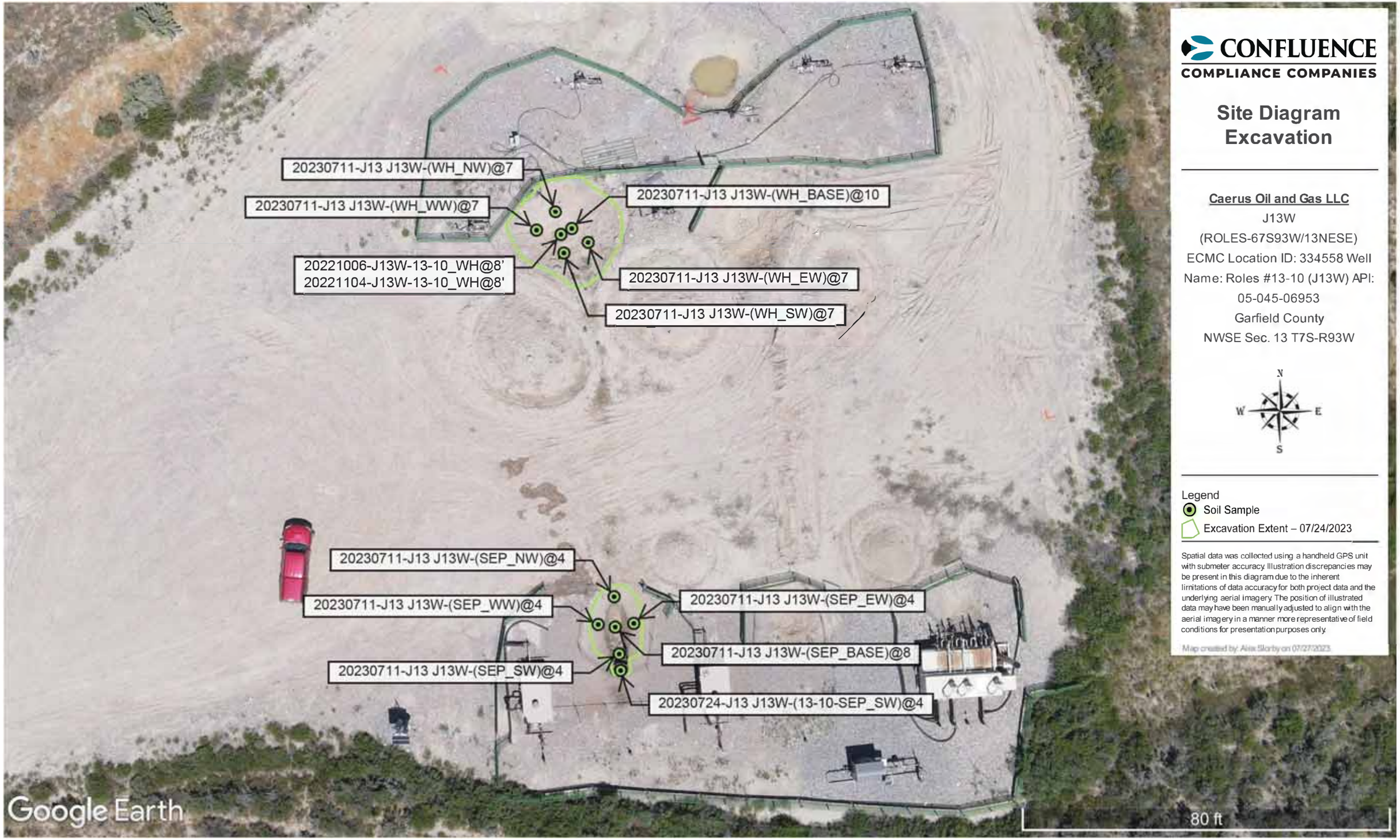
Topographic map sourced from 2020 Earth Point using data provided by United States Geological Survey.

Created by: Andrew Smith on 08/04/2023.



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Site Diagram
Excavation

Caerus Oil and Gas LLC
J13W
(ROLES-67S93W/13NESE)
ECMC Location ID: 334558 Well Name: Roles #13-10 (J13W) API: 05-045-06953
Garfield County
NWSE Sec. 13 T7S-R93W

N
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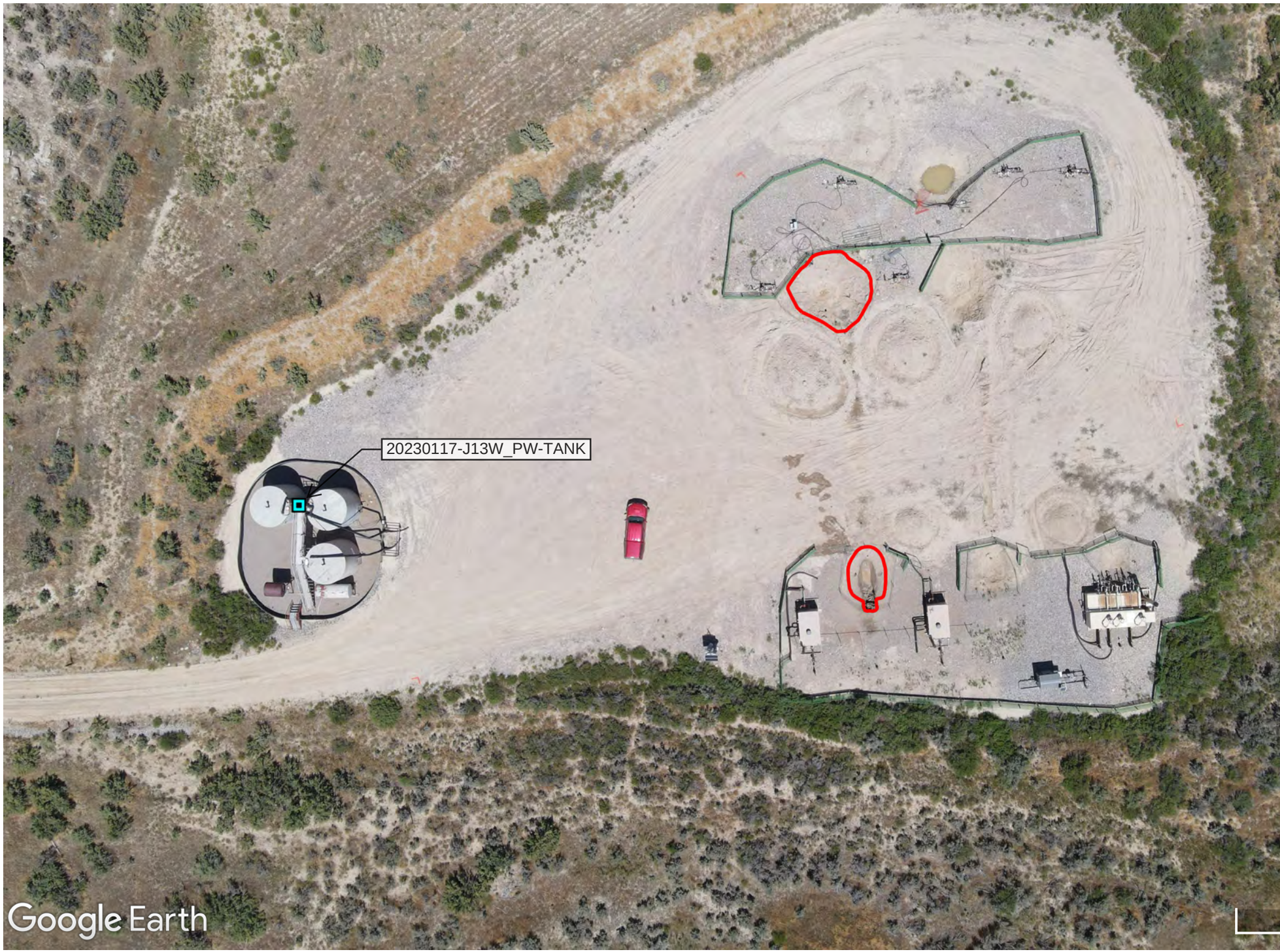
Legend
Soil Sample
Excavation Extent – 07/24/2023

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

Map created by: Alex Stanby on 07/27/2023



CONFLUENCE
COMPLIANCE COMPANIES

Site Diagram
Produced Water

Caerus Oil and Gas LLC

J13W

(ROLES-67S93W/13NESE)

ECMC Location ID: 334558

Well Name: Roles #13-10

API#: 05-045-06953 Garfield County

NWSE Sec. 13 T7S-R93W

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Legend

- Produced Water Sample
- Final Excavation Extent

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

Map created by: Andrew Smith on 08/04/2023.

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Laboratory Results Summary Table - Residential Soil Screening Standards
J13W 13-10 P&A

8/4/2023

ECMC Soil Screening Levels					Organic Compounds (mg/kg [ppm])																										
ECMC Table 915-1 Residential -->				NA	500	NA	NA	NA	1.2	490	5.8	58	30	27	360	1800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	18	24	2	180
Sample Date	Solid/Soil Source (Equipment) [Vault/Sump, Separator, Tank Battery, Dump Line, Pit, Cuttings, Background, etc.]	Depth - Z (feet) (NEGATIVE VALUE) below ground surface (bgs)	Sample ID	PID (ppm)	TPH (total volatile and extractable petroleum hydrocarbons) (GRO+DRO+ORO)	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C28) High Fraction	TPH-ORO (C28-C36) High Fraction	Benzene	Toluene	Ethylbenzene	Xylenes - total (sum of o-, m-, p- isomers)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Acenaphthene	Anthracene	Benzo(A)anthracene	Benzo(A)pyrene	Benzo(B)fluoranthene	Benzo(K)fluoranthene	Chrysene	Dibenz(A,H)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3,C,D)pyrene	1- Methylnaphthalene	2- Methylnaphthalene	Naphthalene	Pyrene
7/24/2023	Separator	-4	20230724-J13 J13W-(13-10-SEP_SW)@4	398.6	NA	NA	NA	NA	NA	NA	NA	NA	5.42	4.68	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/24/2023	Separator	-4	20230724-J13 J13W-(13-10-SEP_SW-C)@4	398.6	148	135	10.4	2.95	<0.00101	0.0240	0.0401	0.883	0.641	0.550	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	0.00706	0.0191	0.0218	<0.00600
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP WW)@4	0.1	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP EW)@4	0	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP NW)@4	0.4	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-8	20230711-J13 J13W(13-10-SEP BASE)@8	0.1	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH SW)@7	0.8	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH EW)@7	30.4	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH NW)@7	0	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH WW)@7	0	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-10	20230711-J13 J13W (13-10-WH BASE) @ 10	0	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP SW)@4	0	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/4/2022	Wellhead	-8	20221104-J13W-13-10_WH@8'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/6/2022	Wellhead	-8	20221006-J13W-13-10_WH@8'	1	52.9	<0.100	15.8	37.1	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.0200	<0.0200	<0.0200	<0.0200	<0.00600
10/6/2022	Separator	-5	20221006-J13W-FLO_W@5'	72.5	113.3	<0.100	84.9	28.4	<0.00100	<0.00500	0.00380	0.143	0.266	0.352	<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

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

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Laboratory Results Summary Table - Residential Soil Screening Standards
J13W 13-10 P&A

8/4/2023

				ECMC Soil Screening Levels	Soil Suitability for Reclamation				Metals (mg/kg [ppm])									
				ECMC Table 915-1 Residential -->	4	6	6-8.3	2	0.68	15000	71	0.3	3100	400	1500	390	390	23000
Sample Date	Solid/Soil Source (Equipment) [Vault/Sump, Separator, Tank Battery, Dump Line, Pit, Cuttings, Background, etc.]	Depth - Z (feet) (NEGATIVE VALUE) below ground surface (bgs)	Sample ID	EC (Specific Conductance) (millimhos/centimeter) (by saturated paste method)	SAR (Sodium Adsorption Ratio) (calculation) (by saturated paste method)	pH (pH Units) (by saturated paste method)	Boron - Hot Water Soluble (mg/L)	Arsenic	Barium	Cadmium (mg/kg)	Chromium (VI)	Copper	Lead	Nickel	Selenium	Silver	Zinc
7/24/2023	Separator	-4	20230724-J13 J13W-(13-10-SEP_SW)@4	NA	NA	7.94	NA	5.82	191	<0.500	NA	NA	NA	NA	NA	NA	NA
7/24/2023	Separator	-4	20230724-J13 J13W-(13-10-SEP_SW-C)@4	0.288	0.607	7.80	0.416	5.52	180	0.716	<1.00	15.4	11.7	19.7	0.605	0.114	60.2
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP WW)@4	NA	NA	8.62	NA	5.77	171	0.444	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP EW)@4	NA	NA	8.68	NA	6.64	191	0.538	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP NW)@4	NA	NA	8.75	NA	6.44	196	0.518	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-8	20230711-J13 J13W(13-10-SEP BASE)@8	NA	NA	8.50	NA	6.07	215	0.365	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH SW)@7	NA	NA	8.97	NA	5.39	246	0.354	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH EW)@7	NA	NA	8.84	NA	6.52	255	0.413	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH NW)@7	NA	NA	9.09	NA	5.84	334	0.369	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH WW)@7	NA	NA	8.37	NA	7.04	362	0.355	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-10	20230711-J13 J13W (13-10-WH BASE) @ 10	NA	NA	9.44	NA	5.41	436	0.379	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP SW)@4	NA	NA	8.73	NA	6.00	482	0.710	<1.00	NA	NA	NA	NA	NA	NA
11/4/2022	Wellhead	-8	20221104-J13W-13-10_WH@8'	NA	7.89	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/6/2022	Wellhead	-8	20221006-J13W-13-10_WH@8'	0.649	NA	8.98	<0.400	6.34	232	<0.500	<1.00	16.0	13.4	19.8	<2.00	<1.00	71.4
10/6/2022	Separator	-5	20221006-J13W-FLO_W@5'	0.221	2.63	8.09	0.311	6.62	192	0.504	<1.00	14.2	9.45	16.3	<2.00	<1.00	44.9

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

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Laboratory Results Summary Table -
Protection of Groundwater Soil Screening Standards
J13W 13-10 P&A

