



VIA ELECTRONIC MAIL –

May 12, 2022

Jake Janicek
EH&S Specialist
Caerus Oil and Gas LLC
143 Diamond Avenue
Parachute, Colorado 81635

**Subject: Report of Work Completed
Dumpline Release – Stockpile Bench Testing
COGCC Remediation Number 17035
J17E
Mamm Creek Field
Garfield County, Colorado**

Dear Mr. Janicek:

WSP USA Inc. (WSP), on behalf of Caerus Oil and Gas, LLC (Caerus), conducted bench testing activities of the stockpiled soil on location at the J17E Facility (Facility ID: 334782) pad location (Site) along with clean imported soil from the North Parachute Ranch Solidification Facility (NPRSF) (Facility ID: 426582). This bench test was completed in response to the Colorado Oil and Gas Conservation Commission (COGCC) denial of Caerus's request to incorporate the impacted stockpile onsite to backfill the open excavation. This bench test was completed to determine if mixing the clean stockpile and impacted stockpile along with clean imported soil from the NPRSF would result in favorable results to thus justify mixing the stockpiles and using the mixture as backfill of the open excavation upon approval from the Director of the COGCC. The Site is in Garfield County, Colorado (Figure 1).

BENCH TEST SAMPLING – J17E

On April 7, 2022, prior to conducting the bench test, approximately 40 cubic yards (yd³) of clean non-impacted soil was transported from the NPRSF to the Site by Western Slope Oil Field Services, Inc. (WCO). This clean non-impacted soil was staged between the clean and impacted stockpiled soil at the Site.

On April 20, 2022, WSP personnel conducted bench testing of the J17E stockpiles to help Caerus determine a path forward to incorporate the stockpiled soil as backfill in the former excavation footprint. Using an excavator operated by WCO, approximately 40 yd³ of soil from the NPRSF (IMORT-STK) was placed between the existing clean (CLN-STK) and impacted (IMP-STK) stockpiles located at the Site. Approximately 40 yd³ of soil were sectioned off from CLN-STK on the west and another approximately 40 yd³ was sectioned off from the most impacted portion of IMP-STK to the east. A total of three 5-point composite samples were collected, one from each of the soil stockpiles. Each aliquot was collected from the respective stockpile once the stockpile soil was thoroughly mixed using the excavator. The aliquot locations were collected at a depth of approximately half of the thickness of the stockpile at each sample location. A duplicate aliquot from each stockpile was simultaneously collected. The duplicate samples are denoted with 'DUP' at the end of their respective sample identification number (Sample ID).

Once each individual stockpile was sampled, WCO then combined and thoroughly mixed all three stockpiles (CLN-STK, IMORT-STK, and IMP-STK) into an approximated 120 yd³ stockpile (BENCH-STK) using an excavator. WSP repeated the same aliquot sampling procedure on stockpile BENCH-STK as described above. One 5-point composite sample was collected from the combined stockpiled soil. A duplicate aliquot from the combined stockpiled soil was simultaneously collected. A total of eight 5-point composite soil samples were collected; four characterization samples and four characterization duplicates were submitted to Pace Analytical of Mount Juliet,

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Tennessee for analysis of analytes that included: total petroleum hydrocarbons (TPH), 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene.

Following the completion of field activities, best management practices (BMPs) were replaced around the existing stockpiles and a new line of straw wattles was installed around stockpile BENCH-STK.

A Site map depicting the three initial stockpiles and associated aliquot sampling locations is included as Figure 2. A Site map depicting the combined bench stockpile and final aliquot sampling locations is included as Figure 3.

BENCH TEST ANALYTICAL – J17E

Laboratory analytical results of all stockpile soil samples collected on April 20, 2022 indicate exceedances of COGCC Table 915-1 Cleanup Concentration (CC) for TPH in composite soil samples 20220420-J17E(IMP-STK) and 20220420-J17E(IMP-STK)-DUP with concentrations of 711.9 milligrams/kilogram (mg/kg) and 747.5 mg/kg, respectively. Except for soil sample 20220420-J17E(CLN-STK)-DUP, all stockpile soil samples exceeded COGCC Table 915-1 Protection of Groundwater Soil Screening Level (PGSSL) risk based (R) for 1-methylnaphthalene (0.006 mg/kg), 2-methylnaphthalene (0.019 mg/kg), and naphthalene (0.0038 mg/kg). The concentrations of each composite soil sample exceedance of the listed analytes are as follows:

- 20220420-J17E(CLN-STK) reported a 1-methylnaphthalene concentration of 0.0100 mg/kg, a 2-methylnaphthalene concentration of 0.0247 mg/kg, and a naphthalene concentration of 0.0176 mg/kg;
- 20220420-J17E(IMORT-STK) reported a 1-methylnaphthalene concentration of 0.0108 mg/kg, a 2-methylnaphthalene concentration of 0.0337 mg/kg, and a naphthalene concentration of 0.0129 mg/kg;
- 20220420-J17E(IMORT-STK)-DUP reported a 1-methylnaphthalene concentration of 0.0124 mg/kg, a 2-methylnaphthalene concentration of 0.0327 mg/kg, and a naphthalene concentration of 0.0107 mg/kg;
- 20220420-J17E(IMP-STK) reported a 1-methylnaphthalene concentration of 0.488 mg/kg, a 2-methylnaphthalene concentration of 0.714 mg/kg, and a naphthalene concentration of 0.169 mg/kg;
- 20220420-J17E(IMP-STK)-DUP reported a 1-methylnaphthalene concentration of 0.679 mg/kg, a 2-methylnaphthalene concentration of 1.14 mg/kg, and a naphthalene concentration of 0.293 mg/kg;
- 20220420-J17E(BENCH-STK) reported a 1-methylnaphthalene concentration of 0.234 mg/kg, a 2-methylnaphthalene concentration of 0.340 mg/kg, and a naphthalene concentration of 0.127 mg/kg;
- 20220420-J17E(BENCH-STK)-DUP reported a 1-methylnaphthalene concentration of 0.332 mg/kg, a 2-methylnaphthalene concentration of 0.564 mg/kg, and a naphthalene concentration of 0.160 mg/kg.

