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September 28, 2022

New Mexico Oil Conservation Division, District II
811 S. First Ct
Artesia, NM 88210

Re: Copperhead Fee 31 E CTB
2022 Remediation Summary and Soil Closure Request Report
Incident # NAPP2127034861
Eddy County, New Mexico

Dear whom it concerns,

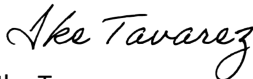
Please find enclosed for your filed, copies of the following:

- Copperhead Fee 31 E CTB – September 28, 2022 Remediation Summary and Soil Closure Request Report

The Report was prepared by Arcadis U.S., Inc. (Arcadis) on behalf of ConocoPhillips (COP).

Please do not hesitate to call Scott Foord with Arcadis at 713.953.4853 or myself at 432.685.2573, should you have any questions.

Sincerely,


Ike Tavaréz

Encl. Copperhead Fee 31 E CTB, NAPP2127034861 2022 Remediation Summary and Soil Closure Request Report



COG (ConocoPhillips)

2022 Remediation Summary and Soil Closure Request Report

Copperhead Fee 31 E CTB

Incident # NAPP2127034861

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September 2022

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2022 Remediation Summary and Soil Closure Request Report

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Appendices

Appendix A. Initial C-141 Form Incident #NAPP2127034861

Appendix B. Final C-141 Form Incident #NAPP2127034861

Appendix C. Work Plan

Appendix D. Soil Boring Log and Groundwater Location Bore Location Map

Appendix E. Laboratory Analytical Reports

2022 Remediation Summary and Soil Closure Request Report

1 Introduction

Arcadis U.S., Inc. (Arcadis) has prepared this Remediation Summary and Soil Closure Request Report (Report), on behalf of Concho Operating, LLC (COG – now ConocoPhillips), for the release site known as the Copperhead Fee 31 E CTB (Site). Details of the release are summarized in the Initial C-141 Form included as **Appendix A**.

2 Project Summary

The Site is located approximately 15.61 miles south of Malaga in Unit E, Section 31, Township 26 South, Range 29 East, Eddy County, New Mexico. A Site Location Map is included as **Figure 1**.

2.1 Incident # NAPP2127034861

According to the Initial C-141 Form, on September 7, 2021, a corrosion induced leak was discovered in the transfer flex pipe at the Site. The leak resulted in the release of approximately 20 barrels (bbls) of produced water to ground surface on the eastern portion of the tank battery located at the Site. The impacted areas measured approximately 245 feet by 21 feet and 230 feet by 21 feet. The Initial C-141 Form was submitted to the New Mexico Oil Conservation Division (NMOCD) on September 21, 2021 and assigned Incident ID number NAPP2127034861. The Initial C-141 Form is included as **Appendix A** and the final C-141 is included in **Appendix B**.

3 Site Characterization

Soil assessment activities were performed at the Site during September and October 2021 by New Tech Global Environmental, LLC (NTGE) to determine the horizontal and lateral extent of the release area. The assessment activities associated analytical soil sample results and the initial proposed remediation/reclamation activities for the impacted areas are detailed in the 2021 Work Plan submitted previously by New Tech Global Environmental, LLC (NTGE) to the NMOCD (see **Appendix C**). The laboratory analytical report was submitted with the initial work plan.

In an email from Ms. Nobui with the NMOCD dated April 7, 2022, to NTGE, approval of the 2021 Work Plan was rescinded based on lack of verification of depth to groundwater within 0.5 miles of the Site. Remediation efforts (excavation) had previously begun but were halted following the denial of the initial Work Plan by NMOCD.

In a virtual meeting held between the NMOCD, Arcadis, NTGE, and COG (ConocoPhillips) on April 12, 2022, the NMOCD requested that an addendum to the 2021 Work Plan be submitted requesting variance approval in accordance with New Mexico Administrative Code (NMAC) 19.15.29.14. The Work Plan Addendum was prepared and submitted to NMOCD requesting approval to use constituent screening values for sites with groundwater at depths ranging from 51 to 100 feet bgs from Table I of NMAC 19.15.29 for impacted soil at depths greater than 4 feet bgs within the release areas at the Site. Approval was also requested to allow the installation of a liner within excavated areas with chloride concentrations confirmed above the applicable NMAC part 19.15.29 chloride reclamation limit of 600 milligrams per kilogram (mg/Kg) at depths greater than 4 feet below ground surface (bgs).

NMOCD verbally agreed to allow ongoing remediation activities at the Site to continue and verbally approved the variance request during the virtual meeting based on the following information and conditions:

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- Per the *Work Plan for the COG Operating, LLC, Copperhead 31 Federal Com #001*, prepared by Tetra Tech, Inc. (Tetra Tech) dated March 18, 2019, there is a water well located approximately 0.8 miles from the Site with a reported depth to groundwater of 54.30 feet bgs. NNOCD approved using this data to allow the use of screening levels within NMAC part 19.15.29.12 for sites where groundwater is between 51 to 100 feet bgs for the Site.
- COG (ConocoPhillips) agreed to install a soil boring in the near future within 0.5 miles of the Site to verify depth to groundwater at this location and to utilize as verification of depth to groundwater at additional facilities with planned remedial activities within a 0.5-mile radius of the proposed soil boring location. A workplan detailing the proposed soil boring will be provided at a later date.
 - A soil boring was installed by Carmona Resources at the Site to a depth of approximately 55 feet bgs on April 25th, 2022. Groundwater was not encountered within the soil boring confirming depth to groundwater at the Site is greater than 50 feet bgs. The boring log and Groundwater Determination Bore location map are included in **Appendix D**.
- All soils from the uppermost four feet exceeding the chloride reclamation limit of 600 mg/Kg will be excavated from the impacted area and properly disposed of at an NMOCD-approved disposal facility.
- COG (ConocoPhillips) requested approval of a variance to install a synthetic 20 mill liner atop soil at a depth of 4 feet bgs where chloride concentrations are equal to or less than 10,000 mg/Kg. This area was believed to only encompass the area adjacent to the high-pressure pipeline running east to west across the release areas. This request was approved by NMOCD and was included in the Work Plan Addendum and Variance Request submitted subsequently to NMOCD.
- COG (ConocoPhillips) believes the synthetic liner will provide equal or better protection of fresh water, public health and the environment by preventing downward migration of remaining shallow chloride impacted soil to depths that could potentially impact groundwater at the Site.
- The excavated area will be backfilled with non-waste containing, earthen material with chloride concentrations less than 600 mg/Kg.

After backfilling is completed, all areas disturbed by the remediation activities shall be reclaimed to match the original surface conditions and drainage.

4 Closure Criteria for Soils Impacted by a Release

The NMOCD initially agreed to allow the use of the water well located approximately 0.8 miles from the Site with a reported depth to groundwater of 54.30 feet bgs for the Site, and depth to groundwater was confirmed to be greater than 50 feet bgs at the Site following installation of the previously mentioned soil boring. Per Table I of NMAC part 19.15.29.12, the following closure criteria apply to a Site with depth to ground water between 51 and 100 feet bgs:

Constituent	Limit (mg/Kg)
Chloride	10,000 mg/Kg
TPH (GRO+DRO+MRO)	2,500 mg/kg
GRO+DRO	1,000 mg/Kg

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BTEX	50 mg/Kg
Benzene	10 mg/Kg

The approved Work Plan Addendum and Variance Request was submitted via e-mail to Jennifer Nobui and Mike Bratcher.

5 Remediation Activities Summary

5.1 Soil Removal

Prior to any intrusive activities, a NM One Call notification, a private utility locate (ground penetrating radar), and daylighting of underground utility lines with a hydrovac were conducted to clear the area and identify underground utilities.

Soil remediation activities were performed by Arcadis and Standard Safety and Supply (Standard) from April 7 through April 28, 2022. Photo-ionization detector (PID) readings, chloride field screening with Hach test strip results, and analytical results from the pre-remediation assessment activities were evaluated prior to and during remediation activities to determine the lateral and vertical extent of soil affected by the spill. Lateral and vertical delineation of the impacted soil requiring removal was based on samples collected from the perimeter and bottom of the release area. Based on these results, it was determined that the release covered an approximately 6,610 square foot area with intersecting utility easements determined to be high pressure gas lines owned by COG running N/S and E/W and extending to a depth of approximately 1.5 to 4 feet bgs. Soil analytical results are discussed in **Sections 5.3, 5.4, and 5.5**.