8/4/2023

ECMC Soil Screening Levels					Organic Compounds (mg/kg [ppm])																									
ECMC Table 915-1 Groundwater Protection -->				NA	500	NA	NA	NA	0.0026	0.69	0.78	9.9	0.0081	0.0087	0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	0.006	0.019	0.0038	1.3
Sample Date	Solid/Soil Source (Equipment) [Vault/Sump, Separator, Tank Battery, Dump Line, Pit, Cuttings, Background, etc.]	Depth - Z (feet) (NEGATIVE VALUE) below ground surface (bgs)	Sample ID	PID (ppm)	TPH (total volatile and extractable petroleum hydrocarbons) (GRO+DRO+ORO)	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C28) High Fraction	TPH-ORO (C28-C36) High Fraction	Benzene	Toluene	Ethylbenzene	Xylenes - total (sum of o-, m-, p- isomers)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Acenaphthene	Anthracene	Benzo(A)anthracene	Benzo(A)pyrene	Benzo(B)fluoranthene	Benzo(K)fluoranthene	Chrysene	Dibenz(A,H)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3,C,D)pyrene	1- Methylnaphthalene	2- Methylnaphthalene	Naphthalene	Pyrene
7/24/2023	Separator	-4	20230724-J13 J13W-(13-10-SEP_SW)@4	398.6	NA	NA	NA	NA	NA	NA	NA	NA	5.42	4.68	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/24/2023	Separator	-4	20230724-J13 J13W-(13-10-SEP_SW-C)@4	398.6	148	135	10.4	2.95	<0.00101	0.0240	0.0401	0.883	0.641	0.550	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	0.00706	0.0191	0.0218	<0.00600
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP WW)@4	0.1	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP EW)@4	0	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP NW)@4	0.4	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-8	20230711-J13 J13W(13-10-SEP BASE)@8	0.1	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH SW)@7	0.8	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH EW)@7	30.4	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH NW)@7	0	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH WW)@7	0	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-10	20230711-J13 J13W (13-10-WH BASE) @ 10	0	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP SW)@4	0	NA	NA	NA	NA	NA	NA	NA	NA	<0.00500	<0.00500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/4/2022	Wellhead	-8	20221104-J13W-13-10_WH@8'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/6/2022	Wellhead	-8	20221006-J13W-13-10_WH@8'	1	52.9	<0.100	15.8	37.1	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600
10/6/2022	Separator	-5	20221006-J13W-FLO_W@5'	72.5	113.3	<0.100	84.9	28.4	<0.00100	<0.00500	0.00380	0.143	0.266	0.352	<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

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

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CONFLUENCE

Laboratory Results Summary Table -
Protection of Groundwater Soil Screening Standards
J13W 13-10 P&A

8/4/2023

				ECMC Soil Screening Levels	Soil Suitability for Reclamation				Metals (mg/kg [ppm])									
				ECMC Table 915-1 Groundwater Protection -->	4	6	6-8.3	2	0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
Sample Date	Solid/Soil Source (Equipment) [Vault/Sump, Separator, Tank Battery, Dump Line, Pit, Cuttings, Background, etc.]	Depth - Z (feet) (NEGATIVE VALUE) below ground surface (bgs)	Sample ID		EC (Specific Conductance) (millimhos/centimeter) (by saturated paste method)	SAR (Sodium Adsorption Ratio) (calculation) (by saturated paste method)	pH (pH Units) (by saturated paste method)	Boron - Hot Water Soluble (mg/L)	Arsenic	Barium	Cadmium (mg/kg)	Chromium (VI)	Copper	Lead	Nickel	Selenium	Silver	Zinc
7/24/2023	Separator	-4	20230724-J13 J13W-(13-10-SEP_SW)@4		NA	NA	7.94	NA	5.82	191	<0.500	NA	NA	NA	NA	NA	NA	NA
7/24/2023	Separator	-4	20230724-J13 J13W-(13-10-SEP_SW-C)@4		0.288	0.607	7.80	0.416	5.52	180	0.716	<1.00	15.4	11.7	19.7	0.605	0.114	60.2
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP WW)@4		NA	NA	8.62	NA	5.77	171	0.444	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP EW)@4		NA	NA	8.68	NA	6.64	191	0.538	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP NW)@4		NA	NA	8.75	NA	6.44	196	0.518	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-8	20230711-J13 J13W(13-10-SEP BASE)@8		NA	NA	8.50	NA	6.07	215	0.365	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH SW)@7		NA	NA	8.97	NA	5.39	246	0.354	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH EW)@7		NA	NA	8.84	NA	6.52	255	0.413	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH NW)@7		NA	NA	9.09	NA	5.84	334	0.369	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-7	20230711-J13 J13W(13-10-WH WW)@7		NA	NA	8.37	NA	7.04	362	0.355	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Wellhead	-10	20230711-J13 J13W (13-10-WH BASE) @ 10		NA	NA	9.44	NA	5.41	436	0.379	<1.00	NA	NA	NA	NA	NA	NA
7/11/2023	Separator	-4	20230711-J13 J13W (13-10-SEP SW)@4		NA	NA	8.73	NA	6.00	482	0.710	<1.00	NA	NA	NA	NA	NA	NA
11/4/2022	Wellhead	-8	20221104-J13W-13-10_WH@8'		NA	7.89	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/6/2022	Wellhead	-8	20221006-J13W-13-10_WH@8'		0.649	NA	8.98	<0.400	6.34	232	<0.500	<1.00	16.0	13.4	19.8	<2.00	<1.00	71.4
10/6/2022	Separator	-5	20221006-J13W-FLO_W@5'		0.221	2.63	8.09	0.311	6.62	192	0.504	<1.00	14.2	9.45	16.3	<2.00	<1.00	44.9

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CONFLUENCE

Laboratory Results Summary Table - Produced Water
J13W 13-10 P&A

8/4/2023

			Inorganics (mg/L											
ECMC Allowable Concentration (915-Groundwater)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample Date	**Depth - Z** (feet) below ground surface (bgs)	**Sample ID**	**Arsenic, dissolved**	**Barium, dissolved**	**Boron**	**Cadmium, dissolved**	**Chromium (VI)**	**Copper, dissolved**	**Lead, dissolved**	**Nickel**	**pH**	**Selenium, dissolved**	**Silver, dissolved**	**Zinc**
1/17/23	0	**20230117-J13W_PW-TANK**	*<0.0200*	**104**	**1.63**	*<0.0200*	*<0.000500*	**0.0483**	*<0.0400*	**0.0504**	**6.65**	*<0.0400*	*<0.0200*	*<0.400*

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ANALYTICAL REPORT

January 26, 2023

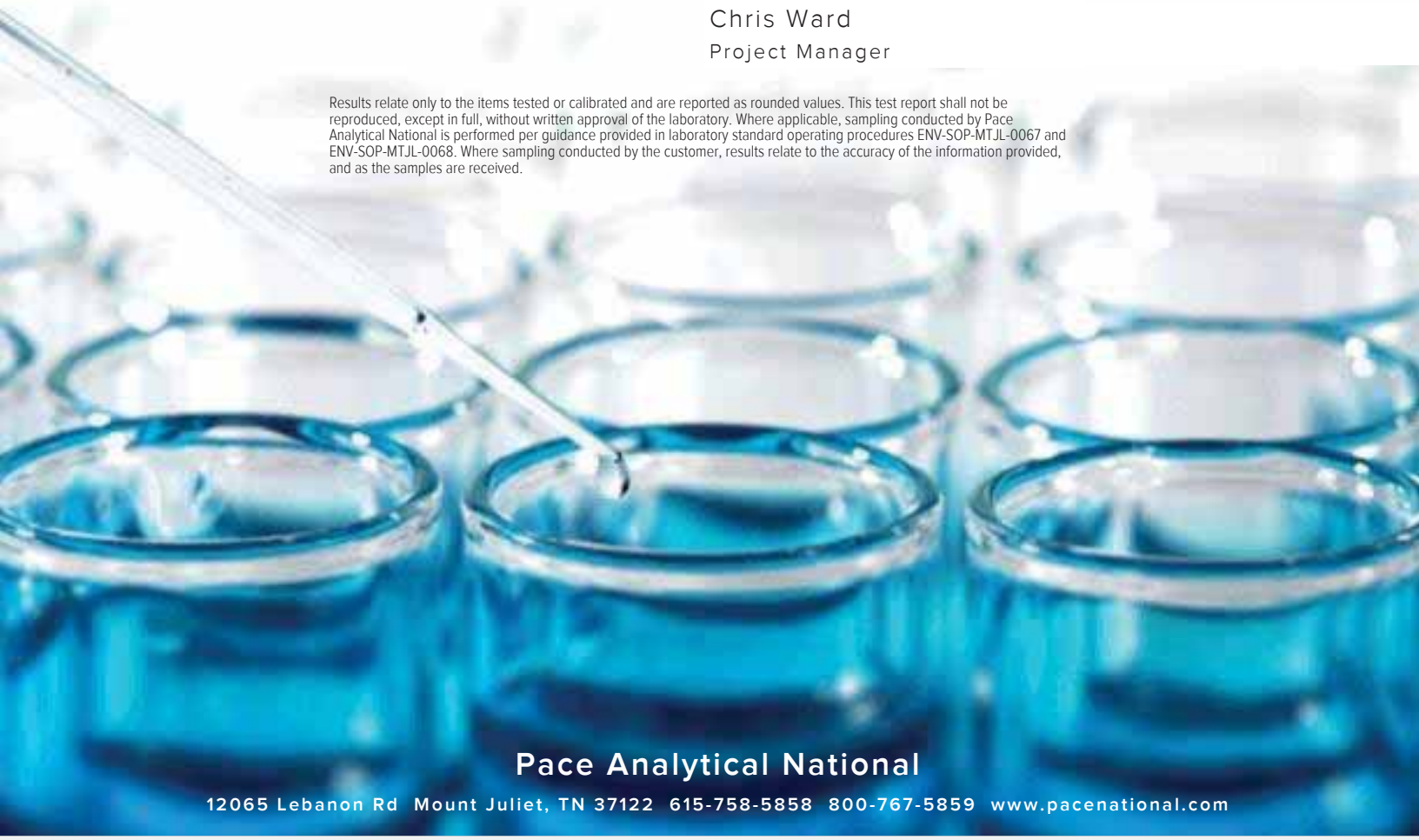
Caerus Oil and Gas

Sample Delivery Group:	L1578005
Samples Received:	01/20/2023
Project Number:	
Description:	J13W

Report To: Brett Middleton
143 Diamond Avenue
Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

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SAMPLE SUMMARY

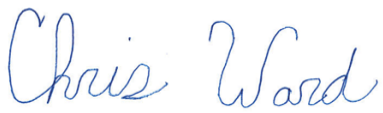
20230117-J13W_PW-TANK L1578005-01 WW

Collected by: Tim Freeman
Collected date/time: 01/17/23 10:58
Received date/time: 01/20/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Cr C-2011	WG1994179	1	01/25/23 04:18	01/25/23 04:18	VSS	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1992359	1	01/21/23 19:18	01/21/23 19:18	KAD	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1993732	100	01/25/23 09:08	01/25/23 17:06	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1993732	20	01/25/23 09:08	01/25/23 16:08	LD	Mt. Juliet, TN

CASE NARRATIVE

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



Chris Ward
Project Manager

Wet Chemistry by Method 3500Cr C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND	T8	0.000500	1	01/25/2023 04:18	WG1994179

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	6.65	T8	1	01/21/2023 19:18	WG1992359

Sample Narrative:

L1578005-01 WG1992359: 6.65 at 18.8C

Metals (ICPMS) by Method 200.8

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic	ND		0.0200	20	01/25/2023 16:08	WG1993732
Barium	104		0.500	100	01/25/2023 17:06	WG1993732
Boron	1.63		0.800	20	01/25/2023 16:08	WG1993732
Cadmium	ND		0.0200	20	01/25/2023 16:08	WG1993732
Copper	0.0483		0.0200	20	01/25/2023 16:08	WG1993732
Lead	ND		0.0400	20	01/25/2023 16:08	WG1993732
Nickel	0.0504		0.0400	20	01/25/2023 16:08	WG1993732
Selenium	ND		0.0400	20	01/25/2023 16:08	WG1993732
Silver	ND		0.0200	20	01/25/2023 16:08	WG1993732
Zinc	ND		0.400	20	01/25/2023 16:08	WG1993732

Method Blank (MB)

(MB) R3884060-1 01/25/23 03:00

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

L1578060-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1578060-02 01/25/23 04:33 • (DUP) R3884060-3 01/25/23 04:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	0.00148	0.00141	1	5.36		20

Laboratory Control Sample (LCS)

(LCS) R3884060-2 01/25/23 03:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	0.00200	0.00204	102	90.0-110	

L1578453-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1578453-01 01/25/23 04:49 • (MS) R3884060-4 01/25/23 04:56 • (MSD) R3884060-5 01/25/23 05:20

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	0.0500	ND	0.0518	0.0512	104	102	1	90.0-110			1.19	20

L1577790-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1577790-01 01/21/23 19:18 • (DUP) R3883172-2 01/21/23 19:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.45	7.45	1	0.000		1

Sample Narrative:

OS: 7.45 at 19.3C

DUP: 7.45 at 19.3C

L1578084-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1578084-02 01/21/23 19:18 • (DUP) R3883172-3 01/21/23 19:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.29	7.24	1	0.688		1

Sample Narrative:

OS: 7.29 at 19.2C

DUP: 7.24 at 19.2C

Laboratory Control Sample (LCS)

(LCS) R3883172-1 01/21/23 19:18

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.90	99.0	99.0-101	

Sample Narrative:

LCS: 9.9 at 19.5C

Method Blank (MB)

(MB) R3884389-1 01/25/23 15:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.000195	0.00100
Barium	U		0.000476	0.00500
Boron	U		0.0177	0.0400
Cadmium	U		0.000160	0.00100
Copper	U		0.000670	0.00100
Lead	U		0.000513	0.00200
Nickel	U		0.000514	0.00200
Selenium	U		0.000437	0.00200
Silver	U		0.000144	0.00100
Zinc	U		0.00796	0.0200

Laboratory Control Sample (LCS)

(LCS) R3884389-2 01/25/23 15:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	0.0500	0.0484	96.9	85.0-115	
Barium	0.0500	0.0486	97.1	85.0-115	
Boron	0.0500	0.0530	106	85.0-115	
Cadmium	0.0500	0.0492	98.4	85.0-115	
Copper	0.0500	0.0463	92.5	85.0-115	
Lead	0.0500	0.0486	97.2	85.0-115	
Nickel	0.0500	0.0489	97.8	85.0-115	
Selenium	0.0500	0.0493	98.7	85.0-115	
Silver	0.0500	0.0534	107	85.0-115	
Zinc	0.0500	0.0470	94.0	85.0-115	

L1578362-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1578362-01 01/25/23 15:51 • (MS) R3884389-3 01/25/23 15:58 • (MSD) R3884389-4 01/25/23 16:01

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	0.0500	ND	0.0491	0.0509	96.8	100	1	70.0-130			3.45	20
Barium	0.0500	0.0584	0.107	0.105	96.6	93.5	1	70.0-130			1.50	20
Boron	0.0500	0.138	0.180	0.190	84.9	103	1	70.0-130			4.97	20
Cadmium	0.0500	ND	0.0507	0.0516	101	103	1	70.0-130			1.76	20
Copper	0.0500	0.00279	0.0480	0.0478	90.3	89.9	1	70.0-130			0.421	20
Lead	0.0500	ND	0.0500	0.0496	100	99.1	1	70.0-130			0.935	20
Nickel	0.0500	ND	0.0499	0.0516	96.6	100	1	70.0-130			3.40	20