A summary of stockpile soil sampling laboratory analytical results is included in Enclosure A and summarized in Table 1.

Please contact us at (970) 618-4514 or (303) 548-5097 if you have any questions regarding this report or require additional information.

Kind regards,

Dustin Held
Sr. Consultant, Environmental Geologist

Parker Coit, P.G.
Sr. Consultant, Geologist

Encl.

FIGURES

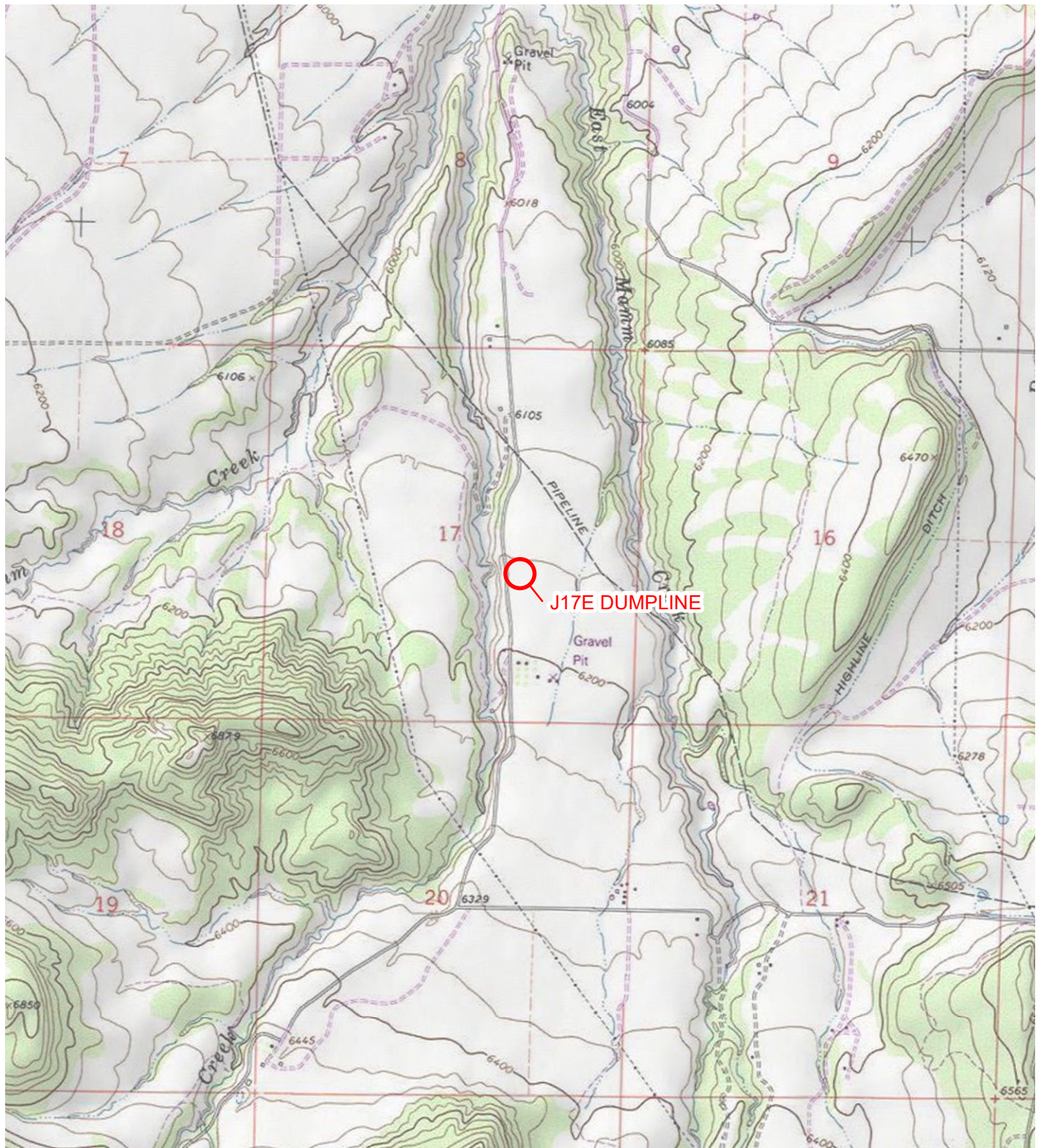


IMAGE COURTESY OF ESRI/USGS

LEGEND

 SITE LOCATION

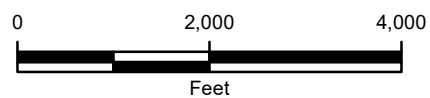


FIGURE 1
SITE LOCATION MAP
J17E DUMPLINE
NWSE SEC 17-T7S-R92W
GARFIELD COUNTY, COLORADO
CAERUS OIL AND GAS LLC



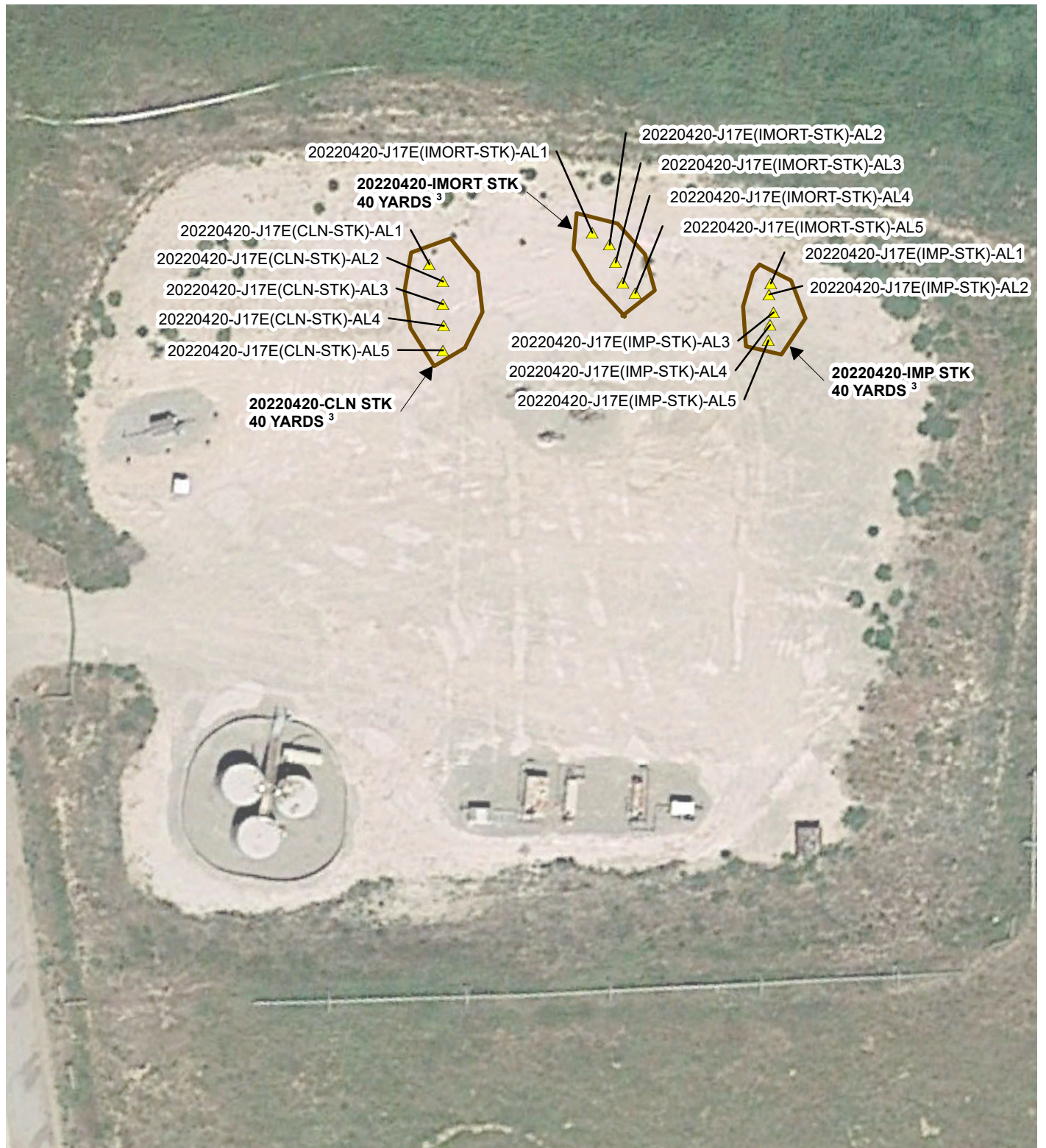


IMAGE COURTESY OF GOOGLE EARTH 2016

LEGEND

- ▲ COMPOSITE SOIL SAMPLE
- STOCKPILE AREA

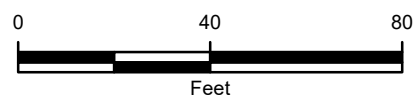


FIGURE 2
ALIQUT SAMPLE LOCATIONS MAP
J17E DUMPLINE
NWSE SEC 17-T7S-R92W
GARFIELD COUNTY, COLORADO
CAERUS OIL AND GAS LLC



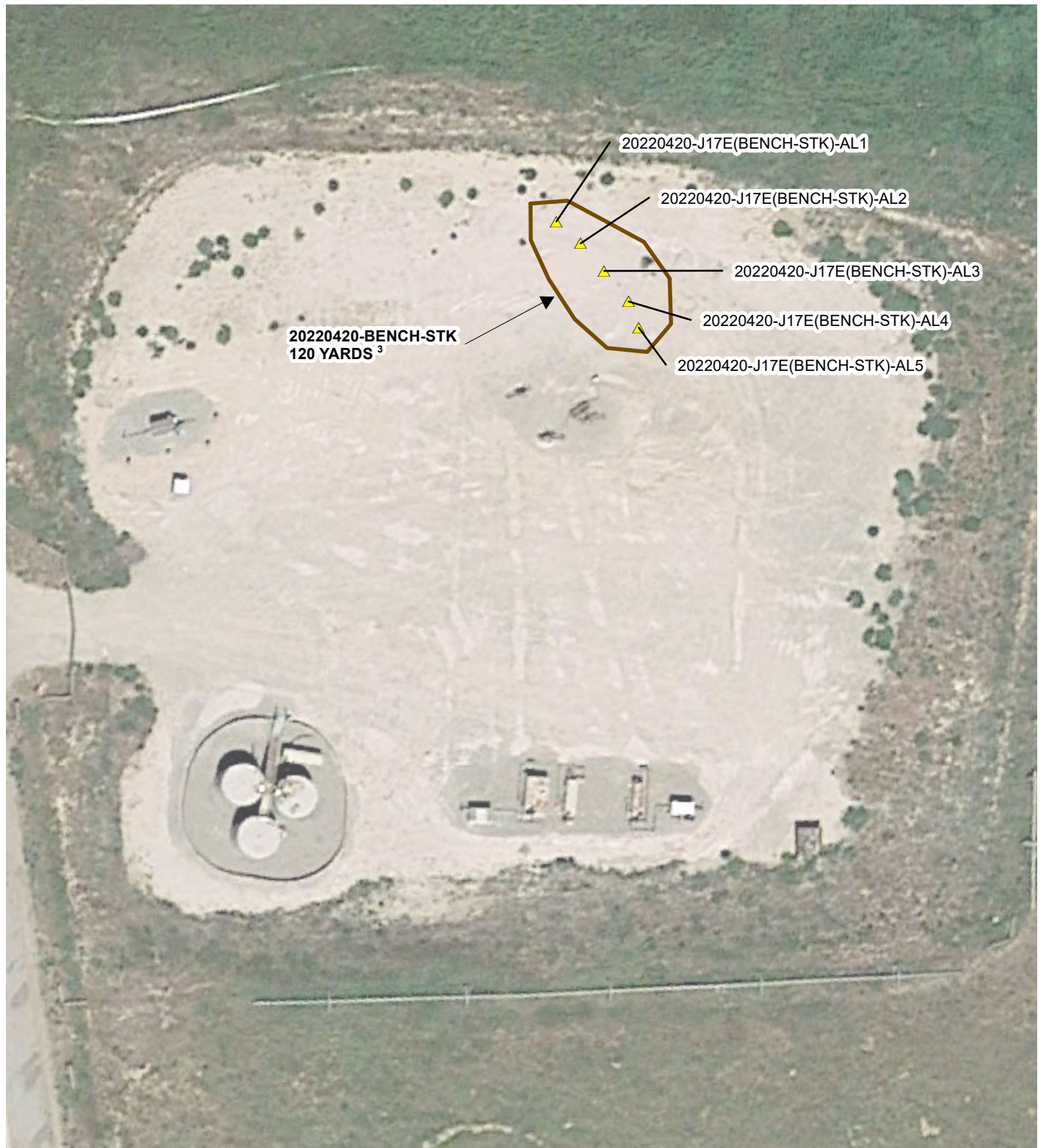


IMAGE COURTESY OF GOOGLE EARTH 2016

LEGEND

- ▲ COMPOSITE SOIL SAMPLE
- STOCKPILE AREA

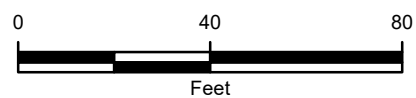


FIGURE 3
ALIQOT SAMPLE LOCATIONS MAP
J17E DUMPLINE
NWSE SEC 17-T7S-R92W
GARFIELD COUNTY, COLORADO
CAERUS OIL AND GAS LLC



TABLE

TABLE 1

STOCKPILE SOIL ANALYTICAL RESULTS

J17E DUMPLINE

GARFIELD COUNTY, COLORADO

CAERUS OIL AND GAS LLC

PARAMETER	COGCC RESIDENTIAL SOIL SCREENING LEVEL CONCENTRATIONS	COGCC PROTECTION OF GROUDNWATER SOIL SCREENING LEVEL CONCENTRATIONS	UNITS	STOCKPILE CONFIRMATION SOIL SAMPLES							