Excavation activities were conducted to a maximum depth of approximately 4 feet bgs as approved in the Work Plan Addendum and Variance Request. The liner was installed on April 19th, 2022 at a depth of approximately 4 feet bgs (see **Photographic Log**) over an area along the western area of the excavation north of the high-pressure pipeline. Approximately 1,600 cubic yards of impacted soil were excavated from the spill area. The limits of the excavation are presented on **Figure 2**. Excavated soil was stockpiled on-site, adjacent to the release area. The soil stockpile was placed on 20 mil plastic sheeting and covered with 20 mil plastic sheeting during remediation process prior to hauling off the impacted material.

The stockpiled soil was disposed offsite at the R360 Red Bluff Landfill facility located at 5053 US Hwy 285, in Orla, Texas as Class 2 non-hazardous material. Standard transported a total of 80 truckloads of soil directly to the landfill on April 19 through April 25, 2022. Copies of disposal manifests can be provided upon request. Photographic documentation of the excavation activities is attached below in the photographic log.

5.2 Excavation Confirmation Sampling Activities

Arcadis personnel conducted excavation confirmation soil sampling activities on April 7, 2022, through April 25, 2022 for laboratory analyses. Following excavation of the impacted area, eight additional confirmation soil samples were collected from the side walls and base of the excavation as needed to maintain an approximate 200 square. foot sample spacing or less for both side walls and base of the excavated area.

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The soil confirmation soil samples were collected in 2- 4oz jars provided by Pace Analytical Laboratory (Pace) located in Mt. Juliet, Tennessee, then placed on ice and shipped to Pace to be analyzed for chloride by United States Environmental Protection Agency (USEPA) Method 300; total petroleum hydrocarbons (TPH) by Method 8015 M for gasoline range organics (GRO), diesel range organics (DRO), and oil range organics (ORO); and benzene, toluene, ethylbenzene, and xylenes (BTEX) by USEPA Methods 8015/8021. Analytical results are shown in **Table 1**, and sidewall confirmation sample locations are depicted on **Figure 2** and excavation base confirmation samples are depicted on **Figure 3**. Laboratory analytical reports are included in **Appendix E**.

5.3 Chloride

Several soil samples collected north of the east to west pipeline corridor were reported above the NMAC reclamation limit of 600 mg/Kg at a depth of greater than 4 feet bgs and the area was subsequently lined with a synthetic 20 mill liner at a depth of 4 feet bgs. Chloride concentrations reported were less than the NMAC screening standard of 10,000 mg/Kg at depths greater than 4 feet bgs within the lined area.

5.4 TPH

Total TPH concentrations were reported below the NMAC screening standard of 2,500 mg/Kg at all sample locations and below the NMOCD Reclamation Standard of 100 mg/Kg at all sample locations. GRO and DRO concentrations were reported below the NMAC screening standard of 1,000 mg/Kg at all sample locations.

5.5 BTEX

Benzene concentrations were reported below the NMAC standard of 10 mg/Kg at all sample locations. BTEX concentrations were reported below the NMAC standard of 50 mg/Kg at all sample locations.

6 Restoration, Reclamation, and Re-Vegetation Plan

Upon receiving laboratory analytical results from the excavation confirmation soil samples confirming impacted soil over the applicable restoration limits had been removed, excavated areas were backfilled with locally sourced, non-impacted "like" material placed at or near the original relative positions. The affected area was contoured and/or compacted to achieve erosion control, stability, and preservation of surface water flow to the extent practicable. Affected areas were located on production pads, lease roads, and/or pipeline corridors. Excavated areas were topped with a topsoil similar to native the surrounding pasture material.

7 Summary

A Work Plan Addendum and Variance Request was approved verbally in a virtual meeting between the NMOCD, Arcadis, NTGE, and COG (ConocoPhillips) on April 12, 2022, with conditions that a liner must be placed in any excavated areas exceeding chloride concentrations of 600 mg/Kg, but less than 10,000 mg/Kg at a depth of 4 feet bgs. Analytical results associated with recent remediation activities conducted in 2022 indicate that the horizontal and vertical extent of chloride, TPH, and BTEX impact in soil above NMAC screening standards for a site with

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depth the groundwater greater than 50 feet bgs, but less than 100 feet bgs, have been delineated both horizontally and vertically and excavated from the impacted area.

8 Soil Closure Request

Remediation activities were conducted in accordance with the NMOCD stipulations and an approved variance. Impacted soil affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standard was excavated and transported to an NMOCD-approved disposal facility. Laboratory analytical results from confirmation soil samples indicate concentrations of BTEX, TPH and chloride are below the NMOCD Closure Criteria in each of the submitted soil samples for areas with impact less than 4 feet bgs. In accordance with the Work Plan Addendum and Variance Request, a liner was installed atop impacted soil affected above the NMOCD Reclamation Standard present within the floor of the excavated area in the area with impacted determined below 4 feet bgs. Confirmation soil samples collected from the base of the lined area confirm that no NMAC soil screening levels were exceeded for a site with depth to groundwater greater than 50 feet bgs, but less than 100 feet bgs.

Based on laboratory analytical results and field activities conducted to date, Arcadis requests closure be granted to the Copperhead Fee 31 E CTB site for Incident ID number NAPP2127034861. The Final C-141 Form is included as **Appendix B**.

Tables

Table 1
2022 Soil Sample Analytical Results
Copperhead Fee 31 E CTB
COG (ConocoPhillips)