L1578362-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1578362-01 01/25/23 15:51 • (MS) R3884389-3 01/25/23 15:58 • (MSD) R3884389-4 01/25/23 16:01

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Selenium	0.0500	ND	0.0524	0.0511	105	102	1	70.0-130			2.49	20
Silver	0.0500	ND	0.0537	0.0523	107	105	1	70.0-130			2.69	20
Zinc	0.0500	ND	0.0546	0.0572	90.4	95.8	1	70.0-130			4.75	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
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: Jake Janicek, Brett Middleton, Blair Rollins	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: J13W	State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET

Container Preservative Type **

Lab Project Manager:

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

Phone: Email:	Site/Facility ID #: 334558	Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Timothy Freeman	Purchase Order # : Quote #:	DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Standard TAT	Immediately Packed on Ice: [x] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day	Field Filtered (If applicable): [ ] Yes [ ] No Analysis: _____

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

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	Table 915-1 Metals	pH	Boron (Hot water soluble)	Lab Sample # / Comments
20230117-J13W_PW-TANK	WW	Grab	1/17/23	10:58				1	P	X	X	X	L1578005 -01

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:

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 #: 6126 6537 5041

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: ORA2 1.0

Relinquished by/Company: (Signature)	Date/Time: 1/17/23 16:00	Received by/Company: (Signature)	Date/Time: 1/18/23 13
Relinquished by/Company: (Signature)	Date/Time: 1/18/23 1500	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature) Caleb Tapp	Date/Time: 1/20/23 09:00

F195

Account: Template: Prelogin: PM: PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

ANALYTICAL REPORT

July 20, 2023

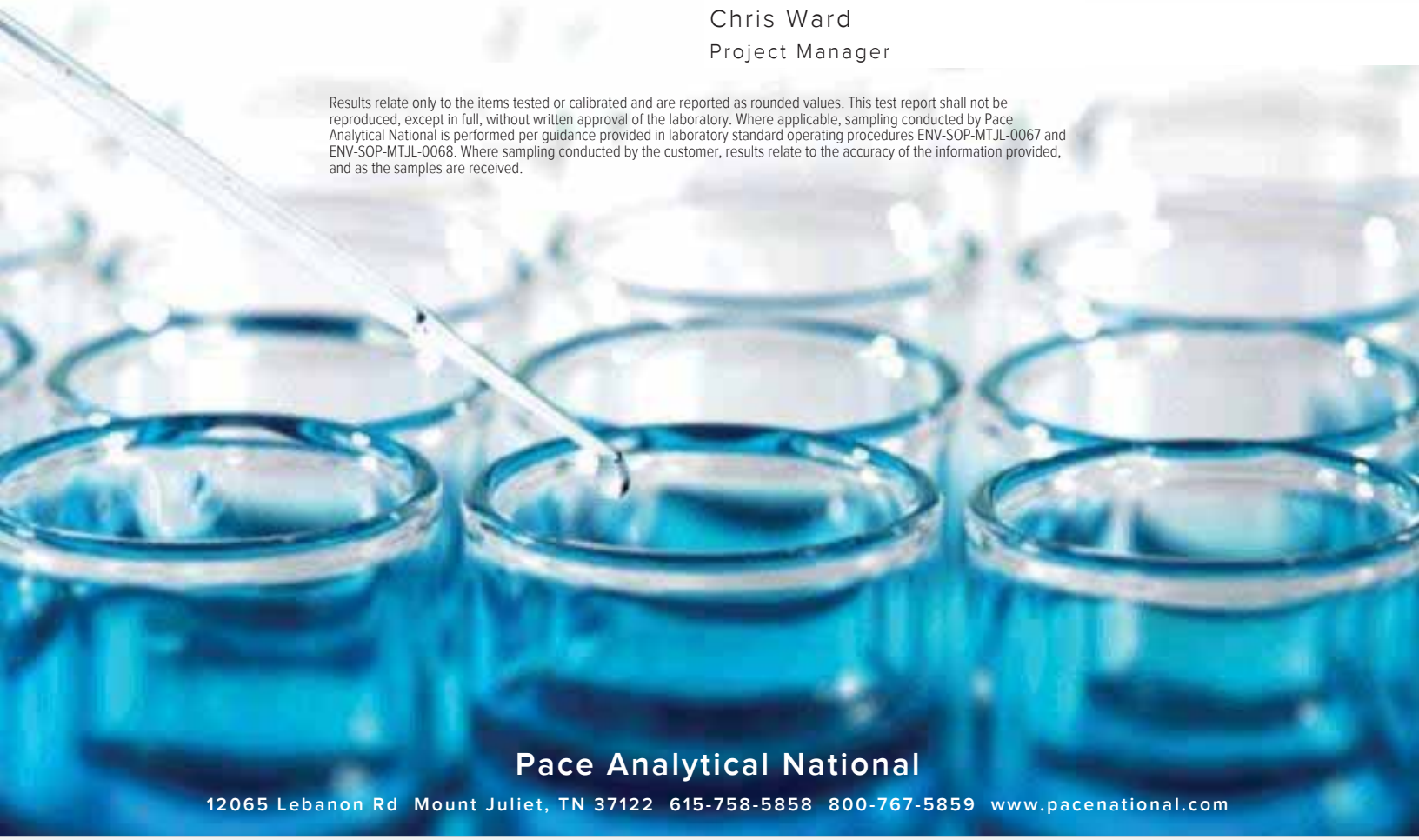
Caerus Oil and Gas

Sample Delivery Group:	L1635419
Samples Received:	07/14/2023
Project Number:	J13W
Description:	J13W

Report To: Blair Rollins
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

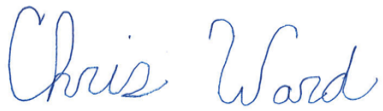
20230711-J13 J13W(13-10-SEP BASE)@8 L1635419-01 Solid

Collected by: Ahmed Shah
Collected date/time: 07/11/23 13:30
Received date/time: 07/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 7199	WG2095093	1	07/16/23 21:26	07/17/23 14:39	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2096409	1	07/17/23 16:08	07/18/23 09:00	EPW	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2095700	1	07/16/23 22:29	07/19/23 10:52	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2095701	5	07/16/23 22:28	07/20/23 09:22	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2096216	1	07/17/23 09:38	07/17/23 15:17	KSD	Mt. Juliet, TN

CASE NARRATIVE

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



Chris Ward
Project Manager

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/17/2023 14:39	WG2095093

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.50	T8	1	07/18/2023 09:00	WG2096409

Sample Narrative:

L1635419-01 WG2096409: 8.5 at 23.4C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	215		0.0852	0.500	1	07/19/2023 10:52	WG2095700
Cadmium	0.365	J	0.0471	0.500	1	07/19/2023 10:52	WG2095700

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.07		0.100	1.00	5	07/20/2023 09:22	WG2095701

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/17/2023 15:17	WG2096216
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	07/17/2023 15:17	WG2096216
(S) Toluene-d8	*113*			*75.0-131*		*07/17/2023 15:17*	WG2096216
(S) 4-Bromofluorobenzene	*92.9*			*67.0-138*		*07/17/2023 15:17*	WG2096216
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*07/17/2023 15:17*	WG2096216

Method Blank (MB)

(MB) R3949459-1 07/17/23 12:05

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

L1635109-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1635109-02 07/17/23 12:23 • (DUP) R3949459-3 07/17/23 12:28

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	0.331	0.298	1	10.7	J	20

L1635112-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1635112-08 07/17/23 13:46 • (DUP) R3949459-8 07/17/23 13:52

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	0.598	0.599	1	0.0720	J	20

Laboratory Control Sample (LCS)

(LCS) R3949459-2 07/17/23 12:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	11.9	119	80.0-120	

L1635112-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1635112-06 07/17/23 13:15 • (MS) R3949459-4 07/17/23 13:20 • (MSD) R3949459-5 07/17/23 13:25

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 %
Hexavalent Chromium	20.0	0.385	20.6	21.7	101	106	1	75.0-125			4.97	20

L1635112-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1635112-06 07/17/23 13:15 • (MS) R3949459-6 07/17/23 13:30

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	643	0.385	866	135	50	75.0-125	J5

L1635420-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1635420-02 07/18/23 09:00 • (DUP) R3949625-2 07/18/23 09:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	8.97	8.97	1	0.000		1

Sample Narrative:

OS: 8.97 at 23.6C

DUP: 8.97 at 23.6C

L1635618-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1635618-01 07/18/23 09:00 • (DUP) R3949625-3 07/18/23 09:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.97	7.98	1	0.125		1

Sample Narrative:

OS: 7.97 at 23.6C

DUP: 7.98 at 23.3C

Laboratory Control Sample (LCS)

(LCS) R3949625-1 07/18/23 09:00

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 22.5C

Method Blank (MB)

(MB) R3950314-1 07/19/23 10:34

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500

Laboratory Control Sample (LCS)

(LCS) R3950314-2 07/19/23 10:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	95.9	95.9	80.0-120	
Cadmium	100	93.7	93.7	80.0-120	

L1635904-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1635904-05 07/19/23 10:39 • (MS) R3950314-5 07/19/23 10:47 • (MSD) R3950314-6 07/19/23 10:49

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 %
Barium	100	48.4	143	136	94.5	88.0	1	75.0-125			4.70	20
Cadmium	100	U	89.5	89.8	89.5	89.8	1	75.0-125			0.352	20

Method Blank (MB)

(MB) R3950581-1 07/20/23 08:59

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) R3950581-2 07/20/23 09:03

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

L1635904-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1635904-05 07/20/23 09:06 • (MS) R3950581-5 07/20/23 09:16 • (MSD) R3950581-6 07/20/23 09:19

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 %
Arsenic	100	11.7	100	101	88.8	88.9	5	75.0-125			0.0578	20

Method Blank (MB)

(MB) R3950152-2 07/17/23 11:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	*112*			*75.0-131*
(S) 4-Bromofluorobenzene	*91.6*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3950152-1 07/17/23 09:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,4-Trimethylbenzene	0.125	0.112	89.6	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.113	90.4	73.0-127	
(S) Toluene-d8			*110*	*75.0-131*	
(S) 4-Bromofluorobenzene			*97.1*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*125*	*70.0-130*	

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
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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.
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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.
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.

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
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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.

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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

MTJL Log-in Number Here B140

ALL BOLD OUTLINED AREAS are for LA[illegible] ONLY

Company: Caerus Oil and Gas LLC

Billing Information: Info on file

Address: Info on file

Report To: Jake Janicek, Brett Middleton, Blair Rollins

Email To: Info on file

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

Site Collection Info/Address:

Customer Project Name/Number: J13W

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

Phone:
Email:

Site/Facility ID #: J13W

Compliance Monitoring? [ ] Yes [X] No

Collected By (print): Ahmed Shah

Purchase Order #:
Quote #:

DW PWS ID #:
DW Location Code:

Collected By (signature):

Turnaround Date Required: Standard TAT

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

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

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

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

Analysis: _____

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)	1,2,4 trimethylbenzene	1,3,5 trimethylbenzene	Barium	Cadmium	pH		Hexavalant Chromium	Arsenic		
20230606-J13 J13W(13-10-SEP BASE)@8	SL	G	7/11/2023	1330				5	G/P	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:
UL35419 -01

6176 6537 3378

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N	GBAG	
Sufficient volume sent:	Y N	5.4-0.3=5.1	
RAD Screen <0.5 mR/hr:	Y N		

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

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

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

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

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

Relinquished by/Company: (Signature)	Date/Time: 7/12/2023 1130	Received by/Company: (Signature)	Date/Time:	MTJL LAB USE ONLY Table #:
Relinquished by/Company: (Signature)	Date/Time: 7/12 1200	Received by/Company: (Signature)	Date/Time:	Acctnum: Template: Prelogin:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 7/14 0739.00	PM: PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

U635419

Tracking Numbers	Temperature
6176 6537 3338	GB/A6 5.4to=5.4
6176 6537 3306	GB/A6 3.6to=3.6
6176 6537 3339	GB/A6 1.0to=1.0

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 MT/L 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 Jancyk, Brett Middleton, Blair Rollins	Email To: Info on file
Copy To: Chris McKasson, remediation@confluence-co.com	Site Collection Info/Address:
Customer Project Name/Number: J13W	State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: / Email:	Site/Facility ID #: J13W / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Ahmed Shah	Purchase Order #: / Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature):	Turnaround Date Required: Standard TAT / Immediately Packed on Ice: [x] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis: _____

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

Container Preservative Type **: / Lab Project Manager:

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

Analyses

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)	1,2,4 trimethylbenzene	1,3,5 trimethylbenzene	pH	Arsenic	Barium	Cadmium	Hexavalent Chromium
20230711-J13 J13W(13-10-SEP_BASE)@8	SL	G	7/11/2023	1330				5	G/P	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 S NA
pH Strips:	
Sulfide Present	Y S NA
Lead Acetate Strips:	
LAB USE ONLY:	
Lab Sample # / Comments:	

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

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

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

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

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

Relinquished by/Company: (Signature)	Date/Time: 8/30/2023	Received by/Company: (Signature)	Date/Time:	MT/L LAB USE ONLY: Table #:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Acctnum: / Template: / Prelogin: / PM: / PB:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	