				20220420-J17E(CLN-STK)	20220420-J17E(CLN-STK)-DUP	20220420-J17E(IMORT-STK)	20220420-J17E(IMORT-STK)-DUP	20220420-J17E(IMP-STK)	20220420-J17E(IMP-STK)-DUP	20220420-J17E(BENCH-STK)	20220420-J17E(BENCH-STK)-DUP
Sample Date				4/20/2022	4/20/2022	4/20/2022	4/20/2022	4/20/2022	4/20/2022	4/20/2022	4/20/2022
Sample Type				Confirmation	Confirmation	Confirmation	Confirmation	Confirmation	Confirmation	Confirmation	Confirmation
Arsenic	0.68	0.29 (M)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Barium	15,000	82 (M)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Boron	2	2	mg/l	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	71	0.38 (M)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	0.3	0.00067 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Copper	3,100	46 (M)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Lead	400	14 (M)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	1,500	26 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	390	0.26 (M)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Silver	390	0.8 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	23,000	370 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
EC	<4	<4	mmhos/cm	NA	NA	NA	NA	NA	NA	NA	NA
pH	6 - 8.3	6 - 8.3	SU	NA	NA	NA	NA	NA	NA	NA	NA
SAR	<6	<6	unitless	NA	NA	NA	NA	NA	NA	NA	NA
TPH-GRO			mg/kg	1.92	1.68	4.47	2.65	270	245	97.6	112
TPH-DRO			mg/kg	12.6	18.2	92.5	105	369	417	187	136
TPH-ORO			mg/kg	25.1	32.5	181	221	72.9	85.5	122	79.7
TPH	500	500	mg/kg	39.6	52.4	278.0	328.7	711.9	747.5	407	328
Benzene	1.2	0.0026 (M)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	490	0.69 (M)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5.8	0.78 (M)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	58	9.9 (M)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-trimethylbenzene	30	0.0081 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-trimethylbenzene	27	0.0087 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,800	5.8 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	360	0.55 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(A)anthracene	1.1	0.011 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(B)fluoranthene	1.1	0.3 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(K)fluoranthene	11	2.9 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(A)pyrene	0.11	0.24 (M)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	110	9 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(A,H)anthracene	0.11	0.096 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	240	8.9 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	240	0.54 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3,c-d)pyrene	1.1	0.98 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
1-methylnaphthalene	18	0.006 (R)	mg/kg	0.0100	ND	0.0108	0.0124	0.488	0.679	0.234	0.332
2-methylnaphthalene	24	0.019 (R)	mg/kg	0.0247	0.00507	0.0337	0.0327	0.714	1.14	0.340	0.564
Naphthalene	2	0.0038 (R)	mg/kg	0.0176	ND	0.0129	0.0107	0.169	0.293	0.127	0.160
Pyrene	180	1.3 (R)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:

BOLD - indicates result exceeds the COGCC concentration level

COGCC - Colorado Oil and Gas Conservation Commission

EC- electrical conductivity

mg/kg - milligrams per kilogram

mmhos/cm - millimhos per centimeter

SAR - sodium adsorption ratio

SU - standard unit

TPH-ORO - total petroleum hydrocarbons- oil range organics

TPH-GRO - total petroleum hydrocarbons-gasoline range organics

TPH-DRO - total petroleum hydrocarbons-diesel range organics

TPH - combination of TPH-GRO, TPH-DRO, and TPH-ORO

NA - analyte not analyzed

ND - analyte not detected

R - risk based

MCL - maxium containment level (M)

ENCLOSURE A – LABORATORY ANALYTICAL REPORT

Caerus Oil and Gas

Sample Delivery Group: L1485078
Samples Received: 04/21/2022
Project Number: J17E
Description: J17E Dumpline Release
Site: J17E
Report To: Brett Middleton
143 Diamond Avenue
Parachute, CO 81635

Entire Report Reviewed By:



Chris Ward
Project Manager

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



Pace Analytical National

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

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

SAMPLE SUMMARY

20220420-J17E(CLN-STK) L1485078-01 Solid

Collected by
K. Moreland

Collected date/time
04/20/22 09:10

Received date/time
04/21/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1853645	25	04/20/22 09:10	04/24/22 20:42	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855225	1	04/28/22 18:27	04/29/22 07:09	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1855200	1	04/29/22 05:35	04/29/22 12:54	AMG	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

20220420-J17E(CLN-STK)-DUP L1485078-02 Solid

Collected by
K. Moreland

Collected date/time
04/20/22 09:15

Received date/time
04/21/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1853645	25	04/20/22 09:15	04/24/22 21:03	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855225	1	04/28/22 18:27	04/29/22 07:22	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1855200	1	04/29/22 05:35	04/29/22 13:14	AMG	Mt. Juliet, TN

20220420-J17E(IMORT-STK) L1485078-03 Solid

Collected by
K. Moreland

Collected date/time
04/20/22 09:30

Received date/time
04/21/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1854453	36	04/20/22 09:30	04/26/22 22:50	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855225	1	04/28/22 18:27	04/29/22 08:16	JAS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855225	5	04/28/22 18:27	04/29/22 13:29	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1855200	1	04/29/22 05:35	04/29/22 16:53	AMG	Mt. Juliet, TN

20220420-J17E(IMORT-STK)-DUP L1485078-04 Solid

Collected by
K. Moreland

Collected date/time
04/20/22 09:35

Received date/time
04/21/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1854453	35	04/20/22 09:35	04/26/22 23:37	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855225	1	04/28/22 18:27	04/29/22 08:30	JAS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855225	5	04/28/22 18:27	04/29/22 13:42	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1855200	1	04/29/22 05:35	04/29/22 18:12	AMG	Mt. Juliet, TN

20220420-J17E(IMP-STK) L1485078-05 Solid

Collected by
K. Moreland

Collected date/time
04/20/22 09:45

Received date/time
04/21/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1853645	115	04/20/22 09:45	04/25/22 01:17	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855225	1	04/28/22 18:27	04/29/22 06:55	JAS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855225	10	04/28/22 18:27	04/29/22 13:15	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1855200	1	04/29/22 05:35	04/29/22 13:34	AMG	Mt. Juliet, TN

20220420-J17E(IMP-STK)-DUP L1485078-06 Solid

Collected by
K. Moreland

Collected date/time
04/20/22 09:50

Received date/time
04/21/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1853645	25.3	04/20/22 09:50	04/24/22 22:34	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855597	5	04/28/22 08:00	04/28/22 18:35	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1855200	1	04/29/22 05:35	04/29/22 13:54	AMG	Mt. Juliet, TN

SAMPLE SUMMARY

20220420-J17E(BENCH-STK) L1485078-07 Solid

Collected by
K. Moreland

Collected date/time
04/20/22 11:15

Received date/time
04/21/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1853645	37.5	04/20/22 11:15	04/24/22 21:44	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855597	1	04/28/22 08:00	04/28/22 11:48	JAS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855597	5	04/28/22 08:00	04/28/22 18:48	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1855200	1	04/29/22 05:35	04/29/22 16:13	AMG	Mt. Juliet, TN

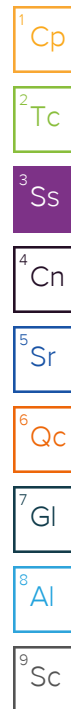
20220420-J17E(BENCH-STK)-DUP L1485078-08 Solid