Sample ID	Date	Depth	Soil Status	(BTEX Method)		(TPH Method)					(Cl Method)
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C6-C10 (mg/kg)	DRO C10-C28 (mg/kg)	GRO+DRO C6-C28 (mg/kg)	ORO C28-C36 (mg/kg)	TPH C6-C36 (mg/kg)	Chloride (mg/kg)
B-1	4/7/2022	4	In-Situ	<0.000549	<0.00549	<0.11	1.88 J	1.88 J	8.73	10.61 J	1,600
B-2	4/8/2022	4	In-Situ	<0.000563	<0.00563	<0.113	<4.51	<4.51	0.873 J	0.873 J	264
B-3	4/11/2022	4	In-Situ	<0.000545	<0.00545	<0.109	<4.36	<4.36	3.16 J	3.16 J	992
B-4	4/11/2022	4	In-Situ	<0.00055	<0.0055	<0.11	<4.4	<4.4	2.84 J	2.84 J	1,480
B-5	4/11/2022	4	In-Situ	<0.000562	<0.00562	<0.112	<4.49	<4.49	0.894 J	0.894 J	988
B-6	4/11/2022	4	In-Situ	<0.000536	<0.00536	<0.107	<4.29	<4.29	2.03 J	2.03 J	1,490
B-7	4/13/2022	4	In-Situ	NA	NA	NA	NA	NA	NA	NA	1,550
B-8	4/13/2022	4	In-Situ	NA	NA	NA	NA	NA	NA	NA	3,180
B-9	4/13/2022	4	In-Situ	NA	NA	NA	NA	NA	NA	NA	1,360
B-10	4/13/2022	4	In-Situ	NA	NA	NA	NA	NA	NA	NA	810
B-11	4/13/2022	4	In-Situ	NA	NA	NA	NA	NA	NA	NA	580
B-12	4/14/2022	4	In-Situ	NA	NA	NA	NA	NA	NA	NA	2,940
B-13	4/14/2022	4	In-Situ	NA	NA	NA	NA	NA	NA	NA	797
B-14	4/18/2022	4	In-Situ	<0.000538	<0.00538	<0.108	<4.31	<4.31	3.78 J	3.78 J	5,820
B-15	4/18/2022	4	In-Situ	<0.000571	<0.00571	<0.114	<4.57	<4.57	2.6 J	2.6 J	2,620
B-16	4/18/2022	4	In-Situ	<0.000593	<0.00593	<0.119	<4.74	<4.74	3.02 J	3.02 J	1,330
B-17	4/18/2022	4	In-Situ	<0.000576	<0.00576	<0.115	1.92 J	1.92 J	6.69	8.61 J	1,240
B-20	4/19/2022	4	In-Situ	<0.000548	<0.00548	<0.11	<4.38	<4.38	6.32	6.32	1,370
B-21	4/19/2022	4	In-Situ	<0.00058	<0.0058	<0.116	<4.64	<4.64	3.98 J	3.98 J	728
B-22	4/19/2022	4	In-Situ	<0.000514	0.000695 J	<0.103	5.22	5.22	11.9	17.12	596
B-23	4/19/2022	4	In-Situ	<0.000513	0.00147 J	<0.103	6.41	6.41	14.1	20.51	633
B-25	4/20/2022	4	In-Situ	<0.000682	<0.00682	<0.136	NA	<0.136	NA	<0.136	34.7
B-26	4/25/2022	2.5	In-Situ	<0.000528	0.000948 J	<0.106	<4.23	<4.23	2.1 J	2.1 J	164
B-27	4/20/2022	4	In-Situ	<0.000612	<0.00612	<0.122	NA	<0.122	NA	<0.122	<24.4
B-28	4/25/2022	2.5	In-Situ	<0.000513	<0.00513	<0.103	<4.1	<4.1	2.97 J	2.97 J	101
B-29	4/21/2022	2.5	In-Situ	<0.000711	0.002852 J	<0.142	<5.69	<5.69	<5.69	<5.69	68.8
B-30	4/20/2022	4	In-Situ	0.000508 BJ	0.002777 J	<0.116	NA	<0.116	NA	<0.116	21.3 J
B-31	4/21/2022	2.5	In-Situ	<0.000519	<0.00519	<0.104	<4.15	<4.15	4.21	4.21	35.3
B-32	4/22/2022	2	In-Situ	<0.000559 T8	<0.00559	<0.112 T8	3.49 JT8	3.49 J	15.7 T8	19.19 J	404
	4/25/2022	2.5	In-Situ	<0.000522	0.000982 J	<0.104	<4.17	<4.17	2.34 J	2.34 J	222
B-33	4/21/2022	2.5	In-Situ	<0.000661	<0.00661	<0.132	<5.29	<5.29	1.04 J	1.04 J	71.1
B-34	4/25/2022	2.5	In-Situ	<0.00051	0.00105 J	<0.102	<4.08	<4.08	1.25 J	1.25 J	38
B-35	4/21/2022	1	In-Situ	0.00223	0.00841 J	<0.132	<5.27	<5.27	0.979 J	0.979 J	268
B-36	4/25/2022	2.5	In-Situ	<0.000513	<0.00513	<0.103	<4.1	<4.1	6.01	6.01	30
B-37	4/22/2022	2	In-Situ	<0.000543 T8	0.000813 J	<0.109 T8	2.13 JT8	2.13 J	8.66 T8	10.79 J	126
B-41	4/22/2022	1	In-Situ	<0.000605 T8	<0.00605	<0.121 T8	9.65 T8	9.65	23.6 T8	33.25	77.8
B-42	4/25/2022	2	In-Situ	<0.000524	<0.00524	<0.105	<4.19	<4.19	2.32 J	2.32 J	16.1 J
B-43	4/22/2022	2	In-Situ	0.000881 T8	0.001805 J	<0.111 T8	2.32 JT8	2.32 J	16.9 T8	19.22 J	514
B-44	4/25/2022	2	In-Situ	<0.000511	<0.00511	<0.102	<4.09	<4.09	2.52 J	2.52 J	121
B-45	4/22/2022	2	In-Situ	<0.000638 T8	<0.00638	<0.128 T8	<5.11 T8	<5.11	2.81 BJT8	2.81 J	146
B-46	4/25/2022	2	In-Situ	<0.000513	<0.00513	<0.103	<4.1	<4.1	2.31 J	2.31 J	138
B-47	4/25/2022	1	In-Situ	<0.000532	<0.00532	<0.106	<4.26	<4.26	2.86 J	2.86 J	84
SW-1	4/7/2022	2	In-Situ	0.00079	0.00191 J	<0.109	2.4 J	2.4 J	18.6	21 J	103
SW-2	4/7/2022	2	In-Situ	0.000971	0.002291 J	<0.11	2.32 J	2.32 J	12.5	14.82 J	361
SW-3	4/7/2022	2	In-Situ	<0.000555	<0.00555	<0.111	<4.44	<4.44	4.74	4.74	17.5 J
SW-4	4/8/2022	2	In-Situ	<0.000564	<0.00564	<0.113	<4.51	<4.51	1.9 J	1.9 J	244
SW-5	4/8/2022	2	In-Situ	<0.000532	<0.00532	<0.106	<4.26	<4.26	5.54	5.54	239
SW-7	4/11/2022	2	In-Situ	<0.000539	<0.00539	<0.108	<4.32	<4.32	5.69	5.69	68.5
SW-8	4/11/2022	2	In-Situ	<0.000539	<0.00539	<0.108	<4.31	<4.31	4.88	4.88	132
SW-9	4/11/2022	2	In-Situ	<0.000531	<0.00531	<0.106	<4.24	<4.24	5.02	5.02	493
SW-10	4/19/2022	2	In-Situ	<0.000523	<0.00523	<0.105	2.5 JJ3	2.5 J	15.2	17.7 J	66.5
SW-11	4/13/2022	2	In-Situ	NA	NA	NA	NA	NA	NA	NA	113
SW-12	4/19/2022	2	In-Situ	0.00116	0.00296 J	<0.105	2.84 J	2.84 J	17.4	20.24 J	33.9
SW-13	4/13/2022	2	Removed	NA	NA	NA	NA	NA	NA	NA	714
SW-14	4/19/2022	2	In-Situ	0.00112	0.00242 J	<0.106	3.81 J	3.81 J	22.9	26.71 J	33.5
SW-15	4/13/2022	2	In-Situ	NA	NA	NA	NA	NA	NA	NA	157
SW-16	4/13/2022	2	Removed	NA	NA	NA	NA	NA	NA	NA	714
SW-16A	4/18/2022		In-Situ	NA	NA	NA	NA	NA	NA	NA	28.4
	4/18/2022	2	In-Situ	<0.000548	<0.00548	<0.11	<4.38	<4.38	8.56	8.56	NA
SW-17	4/19/2022	2	In-Situ	0.00105	0.00257 J	<0.107	3.49 J	3.49 J	13.5	16.99 J	26.3
SW-18	4/18/2022	2	In-Situ	0.00107	0.00504 J	<0.101	<4.06	<4.06	9.22	9.22	NA
	4/19/2022	2	In-Situ	0.000755	0.002265 J	<0.107	2.05 J	2.05 J	12.8	14.85 J	NA
SW-19	4/18/2022	2	In-Situ	NA	NA	NA	NA	NA	NA	NA	89.4
	4/19/2022	2	In-Situ	NA	NA	NA	NA	NA	NA	NA	25
SW-20	4/18/2022	2	In-Situ	0.000725	0.003073 J	<0.103	<4.11	<4.11	7.24	7.24	449
SW-21	4/18/2022	2	In-Situ	<0.000589	<0.00589	<0.118	<4.72	<4.72	2.32 J	2.32 J	47.9
SW-23	4/20/2022	2	In-Situ	0.00044 BJ	0.002582 J	<0.12	2.16 J	2.16 J	5.73	7.89 J	22.2 JP1
SW-24	4/18/2022	2	In-Situ	<0.000555	<0.00555	<0.111	<4.44	<4.44	3.71 J	3.71 J	325
SW-25	4/20/2022	2	In-Situ	0.00134 J3J5	0.00313 J	<0.117	3.09 J	3.09 J	9.73	12.82 J	12 J
SW-26	4/18/2022	2	In-Situ	<0.00054	<0.0054	<0.108	<4.32	<4.32	8.17	8.17	22.6
SW-27	4/20/2022	2	In-Situ	0.00122	0.00376 J	<0.116	2.77 J	2.77 J	13.3	16.07 J	19.2 J
SW-28	4/18/2022	2	In-Situ	<0.000547	<0.00547	<0.109	<4.38	<4.38	10.9	10.9	37.3

Table 1
2022 Soil Sample Analytical Results
Copperhead Fee 31 E CTB
COG (ConocoPhillips)