Trip Blank Received: Y N NA
HCl MeOH TSP Other

Non Conformance(s): YES / NO
Page: ____ of: ____

ANALYTICAL REPORT

July 20, 2023

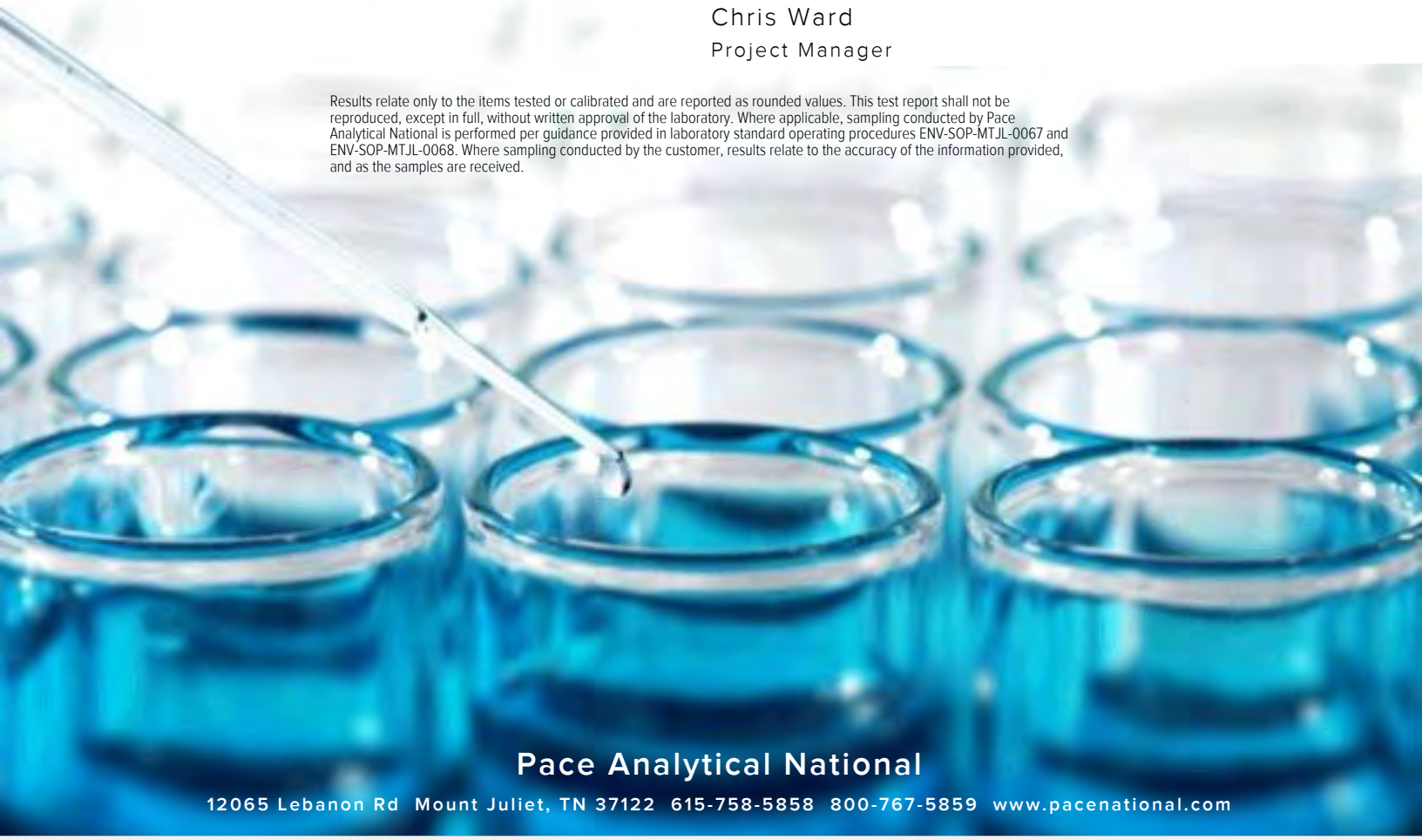
Caerus Oil and Gas

Sample Delivery Group:	L1635414
Samples Received:	07/14/2023
Project Number:	J13W
Description:	J13W

Report To: Jake J. , Brett M. , Blair R.
143 Diamond Avenue
Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

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SAMPLE SUMMARY

20230711-J13 J13W (13-10-SEP NW)@4 L1635414-01 Solid

Collected by: Ahmed Shah | Collected date/time: 07/11/23 12:10 | Received date/time: 07/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 7199	WG2095916	1	07/17/23 00:46	07/18/23 01:11	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2096679	1	07/18/23 08:00	07/18/23 15:00	SJA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2095706	5	07/16/23 18:23	07/20/23 12:42	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2096216	1	07/17/23 09:19	07/17/23 13:51	KSD	Mt. Juliet, TN

20230711-J13 J13W (13-10-SEP EW)@4 L1635414-02 Solid

Collected by: Ahmed Shah | Collected date/time: 07/11/23 12:30 | Received date/time: 07/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 7199	WG2095916	1	07/17/23 00:46	07/18/23 01:16	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2096679	1	07/18/23 08:00	07/18/23 15:00	SJA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2095706	5	07/16/23 18:23	07/20/23 12:45	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2096216	1	07/17/23 09:19	07/17/23 14:13	KSD	Mt. Juliet, TN

20230711-J13 J13W (13-10-SEP SW)@4 L1635414-03 Solid

Collected by: Ahmed Shah | Collected date/time: 07/11/23 12:55 | Received date/time: 07/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 7199	WG2095916	1	07/17/23 00:46	07/18/23 01:42	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2096679	1	07/18/23 08:00	07/18/23 15:00	SJA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2095706	5	07/16/23 18:23	07/20/23 12:49	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2096216	1	07/17/23 09:19	07/17/23 14:34	KSD	Mt. Juliet, TN

20230711-J13 J13W (13-10-SEP WW)@4 L1635414-04 Solid

Collected by: Ahmed Shah | Collected date/time: 07/11/23 13:10 | Received date/time: 07/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 7199	WG2095916	1	07/17/23 00:46	07/18/23 01:48	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2096679	1	07/18/23 08:00	07/18/23 15:00	SJA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2095706	5	07/16/23 18:23	07/20/23 12:52	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2096216	1	07/17/23 09:19	07/17/23 14:56	KSD	Mt. Juliet, TN

CASE NARRATIVE

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

Chris Ward
Project Manager

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/18/2023 01:11	WG2095916

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.75	T8	1	07/18/2023 15:00	WG2096679

Sample Narrative:

L1635414-01 WG2096679: 8.75 at 23.9C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.44		0.100	1.00	5	07/20/2023 12:42	WG2095706
Barium	196		0.152	2.50	5	07/20/2023 12:42	WG2095706
Cadmium	0.518	J	0.0855	1.00	5	07/20/2023 12:42	WG2095706

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/17/2023 13:51	WG2096216
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	07/17/2023 13:51	WG2096216
(S) Toluene-d8	*114*			*75.0-131*		*07/17/2023 13:51*	WG2096216
(S) 4-Bromofluorobenzene	*92.4*			*67.0-138*		*07/17/2023 13:51*	WG2096216
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*07/17/2023 13:51*	WG2096216

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U	J6	0.255	1.00	1	07/18/2023 01:16	WG2095916

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.68	T8	1	07/18/2023 15:00	WG2096679

Sample Narrative:

L1635414-02 WG2096679: 8.68 at 24.1C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.64		0.100	1.00	5	07/20/2023 12:45	WG2095706
Barium	191		0.152	2.50	5	07/20/2023 12:45	WG2095706
Cadmium	0.538	J	0.0855	1.00	5	07/20/2023 12:45	WG2095706

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/17/2023 14:13	WG2096216
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	07/17/2023 14:13	WG2096216
(S) Toluene-d8	*113*			*75.0-131*		*07/17/2023 14:13*	WG2096216
(S) 4-Bromofluorobenzene	*93.3*			*67.0-138*		*07/17/2023 14:13*	WG2096216
(S) 1,2-Dichloroethane-d4	*90.4*			*70.0-130*		*07/17/2023 14:13*	WG2096216

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/18/2023 01:42	WG2095916

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.73	T8	1	07/18/2023 15:00	WG2096679

Sample Narrative:

L1635414-03 WG2096679: 8.73 at 24.2C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.00		0.100	1.00	5	07/20/2023 12:49	WG2095706
Barium	482		0.152	2.50	5	07/20/2023 12:49	WG2095706
Cadmium	0.710	J	0.0855	1.00	5	07/20/2023 12:49	WG2095706

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/17/2023 14:34	WG2096216
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	07/17/2023 14:34	WG2096216
(S) Toluene-d8	*113*			*75.0-131*		*07/17/2023 14:34*	WG2096216
(S) 4-Bromofluorobenzene	*94.2*			*67.0-138*		*07/17/2023 14:34*	WG2096216
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*07/17/2023 14:34*	WG2096216

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/18/2023 01:48	WG2095916

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.62	T8	1	07/18/2023 15:00	WG2096679

Sample Narrative:

L1635414-04 WG2096679: 8.62 at 24.1C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.77		0.100	1.00	5	07/20/2023 12:52	WG2095706
Barium	171		0.152	2.50	5	07/20/2023 12:52	WG2095706
Cadmium	0.444	J	0.0855	1.00	5	07/20/2023 12:52	WG2095706

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/17/2023 14:56	WG2096216
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	07/17/2023 14:56	WG2096216
(S) Toluene-d8	*112*			*75.0-131*		*07/17/2023 14:56*	WG2096216
(S) 4-Bromofluorobenzene	*92.6*			*67.0-138*		*07/17/2023 14:56*	WG2096216
(S) 1,2-Dichloroethane-d4	*116*			*70.0-130*		*07/17/2023 14:56*	WG2096216

Method Blank (MB)

(MB) R3949528-1 07/18/23 00:58

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

L1635500-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1635500-01 07/18/23 02:03 • (DUP) R3949528-7 07/18/23 02:08

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

L1635511-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1635511-08 07/18/23 03:20 • (DUP) R3949528-8 07/18/23 03:26

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

Laboratory Control Sample (LCS)

(LCS) R3949528-2 07/18/23 01:05

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	

L1635414-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1635414-02 07/18/23 01:16 • (MS) R3949528-4 07/18/23 01:26 • (MSD) R3949528-5 07/18/23 01:31

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	U	15.8	15.4	79.1	76.9	1	75.0-125			2.88	20

L1635414-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1635414-02 07/18/23 01:16 • (MS) R3949528-6 07/18/23 01:37

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	654	U	359	54.9	50	75.0-125	J6

L1634978-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1634978-01 07/18/23 15:00 • (DUP) R3949874-2 07/18/23 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.18	8.17	1	0.122		1

Sample Narrative:

OS: 8.18 at 24.6C

DUP: 8.17 at 24.4C

L1635369-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1635369-07 07/18/23 15:00 • (DUP) R3949874-3 07/18/23 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	5.55	5.49	1	1.09	J3	1

Sample Narrative:

OS: 5.55 at 24.9C

DUP: 5.49 at 23.9C

Laboratory Control Sample (LCS)

(LCS) R3949874-1 07/18/23 15:00

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

Sample Narrative:

LCS: 9.99 at 23.2C

Method Blank (MB)

(MB) R3950741-1 07/20/23 11:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	0.528	J	0.152	2.50
Cadmium	U		0.0855	1.00

Laboratory Control Sample (LCS)

(LCS) R3950741-2 07/20/23 11:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	94.6	94.6	80.0-120	
Barium	100	89.6	89.6	80.0-120	
Cadmium	100	98.0	98.0	80.0-120	

L1635428-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1635428-10 07/20/23 11:49 • (MS) R3950741-5 07/20/23 11:59 • (MSD) R3950741-6 07/20/23 12:02

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	5.14	106	96.9	100	91.7	5	75.0-125			8.68	20
Barium	100	13000	14300	13100	1300	85.2	5	75.0-125	E V	E	8.92	20
Cadmium	100	0.302	105	97.1	104	96.8	5	75.0-125			7.43	20

Method Blank (MB)

(MB) R3950152-2 07/17/23 11:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	*112*			*75.0-131*
(S) 4-Bromofluorobenzene	*91.6*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3950152-1 07/17/23 09:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,4-Trimethylbenzene	0.125	0.112	89.6	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.113	90.4	73.0-127	
(S) Toluene-d8			*110*	*75.0-131*	
(S) 4-Bromofluorobenzene			*97.1*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*125*	*70.0-130*	

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

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

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 P:

MTJL Log-in Numbe: B139

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC

Billing Information: Info on file

Address: Info on file

Report To: Jake Janicek, Brett Middleton, Blair Rollins

Email To: Info on file

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

Site Collection Info/Address:

Customer Project Name/Number: J13W

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

Phone:

Email:

Site/Facility ID #: J13W

Compliance Monitoring? [ ] Yes [X] No

Collected By (print): Ahmed Shah

Purchase Order #:

Quote #:

DW PWS ID #:

DW Location Code:

Collected By (signature):

Turnaround Date Required: Standard TAT

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

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

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

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

Analysis:

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

Container Preservative Type **

Lab Project Manager:

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

Analyses

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)	1,2,4 trimethylbenzene	1,3,5 trimethylbenzene	Barium	Cadmium	pH		Hexavalent Chromium	Arsenic			Lab Sample # / Comments:
20230606-J13 J13W(13-10-SEP_NW)@4	SL	G	7/11/2023	1210				5	G/P	X	X	X	X	X		X	X			L1254141 -01
20230606-J13 J13W(13-10-SEP_EW)@4	SL	G	7/11/2023	1230				5	G/P	X	X	X	X	X		X	X			-02
20230606-J13 J13W(13-10-SEP_SW)@4	SL	G	7/11/2023	1255				5	G/P	X	X	X	X	X		X	X			-03
20230606-J13 J13W(13-10-SEP_WW)@4	SL	G	7/11/2023	1310				5	G/P	X	X	X	X	X		X	X			-04

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:

6176 6537 3378

Sample Receipt Checklist

COC Seal Present/Intact: Y N — If Applicable
COC Signed/Accurate: Y N — VOA Zero Headspace: Y N
Bottles arrive intact: Y N — Pres.Correct/Check: Y N
Correct bottles used: Y N 6BA6
Sufficient volume sent: Y N 5.440 = 5.4
RAD Screen <0.5 mR/hr: Y N

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

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

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

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

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

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
	7/12/2023 1130		
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
	7/12/23 1200		
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
			7-14-23 9:00

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

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: of:

LL635414

Tracking Numbers	Temperature
6176 6537 3338	GBAG 5.4to=5.4
6176 6537 3306	GBAG 3.6to=3.6
6176 6537 3339	GBAG 1.0to=1.0

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 Login 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 Jancek, Brett Middleton, Blair Rollins

Email To: Info on file

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

Site Collection Info/Address:

Customer Project Name/Number: J13W

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

Container Preservative Type **

Lab Project Manager:

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

Phone:

Email:

Site/Facility ID #: J13W

Compliance Monitoring? [ ] Yes [X] No

Collected By (print): Ahmed Shah

Purchase Order #:

Quote #:

DW PWS ID #:

DW Location Code:

Collected By (signature):

Turnaround Date Required: Standard TAT

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

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

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

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

Analysis: _____

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

Analyses

Lab Profile/Line:

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)	1,2,4 trimethylbonzono	1,3,5 trimethylbonzono	pH	Arsenic	Barium	Cadmium	Hexavalent Chromium	Lab Profile/Line:
20230711-J13 J13W(13-10-SEP_NW)@4	SL	G	7/11/2023	1210				5	G/P	X	X	X	X	X	X	X	
20230711-J13 J13W(13-10-SEP_EW)@4	SL	G	7/11/2023	1230				5	G/P	X	X	X	X	X	X	X	
20230711-J13 J13W(13-10-SEP_SW)@4	SL	G	7/11/2023	1255				5	G/P	X	X	X	X	X	X	X	
20230711-J13 J13W(13-10-SEP_WW)@4	SL	G	7/11/2023	1310				5	G/P	X	X	X	X	X	X	X	