Collected by
K. Moreland

Collected date/time
04/20/22 11:20

Received date/time
04/21/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1853645	139	04/20/22 11:20	04/25/22 01:37	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855597	1	04/28/22 08:00	04/28/22 17:56	JAS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855597	2	04/28/22 08:00	04/29/22 11:09	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1855200	1	04/29/22 05:35	04/29/22 15:53	AMG	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



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	1.92	B J	0.543	2.50	25	04/24/2022 20:42	WG1853645
(S) a,a,a-Trifluorotoluene(FID)	99.8			77.0-120		04/24/2022 20:42	WG1853645

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	12.6		1.61	4.00	1	04/29/2022 07:09	WG1855225
C28-C36 Motor Oil Range	25.1		0.274	4.00	1	04/29/2022 07:09	WG1855225
(S) o-Terphenyl	64.2			18.0-148		04/29/2022 07:09	WG1855225

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
Naphthalene	0.0176	J	0.00408	0.0200	1	04/29/2022 12:54	WG1855200
1-Methylnaphthalene	0.0100	J	0.00449	0.0200	1	04/29/2022 12:54	WG1855200
2-Methylnaphthalene	0.0247		0.00427	0.0200	1	04/29/2022 12:54	WG1855200
(S) p-Terphenyl-d14	95.8			23.0-120		04/29/2022 12:54	WG1855200
(S) Nitrobenzene-d5	96.5			14.0-149		04/29/2022 12:54	WG1855200
(S) 2-Fluorobiphenyl	81.4			34.0-125		04/29/2022 12:54	WG1855200

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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	1.68	B J	0.543	2.50	25	04/24/2022 21:03	WG1853645
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	101			77.0-120		04/24/2022 21:03	WG1853645

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	18.2		1.61	4.00	1	04/29/2022 07:22	WG1855225
C28-C36 Motor Oil Range	32.5		0.274	4.00	1	04/29/2022 07:22	WG1855225
(S) <i>o</i> -Terphenyl	56.5			18.0-148		04/29/2022 07:22	WG1855225

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
Naphthalene	U		0.00408	0.0200	1	04/29/2022 13:14	WG1855200
1-Methylnaphthalene	U		0.00449	0.0200	1	04/29/2022 13:14	WG1855200
2-Methylnaphthalene	0.00507	J	0.00427	0.0200	1	04/29/2022 13:14	WG1855200
(S) <i>p</i> -Terphenyl-d14	80.5			23.0-120		04/29/2022 13:14	WG1855200
(S) Nitrobenzene-d5	88.2			14.0-149		04/29/2022 13:14	WG1855200
(S) 2-Fluorobiphenyl	70.9			34.0-125		04/29/2022 13:14	WG1855200

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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	4.47		0.781	3.60	36	04/26/2022 22:50	WG1854453
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	99.0			77.0-120		04/26/2022 22:50	WG1854453

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	92.5		1.61	4.00	1	04/29/2022 08:16	WG1855225
C28-C36 Motor Oil Range	181		1.37	20.0	5	04/29/2022 13:29	WG1855225
(S) <i>o</i> -Terphenyl	70.5			18.0-148		04/29/2022 13:29	WG1855225
(S) <i>o</i> -Terphenyl	58.2			18.0-148		04/29/2022 08:16	WG1855225

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
Naphthalene	0.0129	J	0.00408	0.0200	1	04/29/2022 16:53	WG1855200
1-Methylnaphthalene	0.0108	J	0.00449	0.0200	1	04/29/2022 16:53	WG1855200
2-Methylnaphthalene	0.0337		0.00427	0.0200	1	04/29/2022 16:53	WG1855200
(S) <i>p</i> -Terphenyl-d14	82.9			23.0-120		04/29/2022 16:53	WG1855200
(S) Nitrobenzene-d5	91.7			14.0-149		04/29/2022 16:53	WG1855200
(S) 2-Fluorobiphenyl	67.7			34.0-125		04/29/2022 16:53	WG1855200

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

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	2.65	J	0.760	3.50	35	04/26/2022 23:37	WG1854453
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	98.6			77.0-120		04/26/2022 23:37	WG1854453

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	105		1.61	4.00	1	04/29/2022 08:30	WG1855225
C28-C36 Motor Oil Range	221		1.37	20.0	5	04/29/2022 13:42	WG1855225
(S) <i>o</i> -Terphenyl	73.1			18.0-148		04/29/2022 08:30	WG1855225
(S) <i>o</i> -Terphenyl	88.6			18.0-148		04/29/2022 13:42	WG1855225

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
Naphthalene	0.0107	J	0.00408	0.0200	1	04/29/2022 18:12	WG1855200
1-Methylnaphthalene	0.0124	J	0.00449	0.0200	1	04/29/2022 18:12	WG1855200
2-Methylnaphthalene	0.0327		0.00427	0.0200	1	04/29/2022 18:12	WG1855200
(S) <i>p</i> -Terphenyl- <i>d</i> 14	98.5			23.0-120		04/29/2022 18:12	WG1855200
(S) Nitrobenzene- <i>d</i> 5	109			14.0-149		04/29/2022 18:12	WG1855200
(S) 2-Fluorobiphenyl	82.2			34.0-125		04/29/2022 18:12	WG1855200

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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	270		2.50	11.5	115	04/25/2022 01:17	WG1853645
(S) a,a,a-Trifluorotoluene(FID)	100			77.0-120		04/25/2022 01:17	WG1853645