Sample ID	Date	Depth	Soil Status	(BTEX Method)		(TPH Method)					(Cl Method)
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C6-C10 (mg/kg)	DRO C10-C28 (mg/kg)	GRO+DRO C6-C28 (mg/kg)	ORO C28-C36 (mg/kg)	TPH C6-C36 (mg/kg)	Chloride (mg/kg)
SW-29	4/21/2022	2	In-Situ	0.00154	0.006199 J	<0.135	<5.41	<5.41	1.49 J	1.49 J	15.3 J
SW-30	4/19/2022	2	In-Situ	<0.000533	<0.00533	<0.107	1.78 J	1.78 J	11.1	12.88 J	145
SW-31	4/21/2022	2	In-Situ	0.000799	0.002979 J	<0.125	<5.02	<5.02	4.53 J	4.53 J	<24.1
SW-32	4/19/2022	2	In-Situ	<0.000539	<0.00539	<0.108	1.96 J	1.96 J	12.7	14.66 J	203
SW-33	4/19/2022	2	In-Situ	<0.000535	<0.00535	<0.107	1.84 J	1.84 J	13.3	15.14 J	136
SW-35	4/21/2022	2.5	In-Situ	0.001	0.00209 J	<0.125	<5.01	<5.01	4.51 J	4.51 J	249
SW-37	4/21/2022	2	In-Situ	0.00109	0.00212 J	<0.132	<5.27	<5.27	0.965 J	0.965 J	204
SW-38	4/25/2022	1	In-Situ	<0.000527	<0.00527	<0.105	<4.21	<4.21	1.45 J	1.45 J	165
SW-39	4/21/2022	1	In-Situ	0.00271	0.00808 J	0.0429 J	<4.79	0.0429 J	5.67	5.7129 J	12.4 J
SW-41	4/22/2022	1	In-Situ	0.00105 T8	0.00229 J	<0.109 T8	3.3 JT8	3.3 J	18.8 T8	22.1 J	57.9
SW-42	4/22/2022	1	In-Situ	<0.000561 T8	<0.00561	<0.112 T8	<4.49 T8	<4.49	8.15 T8	8.15	248
SW-43	4/21/2022	1	In-Situ	0.00269	0.008433 J	0.0275 J	<4.92	0.0275 J	3.03 J	3.0575 J	14.5 J
SW-44	4/25/2022	1	In-Situ	<0.000524	<0.00524	<0.105	<4.19	<4.19	3.89 J	3.89 J	12.6 J
SW-46	4/25/2022	1	In-Situ	<0.000545	<0.00545	<0.109	<4.36 J6	<4.36	1.75 J	1.75 J	23.3 P1
SW-48	4/25/2022	1	In-Situ	<0.000549	<0.00549	<0.11	<4.4	<4.4	1.89 J	1.89 J	128
SW-49	4/22/2022	1	In-Situ	0.00149 T8	0.0044 J	<0.107 T8	2.57 JT8	2.57 J	20.7 T8	23.27 J	112
SW-51	4/22/2022	1	In-Situ	<0.00062 T8	<0.0062	<0.124 T8	5.79 T8	5.79	22.8 T8	28.59	63.9
NMOCD Reclamation Standard				10	50	--	--	--	--	100	600
NMOCD Closure Criteria				10	50	--	--	1,000	--	2,500	10,000

Legend:

Detections reported are indicated in **bold**

J: Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value

F1: MS and/or MSD recovery exceeds control limits

H: Sample was prepared or analyzed beyond the specified holding time

Analytes exceeding NMAC Standards are indicated in yellow

'<' indicates the analyte was not detected at or above the Method Detection Limit (MDL)

mg/kg: Milligram per Kilogram

BTEX: Benzene, Toluene, Ethylbenzene, and Total Xylenes

NMAC: New Mexico Administration Code

TPH GRO: Total Petroleum Hydrocarbons Gasoline Range Organics

TPH DRO: Total Petroleum Hydrocarbon Diesel Range Organics

TPH ORO: Total Petroleum Hydrocarbons Oil Range Organics

"'": Indicates one foot

"": Indicated inches

bgs: below ground surface

SS: Soil sample

BG: background sample

Sample locations with strikethroughs were excavated and additional confirmation samples were collected within that 200 sq ft area.

Notes:

1. Chloride analyzed by EPA Method 300

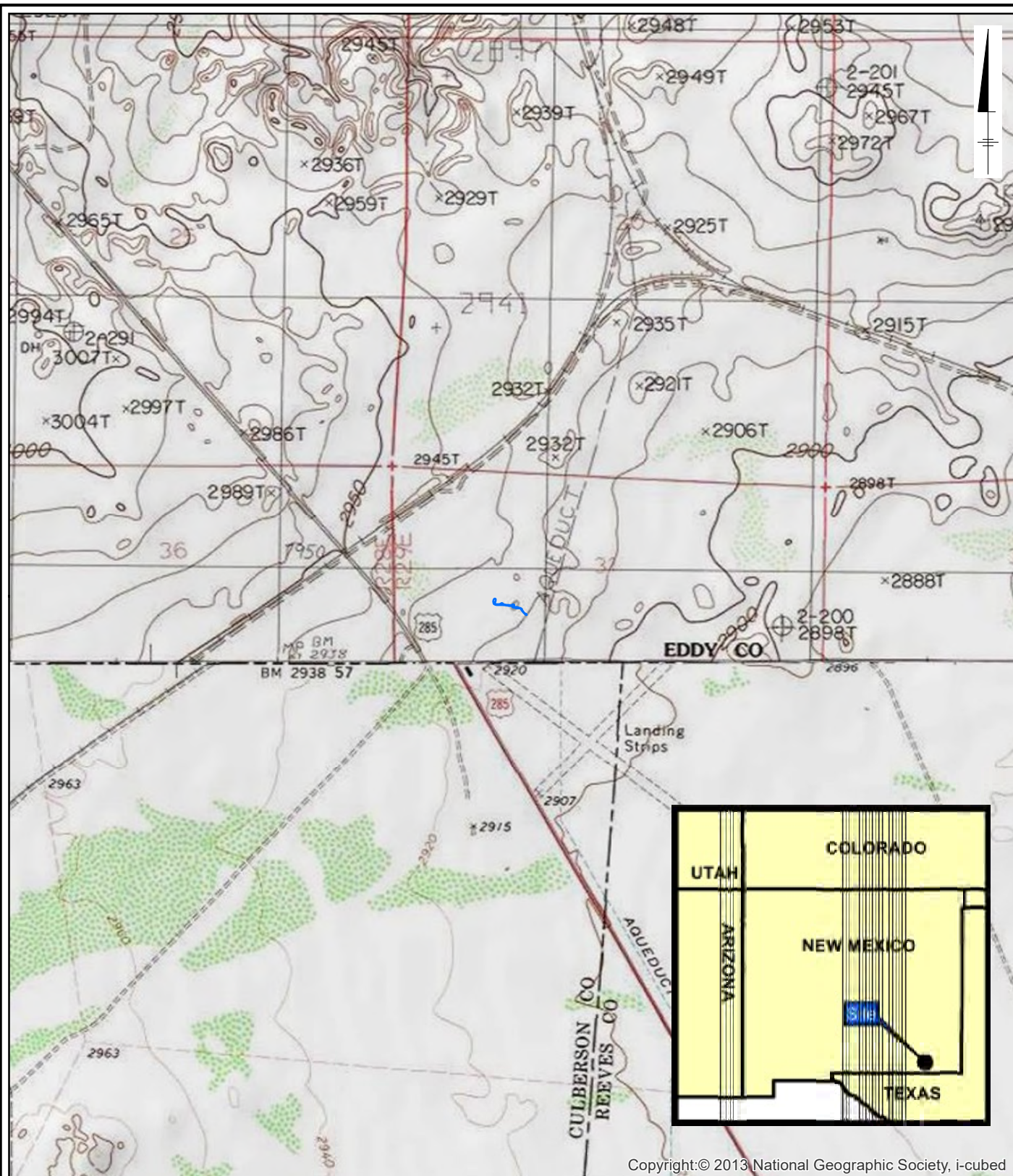
2. TPH analyzed by EPA Method 8015 M

3. BTEX analyzed by EPA Method 8260B

4. Closure Criteria New Mexico Administrative Code 19.15.29.12.E(2)

Figures

DRAFT

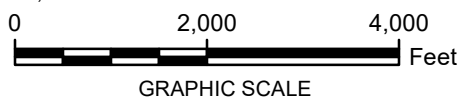


Legend

NOTES:

1. Datum: D_WGS_1984
2. Source: United States Geological Survey 7.5 Minute Quadrangle Map
3. Site Location: 32.002089, -104.029702

 Site Boundary



CONOCOPHILLIPS
COPPERHEAD FEE
EDDY COUNTY, NEW MEXICO

SITE LOCATION MAP



FIGURE
1

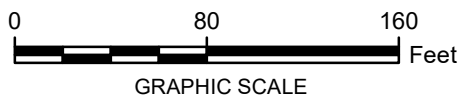
DRAFT



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Site Boundary
- Sidewall Sample Location



CONOCOPHILLIPS
COPPERHEAD FEE
EDDY COUNTY, NEW MEXICO

EXCAVATION SIDEWALL SOIL SAMPLE LOCATIONS



FIGURE
2

City: Div/Group: Created By: Last Saved By: WDBerndg
Project (Project #)
C:\BIM\OneDrive - ARCADIS\GIS\Conoco-Copperhead Fee\mxd\Fig2 Copperhead SW Locs.mxd 6/6/2022 3:43:36 PM

DRAFT



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Site Boundary
- Base Sample Location



CONOCOPHILLIPS
COPPERHEAD FEE
EDDY COUNTY, NEW MEXICO


EXCAVATION BASE SOIL SAMPLE LOCATIONS





FIGURE
3


Photographic Log


2022 Soil Remediation Photographic Log


ARCADIS		PHOTOGRAPHIC LOG	
Property Name: Copperhead Fee 31 E CTB		Location: Loving County, NM	Case No. nAPP2127034861
Photo No. 1	Date: 04/19/2022		
Direction Photo Taken: Facing North			
Description: NW excavation area lined at 4' bgs.			