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

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

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

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

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blanks Received: Y N NA
Therm ID#: _____
Cooler 1 Temp (Upon Receipt): ___ °C
Cooler 1 Therm Corr. Factor: ___ °C
Cooler 1 Corrected Temp: ___ °C
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Ahmed Shah	7/12/2023		
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

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

Trip Blank Received: Y N NA
HCl MeOH TSP Other

Non Conformance(s): YES / NO
Page: ____ of: ____

ANALYTICAL REPORT

July 20, 2023

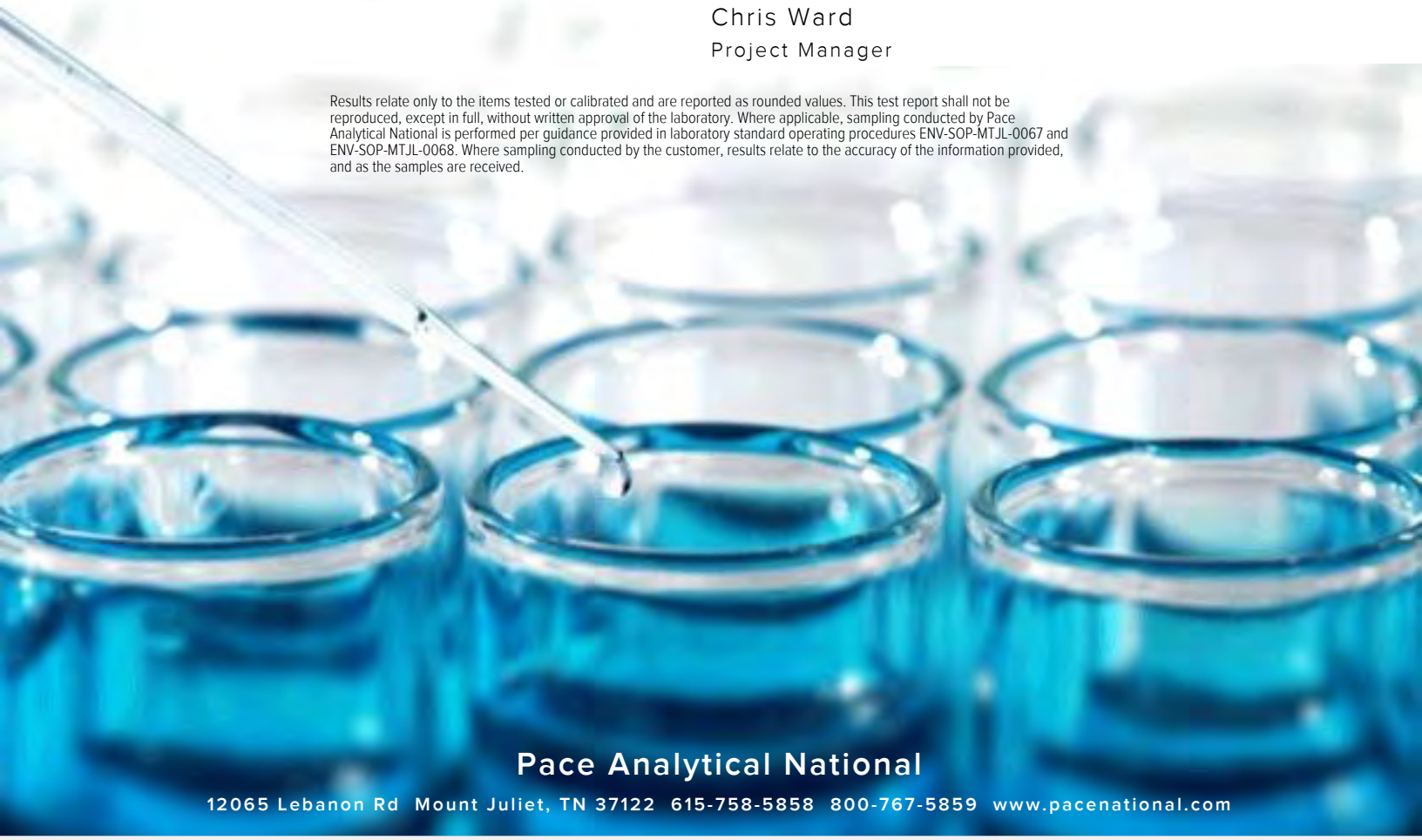
Caerus Oil and Gas

Sample Delivery Group:	L1635408
Samples Received:	07/14/2023
Project Number:	J13W
Description:	J13W

Report To: Blair Rollins
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

20230711-J13 J13W (13-10-WH BASE) @ 10 L1635408-01 Solid

Collected by: Ahmed Shah
Collected date/time: 07/11/23 11:20
Received date/time: 07/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 7199	WG2094521	1	07/16/23 21:28	07/17/23 09:15	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2096679	1	07/18/23 08:00	07/18/23 15:00	SJA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2095706	5	07/16/23 18:23	07/20/23 12:06	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2096216	1	07/17/23 09:12	07/17/23 13:30	KSD	Mt. Juliet, TN

CASE NARRATIVE

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

Chris Ward
Project Manager

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/17/2023 09:15	WG2094521

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	9.44	T8	1	07/18/2023 15:00	WG2096679

Sample Narrative:

L1635408-01 WG2096679: 9.44 at 23.8C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.41		0.100	1.00	5	07/20/2023 12:06	WG2095706
Barium	436		0.152	2.50	5	07/20/2023 12:06	WG2095706
Cadmium	0.379	J	0.0855	1.00	5	07/20/2023 12:06	WG2095706

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/17/2023 13:30	WG2096216
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	07/17/2023 13:30	WG2096216
(S) Toluene-d8	*113*			*75.0-131*		*07/17/2023 13:30*	WG2096216
(S) 4-Bromofluorobenzene	*92.1*			*67.0-138*		*07/17/2023 13:30*	WG2096216
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*07/17/2023 13:30*	WG2096216

Method Blank (MB)

(MB) R3949209-1 07/17/23 06:31

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

L1634623-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1634623-02 07/17/23 06:49 • (DUP) R3949209-3 07/17/23 06:54

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

L1634625-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1634625-04 07/17/23 08:38 • (DUP) R3949209-8 07/17/23 08:43

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	U	0.355	1	200	J P1	20

Laboratory Control Sample (LCS)

(LCS) R3949209-2 07/17/23 06:39

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	

L1634623-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1634623-03 07/17/23 07:00 • (MS) R3949209-7 07/17/23 07:20

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	641	0.277	437	68.2	50	75.0-125	J6

L1634623-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1634623-03 07/17/23 07:00 • (MS) R3949209-5 07/17/23 07:10 • (MSD) R3949209-6 07/17/23 07:15

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	0.277	13.5	16.6	66.1	81.5	1	75.0-125	J6	J3	20.5	20

L1634978-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1634978-01 07/18/23 15:00 • (DUP) R3949874-2 07/18/23 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.18	8.17	1	0.122		1

Sample Narrative:

OS: 8.18 at 24.6C

DUP: 8.17 at 24.4C

L1635369-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1635369-07 07/18/23 15:00 • (DUP) R3949874-3 07/18/23 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	5.55	5.49	1	1.09	J3	1

Sample Narrative:

OS: 5.55 at 24.9C

DUP: 5.49 at 23.9C

Laboratory Control Sample (LCS)

(LCS) R3949874-1 07/18/23 15:00

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

Sample Narrative:

LCS: 9.99 at 23.2C

Method Blank (MB)

(MB) R3950741-1 07/20/23 11:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	0.528	J	0.152	2.50
Cadmium	U		0.0855	1.00

Laboratory Control Sample (LCS)

(LCS) R3950741-2 07/20/23 11:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	94.6	94.6	80.0-120	
Barium	100	89.6	89.6	80.0-120	
Cadmium	100	98.0	98.0	80.0-120	

L1635428-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1635428-10 07/20/23 11:49 • (MS) R3950741-5 07/20/23 11:59 • (MSD) R3950741-6 07/20/23 12:02

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	5.14	106	96.9	100	91.7	5	75.0-125			8.68	20
Barium	100	13000	14300	13100	1300	85.2	5	75.0-125	E V	E	8.92	20
Cadmium	100	0.302	105	97.1	104	96.8	5	75.0-125			7.43	20

Method Blank (MB)

(MB) R3950152-2 07/17/23 11:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	*112*			*75.0-131*
(S) 4-Bromofluorobenzene	*91.6*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3950152-1 07/17/23 09:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,4-Trimethylbenzene	0.125	0.112	89.6	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.113	90.4	73.0-127	
(S) Toluene-d8			*110*	*75.0-131*	
(S) 4-Bromofluorobenzene			*97.1*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*125*	*70.0-130*	

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

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

MTJL Log-in Number: B137

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC

Billing Information: Info on file

Address: Info on file

Report To: Jake Janicek, Brett Middleton, Blair Rollins

Email To: Info on file

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

Site Collection Info/Address:

Customer Project Name/Number: J13W

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

Container Preservative Type **

Lab Project Manager:

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

Phone:
Email:

Site/Facility ID #: J13W

Compliance Monitoring? [ ] Yes [X] No

Collected By (print): Ahmed Shah

Purchase Order # :
Quote #:

DW PWS ID #:
DW Location Code:

Collected By (signature):

Turnaround Date Required: Standard TAT

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

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

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

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

Analysis: _____

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

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	1,2,4 trimethylbenzene	1,3,5 trimethylbenzene	Barium	Cadmium	pH		Hexavalent Chromium	Arsenic	
20230606-J13 J13W(13-10-WH BASE)@10	SL	G	7/11/2023	1120				5	G/P	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:
UL6354108
-01

6126 6537 3328

Sample Receipt Checklist

COC Seal Present/Intact:	N	If Applicable	
COC Signed/Accurate:	N	VOA Zero Headspace:	Y N
Bottles arrive intact:	N	Preg.Correct/Check:	Y N
Correct bottles used:	N	GBAG	
Sufficient volume sent:	N		
RAD Screen <0.5 mR/hr:	N	5.4-0=5.4	

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

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

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

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

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

	Date/Time		Date/Time
Relinquished by/Company: (Signature)	Date/Time: 7/12/2023 1130	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time: 7/12/23 1200	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 7-14-23 9:00

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

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

LL635406

Tracking Numbers	Temperature
6176 6537 3338	GBAG 5.4 to 5.4
6176 6537 3306	GBAG 3.6 to 3.6
6176 6537 3339	GBAG 1.0 to 1.0

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

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

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

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

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: J13W	State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: / Email:	Site/Facility ID #: J13W / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Ahmed Shah	Purchase Order #: / Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature):	Turnaround Date Required: Standard TAT / Immediately Packed on Ice: [x] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis: _____

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)	1,2,4 trimethylbenzene	1,3,5 trimethylbenzene	pH	Arsenic	Barium	Cadmium	Hexavalent Chromium	Lab Profile/Line:
20230711-J13 J13W(13-10-WH BASE)@10	SL	G	7/11/2023	1120				5	G/P	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:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

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

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

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

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

Relinquished by/Company: (Signature)	Date/Time: 6/30/2023	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

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

Trip Blank Received: Y N NA
HCl MeOH TSP Other

Non Conformance(s): YES / NO
Page: ____ of: ____

ANALYTICAL REPORT

July 20, 2023

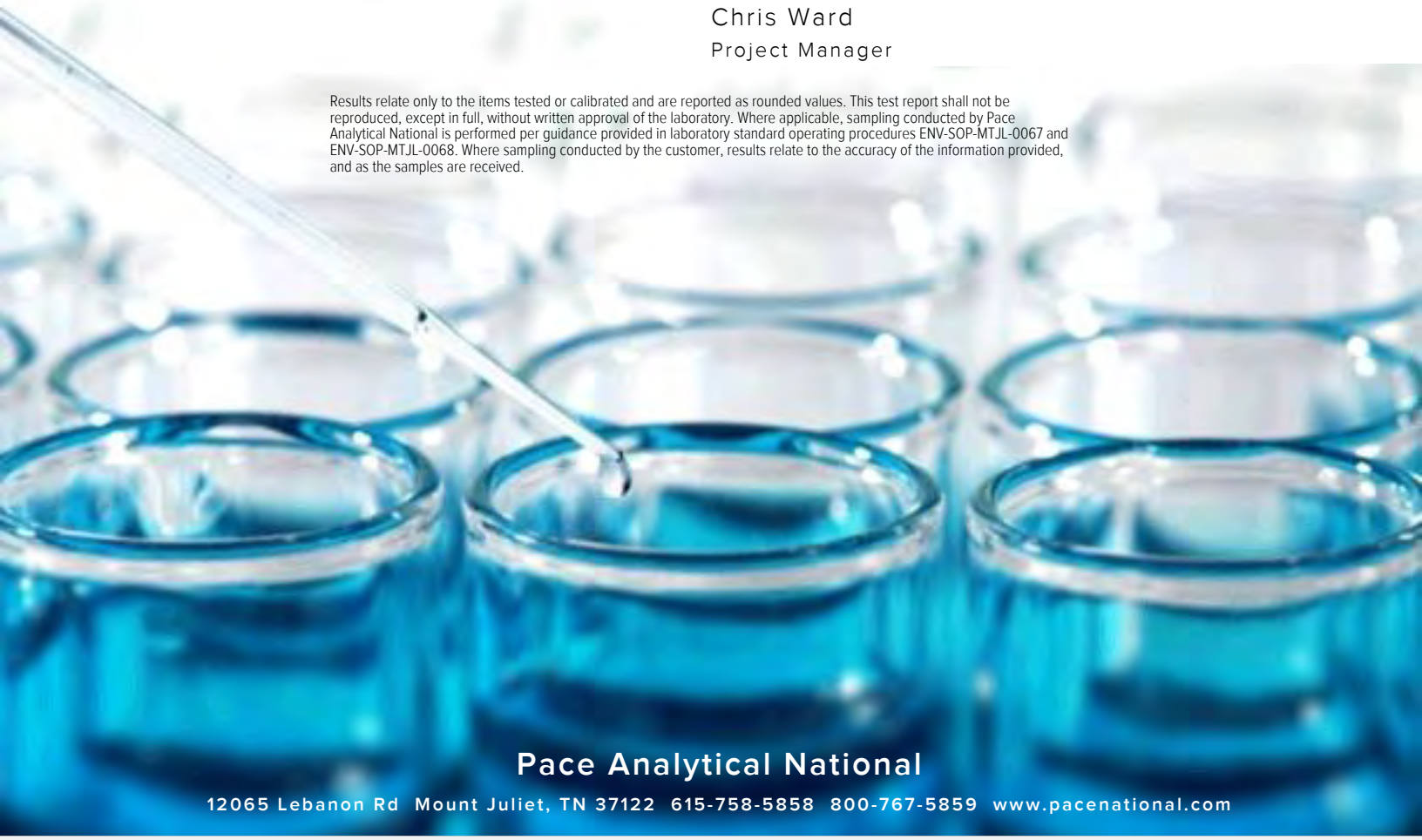
Caerus Oil and Gas

Sample Delivery Group:	L1635420
Samples Received:	07/14/2023
Project Number:	J13W
Description:	J13W