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	369		16.1	40.0	10	04/29/2022 13:15	WG1855225
C28-C36 Motor Oil Range	72.9		0.274	4.00	1	04/29/2022 06:55	WG1855225
(S) o-Terphenyl	61.4			18.0-148		04/29/2022 06:55	WG1855225
(S) o-Terphenyl	86.5			18.0-148		04/29/2022 13:15	WG1855225

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
Naphthalene	0.169		0.00408	0.0200	1	04/29/2022 13:34	WG1855200
1-Methylnaphthalene	0.488		0.00449	0.0200	1	04/29/2022 13:34	WG1855200
2-Methylnaphthalene	0.714		0.00427	0.0200	1	04/29/2022 13:34	WG1855200
(S) p-Terphenyl-d14	100			23.0-120		04/29/2022 13:34	WG1855200
(S) Nitrobenzene-d5	467	J1		14.0-149		04/29/2022 13:34	WG1855200
(S) 2-Fluorobiphenyl	71.3			34.0-125		04/29/2022 13:34	WG1855200

Sample Narrative:

L1485078-05 WG1855200: Surrogate failure due to matrix interference

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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	245		0.549	2.53	25.3	04/24/2022 22:34	WG1853645
(S) a,a,a-Trifluorotoluene(FID)	98.1			77.0-120		04/24/2022 22:34	WG1853645

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	417		8.05	20.0	5	04/28/2022 18:35	WG1855597
C28-C36 Motor Oil Range	85.5		1.37	20.0	5	04/28/2022 18:35	WG1855597
(S) o-Terphenyl	82.9			18.0-148		04/28/2022 18:35	WG1855597

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
Naphthalene	0.293	J3 J5	0.00408	0.0200	1	04/29/2022 13:54	WG1855200
1-Methylnaphthalene	0.679	J3 V	0.00449	0.0200	1	04/29/2022 13:54	WG1855200
2-Methylnaphthalene	1.14	J3 V	0.00427	0.0200	1	04/29/2022 13:54	WG1855200
(S) p-Terphenyl-d14	96.4			23.0-120		04/29/2022 13:54	WG1855200
(S) Nitrobenzene-d5	559	J1		14.0-149		04/29/2022 13:54	WG1855200
(S) 2-Fluorobiphenyl	70.3			34.0-125		04/29/2022 13:54	WG1855200

Sample Narrative:

L1485078-06 WG1855200: Surrogate failure due to matrix interference

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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	97.6		0.814	3.75	37.5	04/24/2022 21:44	WG1853645
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	101			77.0-120		04/24/2022 21:44	WG1853645

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	187	J6	1.61	4.00	1	04/28/2022 11:48	WG1855597
C28-C36 Motor Oil Range	122		1.37	20.0	5	04/28/2022 18:48	WG1855597
(S) <i>o</i> -Terphenyl	63.3			18.0-148		04/28/2022 18:48	WG1855597
(S) <i>o</i> -Terphenyl	62.7			18.0-148		04/28/2022 11:48	WG1855597

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
Naphthalene	0.127		0.00408	0.0200	1	04/29/2022 16:13	WG1855200
1-Methylnaphthalene	0.234		0.00449	0.0200	1	04/29/2022 16:13	WG1855200
2-Methylnaphthalene	0.340		0.00427	0.0200	1	04/29/2022 16:13	WG1855200
(S) <i>p</i> -Terphenyl- <i>d</i> 14	101			23.0-120		04/29/2022 16:13	WG1855200
(S) Nitrobenzene- <i>d</i> 5	120			14.0-149		04/29/2022 16:13	WG1855200
(S) 2-Fluorobiphenyl	82.1			34.0-125		04/29/2022 16:13	WG1855200

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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	112		3.02	13.9	139	04/25/2022 01:37	WG1853645
(S) a,a,a-Trifluorotoluene(FID)	99.1			77.0-120		04/25/2022 01:37	WG1853645

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	136		1.61	4.00	1	04/28/2022 17:56	WG1855597
C28-C36 Motor Oil Range	79.7		0.548	8.00	2	04/29/2022 11:09	WG1855597
(S) o-Terphenyl	54.8			18.0-148		04/28/2022 17:56	WG1855597
(S) o-Terphenyl	51.2			18.0-148		04/29/2022 11:09	WG1855597

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
Naphthalene	0.160		0.00408	0.0200	1	04/29/2022 15:53	WG1855200
1-Methylnaphthalene	0.332		0.00449	0.0200	1	04/29/2022 15:53	WG1855200
2-Methylnaphthalene	0.564		0.00427	0.0200	1	04/29/2022 15:53	WG1855200
(S) p-Terphenyl-d14	101			23.0-120		04/29/2022 15:53	WG1855200
(S) Nitrobenzene-d5	282	J1		14.0-149		04/29/2022 15:53	WG1855200
(S) 2-Fluorobiphenyl	76.5			34.0-125		04/29/2022 15:53	WG1855200

Sample Narrative:

L1485078-08 WG1855200: Surrogate failure due to matrix interference

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3785096-2 04/24/22 19:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	1.86	⬇	0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	99.8			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3785096-1 04/24/22 17:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.21	113	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			112	77.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3785416-2 04/26/22 15:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	97.4			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3785416-1 04/26/22 13:50

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.32	78.5	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			99.8	77.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3786436-2 04/29/22 11:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	1.03	J	0.274	4.00
(S) o-Terphenyl	69.4			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3786436-1 04/29/22 05:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	28.8	57.6	50.0-150	
(S) o-Terphenyl			80.0	18.0-148	