ARCADIS		PHOTOGRAPHIC LOG	
Property Name: Copperhead Fee 31 E CTB		Location: Loving County, NM	Case No. nAPP2127034861
Photo No. 2	Date: 04/19/2022		
Direction Photo Taken: Facing East			
Description: East excavation area lined at 4' bgs.			

ARCADIS		PHOTOGRAPHIC LOG	
Property Name: Copperhead Fee 31 E CTB		Location: Loving County, NM	Case No. nAPP2127034861
Photo No. 3	Date: 04/19/22		
Direction Photo Taken: Facing NE			
Description: NE corner of excavation area lined at 4' bgs.			

ARCADIS		PHOTOGRAPHIC LOG	
Property Name: Copperhead Fee 31 E CTB		Location: Loving County, NM	Case No. nAPP2127034861
Photo No. 4	Date: 4/25/2022		
Direction Photo Taken: Facing SE			
Description: Southwest excavation area ranging from 1 to 2.5' bgs.			

ARCADIS		PHOTOGRAPHIC LOG
Property Name: Copperhead Fee 31 E CTB		Location: Loving County, NM
Case No. nAPP2127034861		
Photo No. 5	Date: 09/13/2021	
Direction Photo Taken: Facing West		
Description: View of backfilled excavation area.		

ARCADIS		PHOTOGRAPHIC LOG
Property Name: Copperhead Fee 31 E CTB		Location: Loving County, NM
Case No. nAPP2127034861		
Photo No. 6	Date: 4/28	
Direction Photo Taken: Facing South		
Description: View of south excavation area backfilled.		

		PHOTOGRAPHIC LOG	
Property Name: Copperhead Fee 31 E CTB		Location: Loving County, NM	Case No. nAPP2127034861
Photo No. 7	Date: 09/13/2021		
Direction Photo Taken: Facing NE			
Description: View of NE excavation area backfilled.			

Appendix A

Initial C-141 Form Incident #NAPP2127034861

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	nAPP2127034861
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Jacqui Harris	Contact Telephone	(575) 496-0780
Contact email	Jacqui.Harris@ConocoPhillips.com	Incident # (assigned by OCD)	nAPP2127034861
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.001536 Longitude -104.028187
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Copperhead Fee 31E CTB	Site Type	Tank Battery
Date Release Discovered	September 7, 2021	API# (if applicable)	

Unit Letter	Section	Township	Range	County
E	31	26S	29E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: Harrison, Harry Lee Jr ETAL (N-JT))

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 20	Volume Recovered (bbls) 7
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release


The release was caused by a hole in the transfer pump flex pipe due to corrosion.
The release was in the pasture. A vacuum truck was dispatched to remove all freestanding fluids.
Concho will evaluate the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

Incident ID	nAPP2127034861
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name Brittany N. Esparza	Title: Environmental Technician
Signature: 	Date: 9/21/2021
email: Brittany.Esparza@ConocoPhillips.com	Telephone: (432) 221-0398
<u>OCD Only</u>	
Received by: Ramona Marcus	Date: 9/27/2021

L48 Spill Volume Estimate Form

Facility Name & Number:	Copperhead Fee 31E CTB
Asset Area:	DBWN
Release Discovery Date & Time:	9/7/2021
Release Type:	Produced Water
Provide any known details about the event:	The release was caused by a hole in the transfer pump flex pipe due to corrosion.

Spill Calculation - On Pad Surface Pool Spill												
Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Deepest point in each of the areas (in.)	No. of boundaries of "shore" in each area	Estimated <i>Pool</i> Area (sq. ft.)	Estimated Average Depth (ft.)	Estimated volume of each pool area (bbl.)	Penetration allowance (ft.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)
Rectangle A	240.0	54.0	0.25	3	12960.000	0.007	16.020	0.000	16.026			
Rectangle B	153.0	23.0	0.25	3	3519.000	0.007	4.350	0.000	4.351			
Rectangle C					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle D					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle E					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle F					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle G					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle H					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle I					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle J					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Total Volume Release:									20.377			

Appendix B

Final C-141 Form Incident #NAPP2127034861

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NAPP2127034861
District RP	N/A
Facility ID	fAPP2132637940
Application ID	76935

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<100 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

Oil Conservation Division

Incident ID	NAPP2127034861
District RP	N/A
Facility ID	fAPP2132637940
Application ID	76935

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Ike Tavaréz Title: Project Manager RM&R

Signature: *Ike Tavaréz* Date: 5/11/2022

email: ike.tavaréz@conocophillips.com Telephone: 432-701-

8630

OCD Only

Received by: Jocelyn Harimon Date: 10/11/2022

Incident ID	NAPP2127034861
District RP	N/A
Facility ID	fAPP2132637940
Application ID	76935

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Ike Tavaréz Title: Project Manager

Signature: *Ike Tavaréz* Date: 5/11/2022

email: ike.tavaréz@conocophillips.com Telephone: 432-701-8630

OCD Only

Received by: Jocelyn Harimon Date: 10/11/2022

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: *Jennifer Nobui* Date: 10/27/2022

Printed Name: Jennifer Nobui Title: Environmental Specialist A

Appendix C

Work Plan



Site Information

Work Plan
Copperhead Fee 31 E CTB (09.07.21)
Eddy County, New Mexico
Incident #: NAPP2127034861
32.002089°, -104.029702°

Produced Water Release
Source: Hole in the transfer pump flex pipe
Release Date: 09/07/2021
Volume Released: 20 bbls/Produced Water
Volume Recovered: 7 bbls/Produced Water

Prepared for:
Concho Operating, LLC
15 West London Rd
Loving, NM 88256

Prepared by:
NTG Environmental
701 Tradewinds Blvd
Suite C
Midland, TX 79706



TABLE OF CONTENTS

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FIGURE 2	TOPOGRAPHIC MAP
FIGURE 3	SAMPLE LOCATION MAP
FIGURE 4	PROPOSED EXCAVATION AREA & DEPTH MAP

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TABLE 1	INITIAL SOIL ANALYTICAL RESULTS
PHOTOS	PHOTOLOG

APPENDICES

APPENDIX A	C-141 INITIAL AND C-141 REMEDIATION
APPENDIX B	GROUNDWATER RESEARCH
APPENDIX C	LABORATORY ANALYTICAL REPORTS



701 Tradewinds Boulevard, Suite C
Midland, Texas 79706
Tel. 432.685.3898
www.ntglobal.com

November 4, 2021

Mike Bratcher
District Supervisor
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

**Re: Work Plan
Copperhead Fee 31 E CTB
Concho Operating, LLC
Site Location: Unit E, S31, T26S, R29E
Incident #: NAPP2127034861
(Lat 32.002089°, Long -104.029702°)
Eddy County, New Mexico**

Mr. Bratcher:

On behalf of Concho Operating, LLC (COG), New Tech Global Environmental, LLC (NTGE) has prepared this letter to document site assessment activities for Copperhead Fee 31 E CTB (09.07.21). The site is located at 32.002089°, -104.029702° within Unit E, S31, T26S, R29E, and approximately 15.61 miles south of Malaga, New Mexico, in Eddy County (Figures 1 and 2).

Background

Based on the initial C-141 obtained from the New Mexico Oil Conservation Division (NMOCD), the leak was discovered on September 7, 2021, caused by a hole in the transfer pump flex pipe due to corrosion. It resulted in the release of approximately twenty (20) barrels of produced water, and seven (7) barrels of produced water were recovered. The impacted area measured approximately 245' x 21' and 230' x 21, as shown on Figure 3. The initial C-141 form is attached in Appendix A.

Site Characterization

The site is located within a medium karst area. Based on a review of the New Mexico Office of State Engineers and USGS databases, no known water source is within a ½ mile radius of the location. The nearest identified well is located approximately 2.53 miles Northwest of the site in S27, T26S, R28E and was drilled in 2017. The well has a reported depth to groundwater of 145' feet below ground surface (ft bgs). A copy of the associated *Point of Diversion Summary* report is attached in Appendix B.

Regulatory Criteria

In accordance with the NMOCD regulatory criteria established in 19.15.29.12 NMAC, the following criteria were utilized in assessing the site.