Report To: Blair Rollins
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

20230711-J13 J13W(13-10-WH EW)@7 L1635420-01 Solid

Collected by: Ahmed Shah | Collected date/time: 07/11/23 09:40 | Received date/time: 07/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 7199	WG2095917	1	07/18/23 01:30	07/18/23 11:02	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2096409	1	07/17/23 16:08	07/18/23 09:00	EPW	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2095700	1	07/16/23 22:29	07/19/23 10:55	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2095701	5	07/16/23 22:28	07/20/23 09:26	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2096216	1	07/17/23 09:45	07/17/23 15:39	KSD	Mt. Juliet, TN

20230711-J13 J13W(13-10-WH SW)@7 L1635420-02 Solid

Collected by: Ahmed Shah | Collected date/time: 07/11/23 10:15 | Received date/time: 07/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 7199	WG2095917	1	07/18/23 01:30	07/18/23 11:12	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2096409	1	07/17/23 16:08	07/18/23 09:00	EPW	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2095700	1	07/16/23 22:29	07/19/23 10:58	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2095701	5	07/16/23 22:28	07/20/23 09:29	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2096216	1	07/17/23 09:45	07/17/23 16:01	KSD	Mt. Juliet, TN

20230711-J13 J13W(13-10-WH WW)@7 L1635420-03 Solid

Collected by: Ahmed Shah | Collected date/time: 07/11/23 10:30 | Received date/time: 07/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 7199	WG2095917	1	07/18/23 01:30	07/18/23 11:18	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2096679	1	07/18/23 08:00	07/18/23 15:00	SJA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2095700	1	07/16/23 22:29	07/19/23 11:06	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2095701	5	07/16/23 22:28	07/20/23 09:39	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2096216	1	07/17/23 09:45	07/17/23 16:23	KSD	Mt. Juliet, TN

20230711-J13 J13W(13-10-WH NW)@7 L1635420-04 Solid

Collected by: Ahmed Shah | Collected date/time: 07/11/23 10:55 | Received date/time: 07/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 7199	WG2095917	1	07/18/23 01:30	07/18/23 11:23	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2096679	1	07/18/23 08:00	07/18/23 15:00	SJA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2095700	1	07/16/23 22:29	07/19/23 11:08	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2095701	5	07/16/23 22:28	07/20/23 09:42	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2096216	1	07/17/23 09:45	07/17/23 16:44	KSD	Mt. Juliet, TN

CASE NARRATIVE

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

Chris Ward
Project Manager

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/18/2023 11:02	WG2095917

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.84	T8	1	07/18/2023 09:00	WG2096409

Sample Narrative:

L1635420-01 WG2096409: 8.84 at 23.4C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	255		0.0852	0.500	1	07/19/2023 10:55	WG2095700
Cadmium	0.413	J	0.0471	0.500	1	07/19/2023 10:55	WG2095700

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.52		0.100	1.00	5	07/20/2023 09:26	WG2095701

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/17/2023 15:39	WG2096216
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	07/17/2023 15:39	WG2096216
(S) Toluene-d8	*113*			*75.0-131*		*07/17/2023 15:39*	WG2096216
(S) 4-Bromofluorobenzene	*94.1*			*67.0-138*		*07/17/2023 15:39*	WG2096216
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*07/17/2023 15:39*	WG2096216

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

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/18/2023 11:12	WG2095917

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.97	T8	1	07/18/2023 09:00	WG2096409

Sample Narrative:

L1635420-02 WG2096409: 8.97 at 23.6C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	246		0.0852	0.500	1	07/19/2023 10:58	WG2095700
Cadmium	0.354	J	0.0471	0.500	1	07/19/2023 10:58	WG2095700

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.39		0.100	1.00	5	07/20/2023 09:29	WG2095701

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/17/2023 16:01	WG2096216
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	07/17/2023 16:01	WG2096216
(S) Toluene-d8	*113*			*75.0-131*		*07/17/2023 16:01*	WG2096216
(S) 4-Bromofluorobenzene	*91.8*			*67.0-138*		*07/17/2023 16:01*	WG2096216
(S) 1,2-Dichloroethane-d4	*116*			*70.0-130*		*07/17/2023 16:01*	WG2096216

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

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/18/2023 11:18	WG2095917

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.37	T8	1	07/18/2023 15:00	WG2096679

Sample Narrative:

L1635420-03 WG2096679: 8.37 at 23.9C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	362		0.0852	0.500	1	07/19/2023 11:06	WG2095700
Cadmium	0.355	J	0.0471	0.500	1	07/19/2023 11:06	WG2095700

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.04		0.100	1.00	5	07/20/2023 09:39	WG2095701

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/17/2023 16:23	WG2096216
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	07/17/2023 16:23	WG2096216
(S) Toluene-d8	*112*			*75.0-131*		*07/17/2023 16:23*	WG2096216
(S) 4-Bromofluorobenzene	*89.6*			*67.0-138*		*07/17/2023 16:23*	WG2096216
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*07/17/2023 16:23*	WG2096216

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/18/2023 11:23	WG2095917

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	9.09	T8	1	07/18/2023 15:00	WG2096679

Sample Narrative:

L1635420-04 WG2096679: 9.09 at 23.8C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	334		0.0852	0.500	1	07/19/2023 11:08	WG2095700
Cadmium	0.369	J	0.0471	0.500	1	07/19/2023 11:08	WG2095700

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.84		0.100	1.00	5	07/20/2023 09:42	WG2095701

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/17/2023 16:44	WG2096216
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	07/17/2023 16:44	WG2096216
(S) Toluene-d8	*114*			*75.0-131*		*07/17/2023 16:44*	WG2096216
(S) 4-Bromofluorobenzene	*91.4*			*67.0-138*		*07/17/2023 16:44*	WG2096216
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*		*07/17/2023 16:44*	WG2096216

Method Blank (MB)

(MB) R3949824-1 07/18/23 10:49

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

L1635420-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1635420-01 07/18/23 11:02 • (DUP) R3949824-3 07/18/23 11:07

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

L1635421-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1635421-04 07/18/23 11:54 • (DUP) R3949824-4 07/18/23 11:59

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

Laboratory Control Sample (LCS)

(LCS) R3949824-2 07/18/23 10:57

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

L1635424-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1635424-03 07/18/23 12:56 • (MS) R3949824-5 07/18/23 13:01 • (MSD) R3949824-6 07/18/23 13:07

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Hexavalent Chromium	20.0	U	19.0	15.8	94.9	78.9	1	75.0-125			18.5	20

L1635424-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1635424-03 07/18/23 12:56 • (MS) R3949824-7 07/18/23 13:12

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	641	U	886	138	50	75.0-125	J5

L1635420-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1635420-02 07/18/23 09:00 • (DUP) R3949625-2 07/18/23 09:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	8.97	8.97	1	0.000		1

Sample Narrative:

OS: 8.97 at 23.6C

DUP: 8.97 at 23.6C

L1635618-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1635618-01 07/18/23 09:00 • (DUP) R3949625-3 07/18/23 09:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.97	7.98	1	0.125		1

Sample Narrative:

OS: 7.97 at 23.6C

DUP: 7.98 at 23.3C

Laboratory Control Sample (LCS)

(LCS) R3949625-1 07/18/23 09:00

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 22.5C

L1634978-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1634978-01 07/18/23 15:00 • (DUP) R3949874-2 07/18/23 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.18	8.17	1	0.122		1

Sample Narrative:

OS: 8.18 at 24.6C

DUP: 8.17 at 24.4C

L1635369-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1635369-07 07/18/23 15:00 • (DUP) R3949874-3 07/18/23 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	5.55	5.49	1	1.09	J3	1

Sample Narrative:

OS: 5.55 at 24.9C

DUP: 5.49 at 23.9C

Laboratory Control Sample (LCS)

(LCS) R3949874-1 07/18/23 15:00

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

Sample Narrative:

LCS: 9.99 at 23.2C

Method Blank (MB)

(MB) R3950314-1 07/19/23 10:34

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500

Laboratory Control Sample (LCS)

(LCS) R3950314-2 07/19/23 10:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	95.9	95.9	80.0-120	
Cadmium	100	93.7	93.7	80.0-120	

L1635904-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1635904-05 07/19/23 10:39 • (MS) R3950314-5 07/19/23 10:47 • (MSD) R3950314-6 07/19/23 10:49

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 %
Barium	100	48.4	143	136	94.5	88.0	1	75.0-125			4.70	20
Cadmium	100	U	89.5	89.8	89.5	89.8	1	75.0-125			0.352	20

Method Blank (MB)

(MB) R3950581-1 07/20/23 08:59

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) R3950581-2 07/20/23 09:03

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

L1635904-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1635904-05 07/20/23 09:06 • (MS) R3950581-5 07/20/23 09:16 • (MSD) R3950581-6 07/20/23 09:19

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 %
Arsenic	100	11.7	100	101	88.8	88.9	5	75.0-125			0.0578	20

Method Blank (MB)

(MB) R3950152-2 07/17/23 11:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	*112*			*75.0-131*
(S) 4-Bromofluorobenzene	*91.6*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3950152-1 07/17/23 09:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,4-Trimethylbenzene	0.125	0.112	89.6	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.113	90.4	73.0-127	
(S) Toluene-d8			*110*	*75.0-131*	
(S) 4-Bromofluorobenzene			*97.1*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*125*	*70.0-130*	

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
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.
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.

B141

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 H... Workorder Number or MTJL Log-in Num...

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC

Address: Info on file

Billing Information: Info on file

Report To: Jake Janicek, Brett Middleton, Blair Rollins

Email To: Info on file

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

Site Collection Info/Address:

Customer Project Name/Number: J13W

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

Phone:
Email:

Site/Facility ID #: J13W

Compliance Monitoring? [ ] Yes [X] No

Collected By (print): Ahmed Shah

Purchase Order #:
Quote #:

DW PWS ID #:
DW Location Code:

Collected By (signature):

Turnaround Date Required: Standard TAT

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

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

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

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

Analysis: _____

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)	1,2,4 trimethylbenzene	1,3,5 trimethylbenzene	Barium	Cadmium	pH		Hexavalant Chromium	Arsenic		
20230606-J13 J13W(13-10-WH EW)@7	SL	G	7/11/2023	940				5	G/P	X	X	X	X	X		X	X		-01
20230606-J13 J13W(13-10-WH SW)@7	SL	G	7/11/2023	1015				5	G/P	X	X	X	X	X		X	X		-02
20230606-J13 J13W(13-10-WH WW)@7	SL	G	7/11/2023	1030				5	G/P	X	X	X	X	X		X	X		-03
20230606-J13 J13W(13-10-WH NW)@7	SL	G	7/11/2023	1055				5	G/P	X	X	X	X	X		X	X		-04

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:
L1635420

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

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

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

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

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

Relinquished by/Company: (Signature)	Date/Time: 7/12/2023 1130	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time: 7/12 1200	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 7-14-23 9:10

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

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

LL635420

Tracking Numbers	Temperature
6176 6537 3338	GBAG 5.4 to: 5.4
6176 6537 3306	GBAG 3.6 to: 3.6
6176 6537 3339	GBAG 1.0 to: 1.0

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
Address: Info on file
Report To: Jake Janicek, Brett Middleton, Blair Rollins
Copy To: Chris McKisson, remediation@confluence-cc.com
Customer Project Name/Number: J13W
Phone:
Email:
Collected By (print): Ahmed Shah
Collected By (signature):
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____

Billing Information: Info on file
Email To: Info on file
Site Collection Info/Address:
State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Site/Facility ID #: J13W
Compliance Monitoring? [ ] Yes [X] No
Purchase Order #:
Quote #:
DW PWS ID #:
DW Location Code:
Turnaround Date Required: Standard TAT
Immediately Packed on Ice: [x] Yes [ ] No
Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day
Field Filtered (if applicable): [ ] Yes [ ] No
Analysis: _____

Container Preservative Type **
Lab Project Manager:

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

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

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	1,2,4 trimethylbenzene	1,3,5 trimethylbenzene	pH	Arsenic	Barium	Cadmium	Hexavalent Chromium
20230711-J13 J13W(13-10-WH EW)@7	SL	G	7/11/2023	940				5	G/P	X	X	X	X	X	X	X
20230711-J13 J13W(13-10-WH SW)@7	SL	G	7/11/2023	1015				5	G/P	X	X	X	X	X	X	X
20230711-J13 J13W(13-10-WH WW)@7	SL	G	7/11/2023	1030				5	G/P	X	X	X	X	X	X	X
20230711-J13 J13W(13-10-WH NW)@7	SL	G	7/11/2023	1055				5	G/P	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:

Customer Remarks / Special Conditions / Possible Hazards:

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

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

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
	6/30/2023		
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