L1485055-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1485055-02 04/29/22 13:56 • (MS) R3786436-3 04/29/22 14:09 • (MSD) R3786436-4 04/29/22 14:23

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	48.6	262	297	452	72.0	391	5	50.0-150		J3 V	41.4	20
(S) o-Terphenyl					267	275		18.0-148	J1	J1		

Sample Narrative:

OS: Surrogate failure due to matrix interference

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R3786145-1 04/28/22 11:09

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	60.2			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3786145-2 04/28/22 11:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	28.5	57.0	50.0-150	
(S) o-Terphenyl			57.4	18.0-148	

L1485078-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1485078-07 04/28/22 11:48 • (MS) R3786145-3 04/28/22 12:01 • (MSD) R3786145-4 04/28/22 12:14

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.8	187	217	182	60.2	0.000	1	50.0-150		J6	17.5	20
(S) o-Terphenyl					75.2	83.4		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3787178-2 04/29/22 11:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Naphthalene	U		0.00408	0.0200
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
(S) p-Terphenyl-d14	110			23.0-120
(S) Nitrobenzene-d5	106			14.0-149
(S) 2-Fluorobiphenyl	92.1			34.0-125

Laboratory Control Sample (LCS)

(LCS) R3787178-1 04/29/22 11:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Naphthalene	0.0800	0.0749	93.6	50.0-120	
1-Methylnaphthalene	0.0800	0.0729	91.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0700	87.5	50.0-120	
(S) p-Terphenyl-d14			114	23.0-120	
(S) Nitrobenzene-d5			115	14.0-149	
(S) 2-Fluorobiphenyl			97.2	34.0-125	

L1485078-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1485078-06 04/29/22 13:54 • (MS) R3787178-3 04/29/22 14:14 • (MSD) R3787178-4 04/29/22 14:34

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 %
Naphthalene	0.0792	0.293	0.447	0.800	194	640	1	10.0-135	J5	J3 J5	56.6	27
1-Methylnaphthalene	0.0792	0.679	0.728	1.01	61.9	418	1	10.0-142		J3 V	32.5	28
2-Methylnaphthalene	0.0792	1.14	1.20	1.86	75.8	909	1	10.0-137		J3 V	43.1	28
(S) p-Terphenyl-d14					106	101		23.0-120				
(S) Nitrobenzene-d5					590	554		14.0-149	J1	J1		
(S) 2-Fluorobiphenyl					71.4	67.4		34.0-125				

Sample Narrative:
OS: Surrogate failure due to matrix interference

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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.

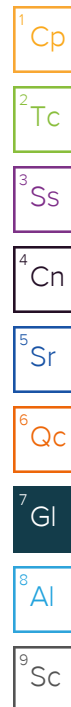
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Abbreviations and Definitions

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

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
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	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

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

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

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



Caerus Oil & Gas LLC
143 Diamond Avenue
Parachute, CO 81635
970-285-9606

Billing Information:

Same as above

Pres
Chk

Analysis / Container / Preservative

Chain of Custody

Page 2 of 2



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



Report to:
bmiddleton@caerusoilandgas.com

Email To:
bmiddleton@caerusoilandgas.com

Project
Description: J17E Dumpline Release

City/State
Collected: Mamm Creek, CO

Phone (970) 618-4514
Fax:

Client Project #
J17E

Lab Project #
J17E

Collected by (print):
K. MORELAND

Site/Facility ID #
J17E

P.O. #
J17E

Collected by (signature):
K. Moreland

Rush? (Lab MUST Be Notified)

Quote #

___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Standard TAT

No.
of
Cntrs

TPH- GRO, DRO, ORO

naphthalene

2-methyl naphthalene

1-methyl naphthalene

L # 1485078

Table #

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Remarks

Sample # (lab only)

20220420-J17E(ELN-STK)-DUP

comp

SS

4/20/22

915

1

X

X

X

X

-02

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

Remarks:

Samples returned via:

___ UPS ___ FedEx ___ Courier

Tracking #

pH Temp

Flow Other

Sample Receipt Checklist

COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: Yes/No
HCL/MeOH
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C Bottles Received:

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 4/21/22 Time: 0930

Hold:

Condition:
NCF / OK

Condition:
NCF / OK

[illegible]

Caerus Oil & Gas LLC 143 Diamond Avenue Parachute, CO 81635 970-285-9606				Billing Information: Same as above				Pres Chk		Analysis / Container / Preservative										Chain of Custody		Page 5 of 8	
Report to: bmiddleton@caerusoilandgas.com				Email To: bmiddleton@caerusoilandgas.com																			
Project Description: J17E Dumpline Release				City/State Collected: Mamm Creek, CO																			
Phone: (970) 618 4514		Client Project # J17E		Lab Project # J17E																			
Fax:																							
Collected by (print): K. MORELAND		Site/Facility ID # J17E		P.O. # J17E																			
Collected by (signature): K. Moreland		Rush? (Lab MUST Be Notified) ____ Same Day ____ Five Day ____ Next Day ____ 5 Day (Rad Only) ____ Two Day ____ 10 Day (Rad Only) ____ Three Day		Quote # Standard TAT																			
Immediately Packed on Ice N ____ Y ____																							
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH- GRO, DRO,ORO	naphthalene	2-mehtylnaphthalene	1-methylnaphthalene												
20220420- J17E (IMP-STR)		Comp	SS		4/20/22	945	1	X	X	X	X												

[illegible]

Conditions

Condition
NCF // O