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

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO
Page: _____ of: _____

ANALYTICAL REPORT

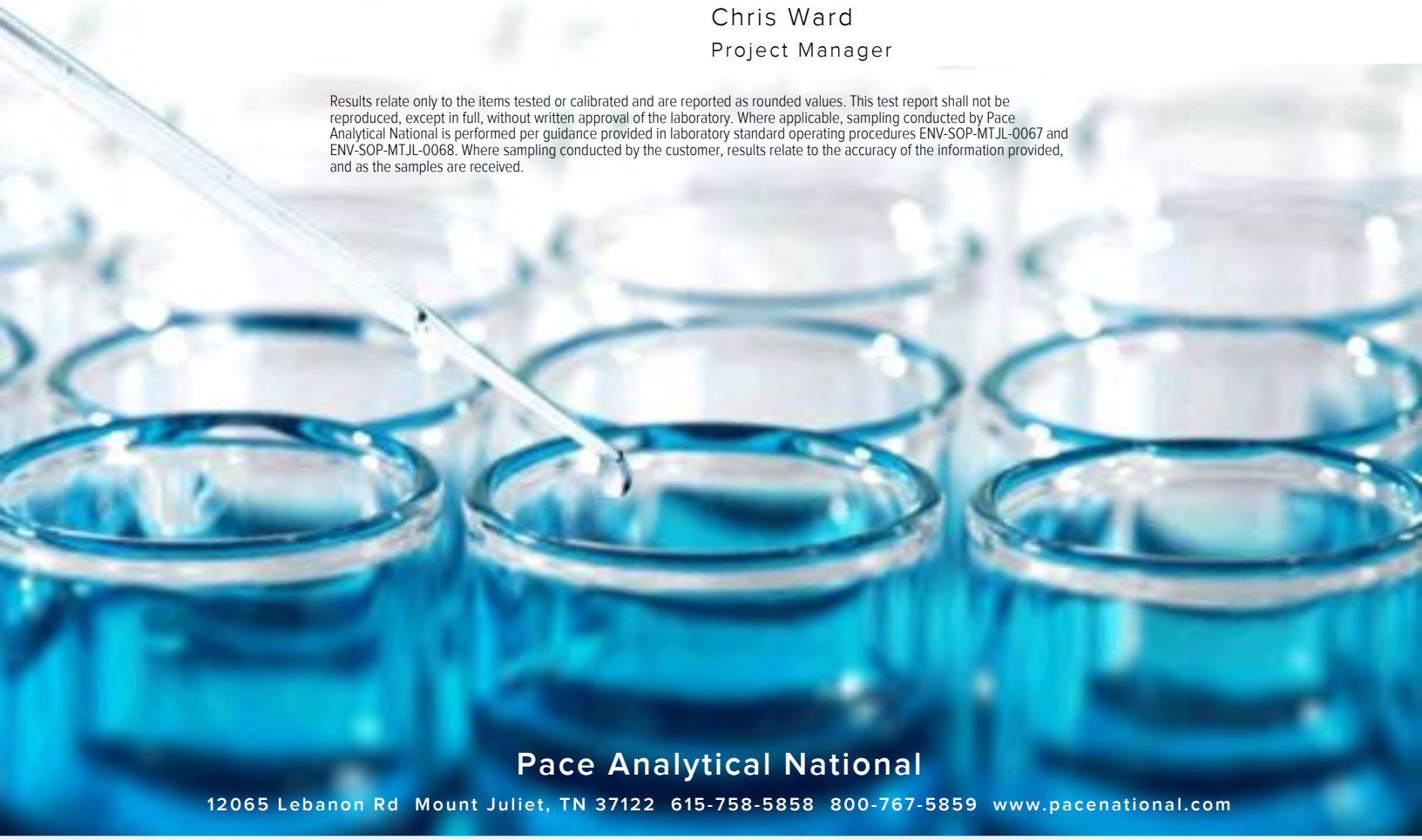
August 02, 2023

Caerus Oil and Gas

Sample Delivery Group:	L1638905
Samples Received:	07/25/2023
Project Number:	
Description:	J13W 13-10 Flowline P&A
Site:	J13W 13-10
Report To:	Jake J / Blair R / Brett M 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

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SAMPLE SUMMARY

20230724-J13 J13W-(13-10-SEP_SW)@4 L1638905-01 Solid

Collected by: Alex Slorby
Collected date/time: 07/13/23 11:00
Received date/time: 07/25/23 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2103976	1	07/29/23 15:26	07/31/23 10:04	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2102121	1	07/26/23 17:24	07/27/23 20:16	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2102117	5	07/26/23 17:26	07/29/23 17:13	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2105754	10	07/27/23 10:20	08/01/23 17:07	BAM	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 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	pH			date / time	
pH	7.94	T8	1	07/31/2023 10:04	WG2103976

Sample Narrative:

L1638905-01 WG2103976: 7.94 at 23.5C

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Barium	191	O1	0.0852	0.500	1	07/27/2023 20:16	WG2102121
Cadmium	U		0.0471	0.500	1	07/27/2023 20:16	WG2102121

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	5.82	O1	0.100	1.00	5	07/29/2023 17:13	WG2102117

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
1,2,4-Trimethylbenzene	5.42		0.0158	0.0500	10	08/01/2023 17:07	WG2105754
1,3,5-Trimethylbenzene	4.68		0.0200	0.0500	10	08/01/2023 17:07	WG2105754
(S) Toluene-d8	*106*			*75.0-131*		*08/01/2023 17:07*	WG2105754
(S) 4-Bromofluorobenzene	*111*			*67.0-138*		*08/01/2023 17:07*	WG2105754
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*08/01/2023 17:07*	WG2105754

L1638783-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1638783-06 07/31/23 10:04 • (DUP) R3954695-2 07/31/23 10:04

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.16	7.19	1	0.418		1

Sample Narrative:

OS: 7.16 at 23.6C

DUP: 7.19 at 23.3C

L1638905-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1638905-01 07/31/23 10:04 • (DUP) R3954695-3 07/31/23 10:04

Analyte	Original Result pH	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.94	7.95	1	0.126		1

Sample Narrative:

OS: 7.94 at 23.5C

DUP: 7.95 at 23.6C

Laboratory Control Sample (LCS)

(LCS) R3954695-1 07/31/23 10:04

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: 10.02 at 23.5C

Method Blank (MB)

(MB) R3953759-1 07/27/23 20:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500

Laboratory Control Sample (LCS)

(LCS) R3953759-2 07/27/23 20:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	96.1	96.1	80.0-120	
Cadmium	100	93.7	93.7	80.0-120	

L1638905-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1638905-01 07/27/23 20:16 • (MS) R3953759-5 07/27/23 20:24 • (MSD) R3953759-6 07/27/23 20:28

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 %
Barium	100	191	269	273	78.5	82.5	1	75.0-125			1.47	20
Cadmium	100	U	96.7	96.8	96.7	96.8	1	75.0-125			0.113	20

Method Blank (MB)

(MB) R3954508-1 07/29/23 17:06

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) R3954508-2 07/29/23 17:10

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	95.5	95.5	80.0-120	

L1638905-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1638905-01 07/29/23 17:13 • (MS) R3954508-5 07/29/23 17:23 • (MSD) R3954508-6 07/29/23 17:26

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	5.82	97.8	97.8	92.0	92.0	5	75.0-125			0.0141	20

Method Blank (MB)

(MB) R3955511-3 08/01/23 16:09

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	*108*			*75.0-131*
(S) 4-Bromofluorobenzene	*96.8*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*95.6*			*70.0-130*

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

(LCS) R3955511-1 08/01/23 14:23 • (LCSD) R3955511-2 08/01/23 14:44

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,2,4-Trimethylbenzene	0.125	0.122	0.117	97.6	93.6	70.0-126			4.18	20
1,3,5-Trimethylbenzene	0.125	0.124	0.123	99.2	98.4	73.0-127			0.810	20
(S) Toluene-d8				*104*	*104*	*75.0-131*				
(S) 4-Bromofluorobenzene				*102*	*104*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*105*	*108*	*70.0-130*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
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.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

Pace Analytical®

CHAIN-OF-CUSTODY Analytical Request Document

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

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

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

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC

Billing Information: Info on file

Address: Info on file

Report To: Jake Janicek, Brett Middleton, Blair Rollins

Email To: info on file

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

Site Collection Info/Address:

Customer Project Name/Number: J13W 13-10 Flowline P&A

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

Phone:

Email:

Site/Facility ID #: J13W 13-10

Compliance Monitoring? [ ] Yes [X] No

Collected By (print): Alex Slorby

Purchase Order # :

Quote #:

DW PWS ID #:

DW Location Code:

Collected By (signature): Alex Slorby

Turnaround Date Required: **Standard Turnaround**

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

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

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

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

Analysis: _____

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

Container Preservative Type **

Lab Project Manager:

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

Analyses

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	Table 915-1 VOCs	TPH (ORO, GRO, DRO)	Table 915-1 Metal's	Table 915-1 PAHs	pH, EC, SAR	Boron (Hot Water Soluble Soil)	1,2,4 trimethylbenzene, 1,3,5 trimethylbenzene	pH	arsenic, barium, cadmium	
20230724-J13 J13W-(13-10-SEP_SW)@4	SL	G			7/13/2023	1100		2	G							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:
L1638905
-01

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

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

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

Lab Tracking #: 6525 5572 0417

Samples received via: FEDEX UPS Client

G050

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: 3.4+0=3.4
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: __oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Alex Slorby	7/24/23 1500		
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
	7/24/23 1700		
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
		Eric Dressman 17	7-25-23/930

Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

ANALYTICAL REPORT

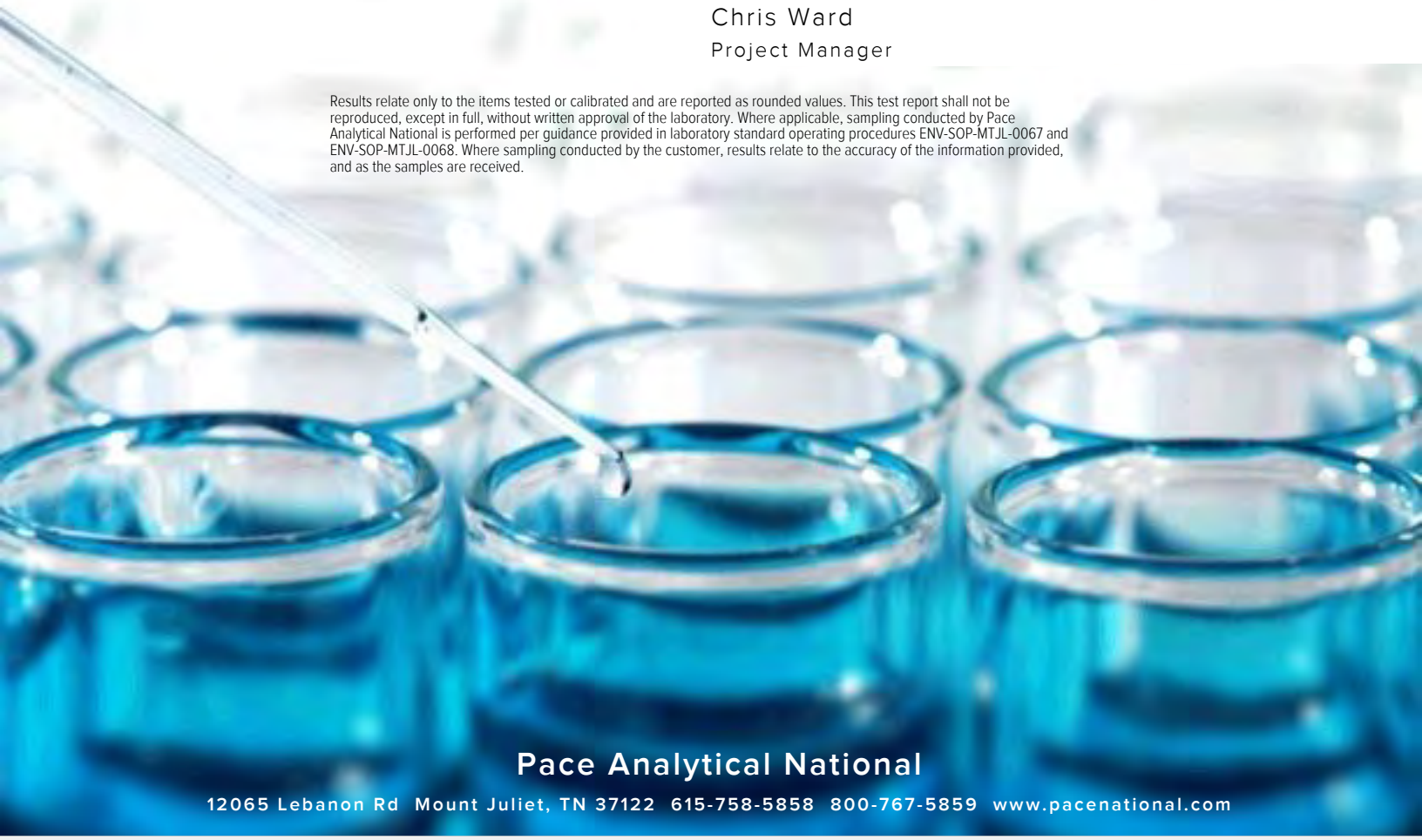
August 02, 2023

Caerus Oil and Gas

Sample Delivery Group:	L1638898
Samples Received:	07/25/2023
Project Number:	
Description:	J13W 13-10 Flowline P&A
Site:	J13W 13-10
Report To:	Blair Rollins 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

20230724-J13 J13W-(13-10-SEP_SW-C)@4 L1638898-01 Solid

Collected by: Alex Slorby
Collected date/time: 07/13/23 11:00
Received date/time: 07/25/23 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2102800	1	07/28/23 19:33	07/28/23 19:33	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2102403	1	07/27/23 02:33	07/28/23 13:16	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2103976	1	07/29/23 15:26	07/31/23 10:04	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2102235	1	07/26/23 16:23	07/26/23 17:51	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2102925	1	07/27/23 18:28	07/28/23 14:10	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2103051	5	07/27/23 16:02	08/02/23 13:10	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2103051	50	07/27/23 16:02	08/02/23 13:51	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2105086	25.3	07/26/23 18:07	08/01/23 00:53	BAM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2102811	1.01	07/26/23 18:07	07/27/23 17:30	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2101706	1	07/27/23 06:47	07/27/23 16:52	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2101687	1	07/27/23 16:19	07/28/23 07:00	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	0.607		1	07/28/2023 19:33	WG2102800

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U	J3 J6	0.255	1.00	1	07/28/2023 13:16	WG2102403

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	7.80	T8	1	07/31/2023 10:04	WG2103976

Sample Narrative:

L1638898-01 WG2103976: 7.8 at 23.5C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	288		10.0	1	07/26/2023 17:51	WG2102235

Sample Narrative:

L1638898-01 WG2102235: at 25C

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.416		0.0167	0.200	1	07/28/2023 14:10	WG2102925

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.52		0.100	1.00	5	08/02/2023 13:10	WG2103051
Barium	180		1.52	25.0	50	08/02/2023 13:51	WG2103051
Cadmium	0.716	J	0.0855	1.00	5	08/02/2023 13:10	WG2103051
Copper	15.4		0.132	5.00	5	08/02/2023 13:10	WG2103051
Lead	11.7		0.0990	2.00	5	08/02/2023 13:10	WG2103051
Nickel	19.7		0.197	2.50	5	08/02/2023 13:10	WG2103051
Selenium	0.605	J	0.180	2.50	5	08/02/2023 13:10	WG2103051
Silver	0.114	J	0.0865	0.500	5	08/02/2023 13:10	WG2103051
Zinc	60.2		0.740	25.0	5	08/02/2023 13:10	WG2103051

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	135		0.549	2.53	25.3	08/01/2023 00:53	WG2105086
(S) a,a,a-Trifluorotoluene(FID)	*106*			*77.0-120*		*08/01/2023 00:53*	WG2105086

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000472	0.00101	1.01	07/27/2023 17:30	WG2102811
Toluene	0.0240		0.00131	0.00505	1.01	07/27/2023 17:30	WG2102811
Ethylbenzene	0.0401		0.000744	0.00253	1.01	07/27/2023 17:30	WG2102811
Xylenes, Total	0.883		0.000889	0.00656	1.01	07/27/2023 17:30	WG2102811
1,2,4-Trimethylbenzene	0.641		0.00160	0.00505	1.01	07/27/2023 17:30	WG2102811
1,3,5-Trimethylbenzene	0.550		0.00202	0.00505	1.01	07/27/2023 17:30	WG2102811
(S) Toluene-d8	*104*			*75.0-131*		*07/27/2023 17:30*	WG2102811
(S) 4-Bromofluorobenzene	*91.3*			*67.0-138*		*07/27/2023 17:30*	WG2102811
(S) 1,2-Dichloroethane-d4	*99.3*			*70.0-130*		*07/27/2023 17:30*	WG2102811

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	10.4		1.61	4.00	1	07/27/2023 16:52	WG2101706
C28-C36 Motor Oil Range	2.95	J	0.274	4.00	1	07/27/2023 16:52	WG2101706
(S) o-Terphenyl	*33.5*			*18.0-148*		*07/27/2023 16:52*	WG2101706

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	07/28/2023 07:00	WG2101687
Anthracene	U		0.00230	0.00600	1	07/28/2023 07:00	WG2101687
Benzo(a)anthracene	U		0.00173	0.00600	1	07/28/2023 07:00	WG2101687
Benzo(b)fluoranthene	U		0.00153	0.00600	1	07/28/2023 07:00	WG2101687
Benzo(k)fluoranthene	U		0.00215	0.00600	1	07/28/2023 07:00	WG2101687
Benzo(a)pyrene	U		0.00179	0.00600	1	07/28/2023 07:00	WG2101687
Chrysene	U		0.00232	0.00600	1	07/28/2023 07:00	WG2101687
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	07/28/2023 07:00	WG2101687
Fluoranthene	U		0.00227	0.00600	1	07/28/2023 07:00	WG2101687
Fluorene	U		0.00205	0.00600	1	07/28/2023 07:00	WG2101687
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	07/28/2023 07:00	WG2101687
1-Methylnaphthalene	0.00706	J	0.00449	0.0200	1	07/28/2023 07:00	WG2101687
2-Methylnaphthalene	0.0191	J	0.00427	0.0200	1	07/28/2023 07:00	WG2101687
Naphthalene	0.0218	J4	0.00408	0.0200	1	07/28/2023 07:00	WG2101687
Pyrene	U		0.00200	0.00600	1	07/28/2023 07:00	WG2101687
(S) p-Terphenyl-d14	*60.9*			*23.0-120*		*07/28/2023 07:00*	WG2101687
(S) Nitrobenzene-d5	*57.4*			*14.0-149*		*07/28/2023 07:00*	WG2101687
(S) 2-Fluorobiphenyl	*43.4*			*34.0-125*		*07/28/2023 07:00*	WG2101687

Method Blank (MB)

(MB) R3954025-1 07/28/23 10:53

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

L1638319-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1638319-01 07/28/23 11:06 • (DUP) R3954025-3 07/28/23 11:11

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

L1638406-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1638406-01 07/28/23 12:03 • (DUP) R3954025-4 07/28/23 12:08

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	0.255	0.652	1	87.5	J P1	20

Laboratory Control Sample (LCS)

(LCS) R3954025-2 07/28/23 11:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.3	103	80.0-120	

L1638898-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1638898-01 07/28/23 13:16 • (MS) R3954025-5 07/28/23 13:21 • (MSD) R3954025-6 07/28/23 13:26

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	U	9.07	12.4	45.3	61.9	1	75.0-125	J6	J3 J6	30.9	20

L1638898-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1638898-01 07/28/23 13:16 • (MS) R3954025-7 07/28/23 13:31

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	654	U	15.2	2.32	1	75.0-125	J6

L1638783-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1638783-06 07/31/23 10:04 • (DUP) R3954695-2 07/31/23 10:04

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.16	7.19	1	0.418		1

Sample Narrative:

OS: 7.16 at 23.6C

DUP: 7.19 at 23.3C

L1638905-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1638905-01 07/31/23 10:04 • (DUP) R3954695-3 07/31/23 10:04

Analyte	Original Result pH	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.94	7.95	1	0.126		1

Sample Narrative:

OS: 7.94 at 23.5C

DUP: 7.95 at 23.6C

Laboratory Control Sample (LCS)

(LCS) R3954695-1 07/31/23 10:04

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: 10.02 at 23.5C

Method Blank (MB)

(MB) R3953130-1 07/26/23 17:51

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

L1638332-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1638332-09 07/26/23 17:51 • (DUP) R3953130-3 07/26/23 17:51

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	8040	7960	1	1.00		20

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

L1638898-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1638898-01 07/26/23 17:51 • (DUP) R3953130-4 07/26/23 17:51

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	288	290	1	0.450		20

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

Laboratory Control Sample (LCS)

(LCS) R3953130-2 07/26/23 17:51

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	732	742	101	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3954160-1 07/28/23 13:28

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

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

(LCS) R3954160-2 07/28/23 13:31 • (LCSD) R3954160-3 07/28/23 13:33

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	1.14	1.16	114	116	80.0-120			2.19	20

Method Blank (MB)

(MB) R3955852-1 08/02/23 12:46

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) R3955852-2 08/02/23 12:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	97.1	97.1	80.0-120	
Barium	100	92.5	92.5	80.0-120	
Cadmium	100	95.0	95.0	80.0-120	
Copper	100	85.3	85.3	80.0-120	
Lead	100	89.8	89.8	80.0-120	
Nickel	100	94.7	94.7	80.0-120	
Selenium	100	107	107	80.0-120	
Silver	20.0	20.1	100	80.0-120	
Zinc	100	91.1	91.1	80.0-120	

L1638900-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1638900-01 08/02/23 12:52 • (MS) R3955852-5 08/02/23 13:03 • (MSD) R3955852-6 08/02/23 13:06

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	12.0	111	106	99.2	93.7	5	75.0-125			5.08	20
Barium	100	275	378	435	103	160	5	75.0-125	E	E J5	14.1	20
Cadmium	100	0.869	101	92.5	99.8	91.7	5	75.0-125			8.41	20
Copper	100	22.0	108	106	85.8	83.7	5	75.0-125			1.95	20
Lead	100	19.3	112	105	92.4	85.4	5	75.0-125			6.44	20
Nickel	100	18.7	119	115	100	96.7	5	75.0-125			3.19	20
Selenium	100	0.862	107	94.7	106	93.8	5	75.0-125			12.4	20
Silver	20.0	0.147	20.6	19.6	102	97.0	5	75.0-125			5.23	20
Zinc	100	52.4	154	152	101	99.3	5	75.0-125			1.41	20

Method Blank (MB)

(MB) R3955479-3 07/31/23 23:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.624	J	0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*

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

(LCS) R3955479-1 07/31/23 21:11 • (LCSD) R3955479-2 07/31/23 22:59

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	5.50	5.49	5.38	99.8	97.8	72.0-127			2.02	20
(S) a,a,a-Trifluorotoluene(FID)				*111*	*109*	*77.0-120*				

Method Blank (MB)

(MB) R3954816-3 07/27/23 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	*105*			*75.0-131*
(S) 4-Bromofluorobenzene	*92.4*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*

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

(LCS) R3954816-1 07/27/23 08:56 • (LCSD) R3954816-2 07/27/23 09:14

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	0.117	0.124	93.6	99.2	70.0-123			5.81	20
Toluene	0.125	0.113	0.120	90.4	96.0	75.0-121			6.01	20
Ethylbenzene	0.125	0.108	0.115	86.4	92.0	74.0-126			6.28	20
Xylenes, Total	0.375	0.306	0.323	81.6	86.1	72.0-127			5.41	20
1,2,4-Trimethylbenzene	0.125	0.105	0.111	84.0	88.8	70.0-126			5.56	20
1,3,5-Trimethylbenzene	0.125	0.106	0.115	84.8	92.0	73.0-127			8.14	20
(S) Toluene-d8				*101*	*103*	*75.0-131*				
(S) 4-Bromofluorobenzene				*94.8*	*90.6*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*111*	*105*	*70.0-130*				

L1638357-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1638357-08 07/27/23 16:15 • (MS) R3954816-4 07/27/23 18:07 • (MSD) R3954816-5 07/27/23 18:26

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	U	0.120	0.0555	96.0	44.4	1	10.0-149		J3	73.5	37
Toluene	0.125	U	0.121	0.0564	96.8	45.1	1	10.0-156		J3	72.8	38
Ethylbenzene	0.125	U	0.111	0.0525	88.8	42.0	1	10.0-160		J3	71.6	38
Xylenes, Total	0.375	U	0.316	0.152	84.3	40.5	1	10.0-160		J3	70.1	38
1,2,4-Trimethylbenzene	0.125	U	0.108	0.0563	86.4	45.0	1	10.0-160		J3	62.9	36
1,3,5-Trimethylbenzene	0.125	U	0.113	0.0547	90.4	43.8	1	10.0-160		J3	69.5	38
(S) Toluene-d8					*106*	*106*		*75.0-131*				
(S) 4-Bromofluorobenzene					*91.4*	*93.2*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*98.2*	*97.4*		*70.0-130*				

Method Blank (MB)

(MB) R3953651-1 07/27/23 14:39

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	*72.5*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3953651-2 07/27/23 14:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	31.1	62.2	50.0-150	
(S) o-Terphenyl			*66.1*	*18.0-148*	

L1637978-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1637978-03 07/28/23 10:18 • (MS) R3954165-1 07/28/23 10:31 • (MSD) R3954165-2 07/28/23 10:45

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	10.4	43.5	45.1	66.2	72.6	2	50.0-150			3.61	20
(S) o-Terphenyl					*53.5*	*59.1*		*18.0-148*				

Method Blank (MB)

(MB) R3954249-2 07/28/23 01:48

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	*68.5*			*23.0-120*
(S) Nitrobenzene-d5	*58.2*			*14.0-149*
(S) 2-Fluorobiphenyl	*65.2*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R3954249-1 07/28/23 01:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0447	55.9	50.0-120	
Anthracene	0.0800	0.0521	65.1	50.0-126	
Benzo(a)anthracene	0.0800	0.0532	66.5	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0523	65.4	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0547	68.4	49.0-125	
Benzo(a)pyrene	0.0800	0.0556	69.5	42.0-120	
Chrysene	0.0800	0.0564	70.5	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0519	64.9	47.0-125	
Fluoranthene	0.0800	0.0608	76.0	49.0-129	
Fluorene	0.0800	0.0505	63.1	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0572	71.5	46.0-125	
1-Methylnaphthalene	0.0800	0.0432	54.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0441	55.1	50.0-120	
Naphthalene	0.0800	0.0381	47.6	50.0-120	J4
Pyrene	0.0800	0.0554	69.3	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R3954249-1 07/28/23 01:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*67.6*	*23.0-120*	
(S) Nitrobenzene-d5			*62.7*	*14.0-149*	
(S) 2-Fluorobiphenyl			*68.1*	*34.0-125*	

L1637447-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1637447-06 07/28/23 03:32 • (MS) R3954249-3 07/28/23 03:49 • (MSD) R3954249-4 07/28/23 04:07

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 %
Acenaphthene	0.0788	U	0.0449	0.0402	57.0	50.3	1	14.0-127			11.0	27
Anthracene	0.0788	U	0.0489	0.0485	62.1	60.6	1	10.0-145			0.821	30
Benzo(a)anthracene	0.0788	U	0.0465	0.0507	59.0	63.4	1	10.0-139			8.64	30
Benzo(b)fluoranthene	0.0788	U	0.0503	0.0507	63.8	63.4	1	10.0-140			0.792	36
Benzo(k)fluoranthene	0.0788	U	0.0492	0.0513	62.4	64.1	1	10.0-137			4.18	31
Benzo(a)pyrene	0.0788	U	0.0561	0.0580	71.2	72.5	1	10.0-141			3.33	31
Chrysene	0.0788	U	0.0525	0.0556	66.6	69.5	1	10.0-145			5.74	30
Dibenz(a,h)anthracene	0.0788	U	0.0496	0.0530	62.9	66.3	1	10.0-132			6.63	31
Fluoranthene	0.0788	U	0.0564	0.0584	71.6	73.0	1	10.0-153			3.48	33
Fluorene	0.0788	U	0.0501	0.0482	63.6	60.3	1	11.0-130			3.87	29
Indeno(1,2,3-cd)pyrene	0.0788	U	0.0523	0.0537	66.4	67.1	1	10.0-137			2.64	32
1-Methylnaphthalene	0.0788	U	0.0447	0.0347	56.7	43.4	1	10.0-142			25.2	28
2-Methylnaphthalene	0.0788	U	0.0453	0.0353	57.5	44.1	1	10.0-137			24.8	28
Naphthalene	0.0788	U	0.0386	0.0277	49.0	34.6	1	10.0-135		J3	32.9	27
Pyrene	0.0788	U	0.0508	0.0556	64.5	69.5	1	10.0-148			9.02	35
(S) p-Terphenyl-d14					*59.3*	*66.7*		*23.0-120*				
(S) Nitrobenzene-d5					*59.7*	*59.8*		*14.0-149*				
(S) 2-Fluorobiphenyl					*60.5*	*65.1*		*34.0-125*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

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

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

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC
Billing Information: Info on file
Address: Info on file
Report To: Jake Janicek, Brett Middleton, Blair Rollins
Email To: info on file
Copy To: Chris McKisson, remediation@confluence-cc.com
Site Collection Info/Address:
Customer Project Name/Number: J13W 13-10 Flowline P&A
State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET

Container Preservative Type **

Lab Project Manager:

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

Phone:
Email:
Site/Facility ID #: J13W 13-10
Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Alex Slorby
Purchase Order # :
Quote #:
DW PWS ID #:
DW Location Code:
Collected By (signature):
Turnaround Date Required: **Standard Turnaround**
Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal:
[ ] Dispose as appropriate
[ ] Return
[ ] Archive: _____
[ ] Hold: _____
Rush: (Expedite Charges Apply)
[ ] Same Day [ ] Next Day
[ ] 2 Day [ ] 3 Day
[ ] 4 Day [ ] 5 Day
Field Filtered (if applicable): [ ] Yes [ ] No
Analysis: _____

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

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	Table 915-1 VOCs	TPH (ORO, GRO, DRO)	Table 915-1 Metal's	Table 915-1 PAHs	pH, EC, SAR	Boron (Hot Water Soluble Soil)	Cr6IC			
20230724-J13 J13W-(13-10-SEP_SW-C)@4	SL	G			7/13/2023	1100		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:
L1638898
-01

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None
Packing Material Used:
Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A
Lab Tracking #: 6525 5572 0417
Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: 3.4+0=3.4
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: __oC
Comments:

Relinquished by/Company: (Signature)	Date/Time: 7/24/23 1500	Received by/Company: (Signature)	Date/Time:	G051
Relinquished by/Company: (Signature)	Date/Time: 7/24/23 1700	Received by/Company: (Signature)	Date/Time:	Acctnum: Template: Prelogin: PM: PB:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature) Eli Hazard 17	Date/Time: 7-25-23	

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO
Page: ____ of: ____

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