- Benzene: 10 milligrams per kilogram (mg/kg).
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg.
- TPH: 100 mg/kg (GRO + DRO + MRO).
- Chloride: 600 mg/kg

Site Assessment

On September 20, 2021, NTGE personnel were on site to horizontally and vertically define the release. A total of six (6) vertical sample points (S-1, S-2, S-3, S-4, S-5, and S-6) and nine (9) horizontal sample points (H-1 through H-9) were installed to total depths ranging from surface to 4.5 ft below the surface. Soil samples were collected and submitted to the laboratory for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B, and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The sample locations are shown on Figure 3.

Referring to Table 1, the areas of (S-1 through S-3) had chloride concentration values ranging from 730 mg/kg to 8,460 mg/kg at a depth from the surface to 4.5' below the surface. The area of (S-4) had chloride concentrations ranging from 62.6 mg/kg to 7,280 mg/kg at a depth from the surface to 2.5' below the surface. The areas of (S-5 and S-6) had chloride concentrations ranging from 175 mg/kg to 7,280 mg/kg at a depth from surface to 1.5' below the surface.

Trenches

On October 7, 2021, NTGE personnel were on site to horizontally and vertically define the release. A total of three (3) trenches (T-1, T-2, and T-3) were installed to total depths ranging from surface to 12 ft below the surface. Soil samples were collected and submitted to the laboratory for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B, and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The sample locations are shown on Figure 3.

The area of (T-1) had high chloride concentration values ranging from 968 mg/kg to 15,800 mg/kg at a depth from the surface to 9.0' below the surface. The area of (T-2) had chloride concentration values ranging from 3,650 mg/kg to 11,600 mg/kg at a depth from the surface to 7.0' below the surface. The area of (T-3) had chloride concentration ranging from 698 mg/kg to 10,100 mg/kg at a depth of surface to 6.0'. All areas were vertically delineated (Refer to Table 1).

Proposed Work Plan

Based on the laboratory results, COG proposes to excavate the areas as shown in Figure 4 and highlighted (yellow) in Table 1. COG also proposes to drill a groundwater determination bore to 55' bgs (See Figure 3). Once achieved the Chloride concentration will be 20,000 mg/kg, and the TPH concentrations will be 2,500 mg/kg (GRO + DRO + MRO) and 1,000 mg/kg (GRO + DRO).

- The areas of S-1 (Trench-1), S-2 (Trench-2), and S-3 (Trench-3) will be excavated to 4.0' below surface and backfilled with clean material to grade.
- The area of S-4 will be excavated to a depth of 2.5' below surface backfilled with clean material to grade.
- The areas of S-5 and S-6 will be excavated to 1.5' below surface and backfilled with clean material to grade.

Safety Concerns

The proposed excavation depths may not be reached due to wall cave-ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safety concerns for onsite personnel. As such, COG will excavate the impacted soils to the maximum extent possible.

Composite sidewall and bottom hole samples will be collected every 200 square feet and analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B. Chloride by EPA method 300.0. COG estimates approximately 1,550 cubic yards to be removed and hauled to the nearest disposal.

Once the site and excavation activities are complete, the areas will be backfilled with clean material to surface grade. The remediation will be implemented 90 days after the work plan is approved.

Conclusions

Upon completion, a final report detailing the remediation activities will be submitted to the NMOCD. If you have any questions regarding this report or need additional information, please contact us at 432-813-0263.

Sincerely,

NTG Environmental



Mike Carmona
Senior Project Manager

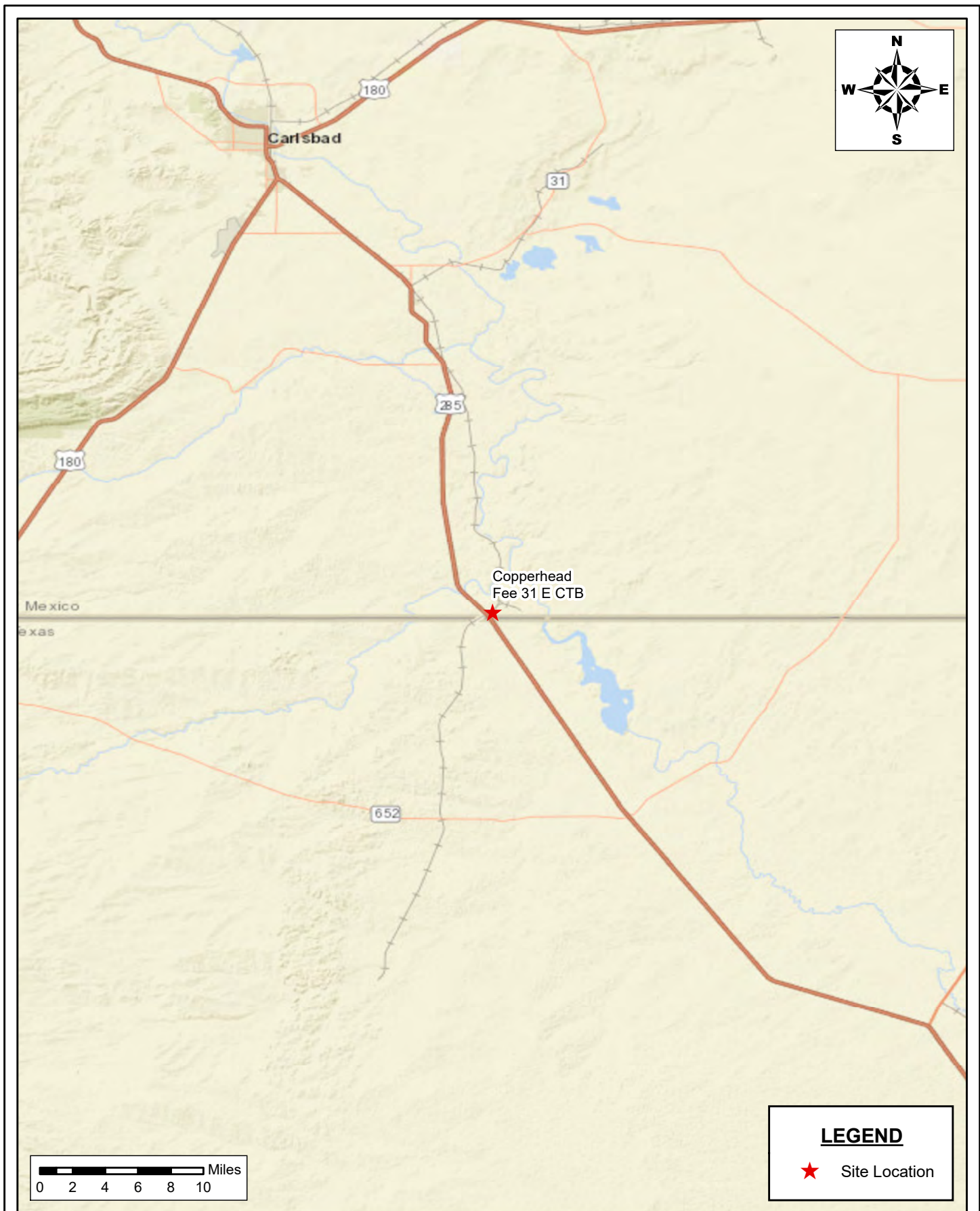


Clinton Merritt
Project Manager



NTG
ENVIRONMENTAL

Figures



SITE LOCATION MAP
COG OPERATING, LLC
 COPPERHEAD FEE 31 E CTB (09.07.21)
 EDDY COUNTY, NEW MEXICO
 32.0021511°, -104.2295609°

SCALE: As Shown

Date: 11/2/2021

Project #: 214672



New Tech Global Environmental, LLC
 911 Regional Park Drive
 Houston, Texas 77060
 T - 281.872.9300
 F - 281.872.4521
 Web: www.ntglobal.com

NOTES:

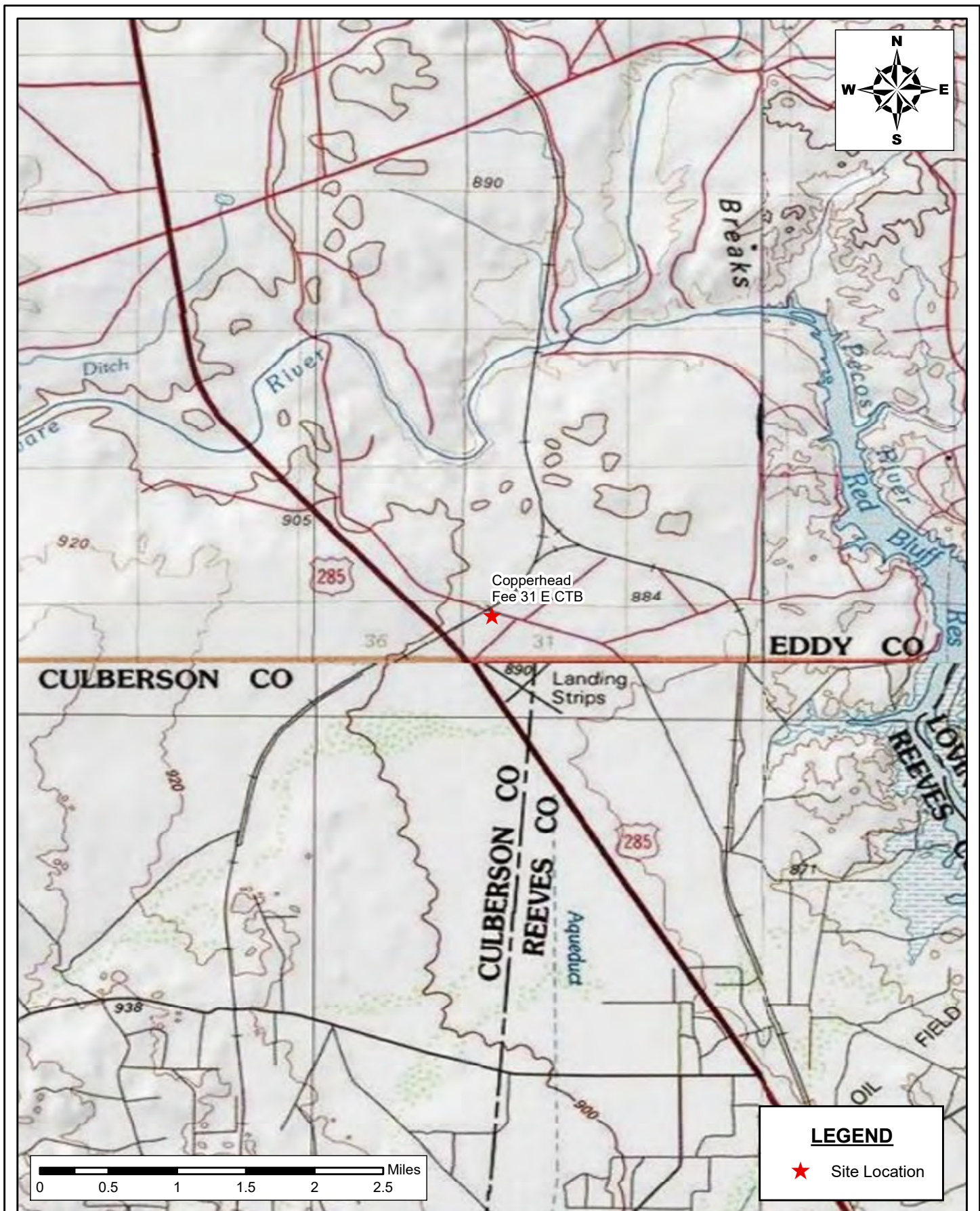
1. Base Image: ESRI Maps & Data 2013
2. Map Projection: NAD 1983

DRAWING NUMBER:

FIGURE 1

SHEET NUMBER:

1 of 1



AREA MAP
COG OPERATING, LLC
 COPPERHEAD FEE 31 E CTB (07.07.21)
 EDDY COUNTY, NEW MEXICO
 32.002151°, -104.029560°

SCALE: As Shown

Date: 11/2/2021

Project #:214672



New Tech Global Environmental, LLC
 911 Regional Park Drive
 Houston, Texas 77060
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NOTES:

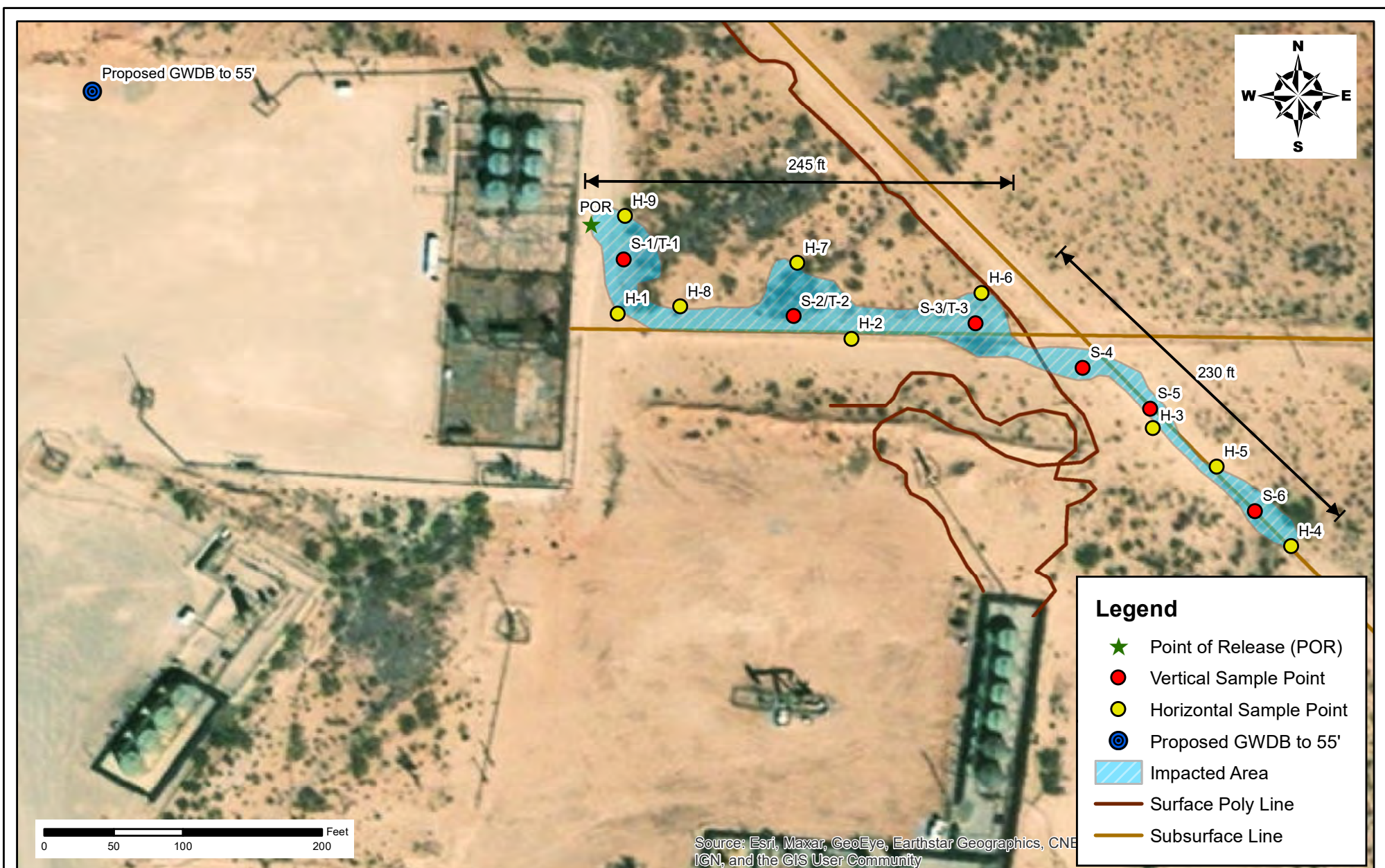
1. Base Image: ESRI Maps & Data 2013
2. Map Projection: NAD 1983

DRAWING NUMBER:


FIGURE 2

SHEET NUMBER:

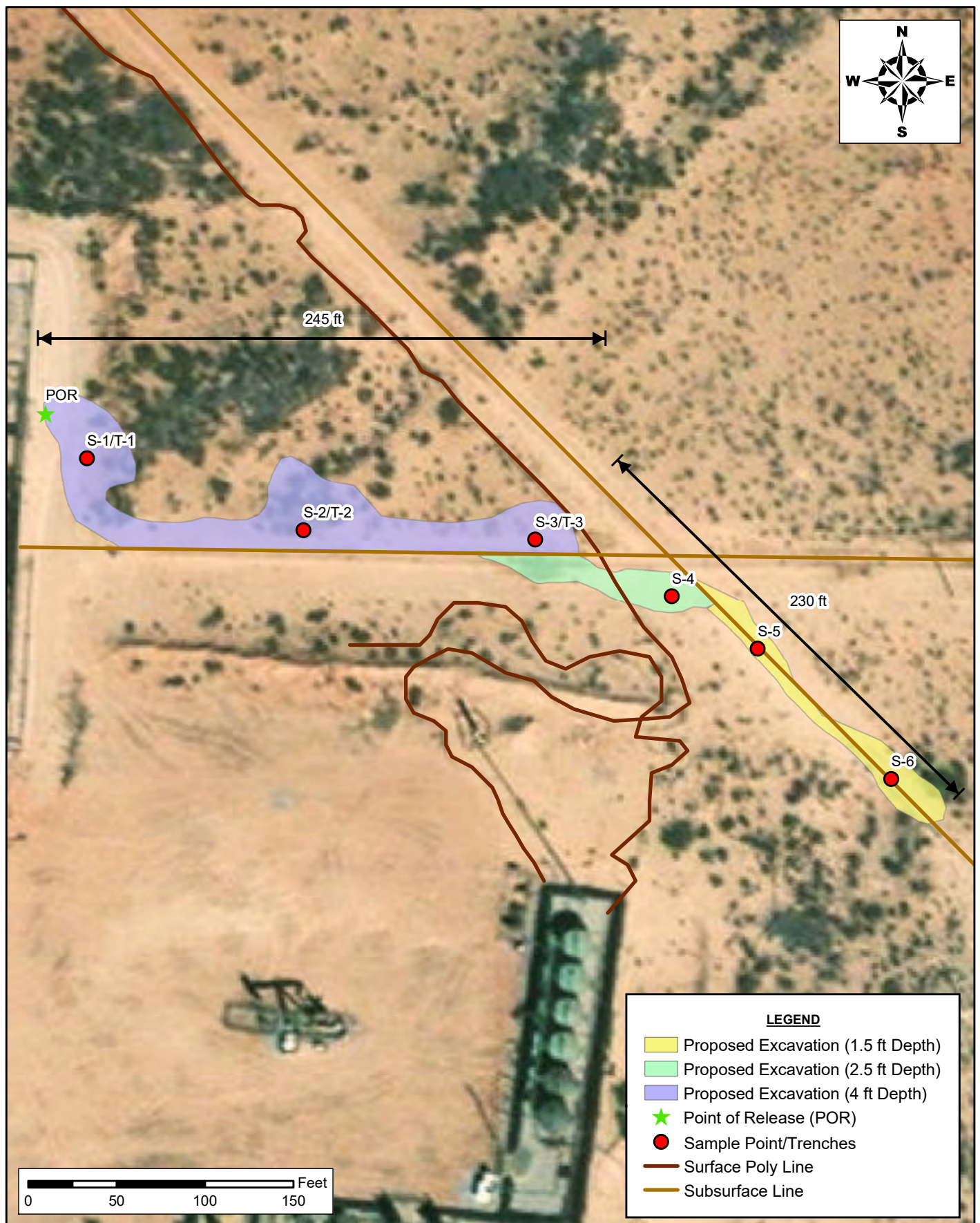
1 of 1



Document Path: P:\2021 PROJECTS\COG\RSC\214672 Copperhead Fee 31 E CTB (09.07.21)\7 - Figures\MXDs\Figure 3 Copperhead Sample Location Map2.mxd

DRAWING NUMBER FIGURE 3 SHEET NUMBER 1 of 1	SAMPLE LOCATION MAP COG OPERATING, LLC COPPERHEAD FEE 31 E CTB (09.07.21) EDDY COUNTY, NEW MEXICO 32.002151°, -104.029560° Scale: As Shown Date: 11/3/2021 Project #: 214672	New Tech Global Environmental, LLC 911 Regional Park Drive Houston, Texas 77060 T - 281.872.9300 F - 281.872.4521 Web: www.ntglobal.com 	NOTES: 1. Base Image: 2. Map Projection:

Document Path: P:\2021 PROJECTS\COG\RSC\214672 Copperhead Fee 31 E CTB (09.07.21)\7 - Figures\MXD\Figure_4_Copperhead_Proposed Excavation Map.mxd



PROPOSED EXCAVATION AND DEPTH MAP
COG OPERATING, LLC
 COPPERHEAD FEE 31 E CTB (09.07.21)
 EDDY COUNTY, NEW MEXICO
 32.002151°, -104.029560°

SCALE: As Shown

Date: 11/3/2021

Project #:214672



New Tech Global Environmental, LLC
 911 Regional Park Drive
 Houston, Texas 77060
 T - 281.872.9300
 F - 281.872.4521
 Web: www.ntglobal.com

NOTES:

1. Base Image: Google Earth
2. Map Projection: NAD 1983

DRAWING NUMBER:

FIGURE 4

SHEET NUMBER:

1 of 1



Tables

Table 1
Concho Operating, LLC
Copperhead Fee 31 E CTB (09.07.21)
Eddy County, New Mexico

Sample ID	Date	Sample/Trenching Depth (ft)	TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			DRO	GRO	MRO	Total						
S-1	9/20/2021	0-1'	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	0.0143	0.0143	6,150
	"	1-1.5'	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	6,680
	"	2-2.5'	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	8,260
	"	3-3.5'	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	6,780
	"	4-4.5'	<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	7,360
Trench 1	10/7/2021	0-1'	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00397	<0.00397	15,800
	"	1'	<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	6,000
	"	2'	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	6,490
	"	3'	<49.8	<49.8	<49.8	<49.8	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	1,640
	"	4'	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	3,620
	"	5'	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	1,670
	"	6'	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	746
	"	7'	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	4,080
	"	8'	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	1,000
	"	9'	<49.8	<49.8	<49.8	<49.8	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	968
	"	10'	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	58.4
	"	11'	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	38.6
	"	12'	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00404	<0.00404	41.3
S-2	9/20/2021	0-1'	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	8,040
	"	1-1.5'	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00404	<0.00404	8,460
	"	2-2.5'	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	7,150
	"	3-3.5'	<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	4,900
	"	4-4.5'	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	6,330
Trench 2	10/7/2021	0-1'	<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	<0.00202	<0.00404	<0.00404	7,820
	"	1'	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	11,600
	"	2'	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	5,490
	"	3'	<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	8,050
	"	4'	<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	8,220
	"	5'	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	4,810
	"	6'	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00397	<0.00397	4,230
	"	7'	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00397	<0.00397	3,650
	"	8'	<49.8	<49.8	<49.8	<49.8	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	77.1
	"	9'	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	58.9
	"	10'	<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	76.8
S-3	9/20/2021	0-1'	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	7,520
	"	1-1.5'	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	5,110
	"	2-2.5'	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	1,810
	"	3-3.5'	<49.8	<49.8	<49.8	<49.8	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	730
	"	4-4.5'	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	901
Trench 3	10/7/2021	0-1'	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00397	<0.00397	10,100
	"	1'	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	732
	"	2'	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	15.7
	"	3'	<49.8	<49.8	<49.8	<49.8	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	437
	"	4'	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	142
	"	5'	<49.8	<49.8	<49.8	<49.8	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	144
	"	6'	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	698
S-4	9/20/2021	0-1'	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	7,280
	"	1-1.5'	<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	1,240
	"	2-2.5'	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	62.6
S-5	9/20/2021	0-1'	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	5,190
	"	1-1.5'	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	175
S-6	9/20/2021	0-1'	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00397	<0.00397	3,500
	"	1-1.5'	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	492
Regulatory Limits^A						100 mg/kg	10 mg/kg				50 mg/kg	600 mg/kg

^A - Proposed Excavation Depth

^A - Table 1 - 19.15.29 NMAC

mg/kg - milligram per kilogram

TPH- Total Petroleum Hydrocarbons

ft-feet

Table 1
Concho Operating, LLC
Copperhead Fee 31 E CTB (09.07.21)
Eddy County, New Mexico

Sample ID	Date	Sample/Trenching Depth (ft)	TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			DRO	GRO	MRO	Total						
H-1	9/20/2021	0-0.5'	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00404	<0.00404	143
H-2	9/20/2021	0-0.5'	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	11.3
H-3	9/20/2021	0-0.5'	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	11.2
H-4	9/20/2021	0-0.5'	<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	11.2
H-5	9/20/2021	0-0.5'	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	10.6
H-6	9/20/2021	0-0.5'	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	11.6
H-7	9/20/2021	0-0.5'	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	10.7
H-8	9/20/2021	0-0.5'	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	13.1
H-9	9/20/2021	0-0.5'	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	11.3
Regulatory Limits^A						100 mg/kg	10 mg/kg				50 mg/kg	600 mg/kg

^A – Table 1 - 19.15.29 NMAC

mg/kg - milligram per kilogram

TPH- Total Petroleum Hydrocarbons

ft-feet



Photo Log

PHOTOGRAPHIC LOG

COG Operating, LLC

Photograph No. 1

Facility: Copperhead Fee 31 E CTB
(09.07.21)

County: Eddy County, New Mexico

Description:

View East, of proposed excavation area containing Trench 1.



Photograph No. 2

Facility: Copperhead Fee 31 E CTB
(09.07.21)

County: Eddy County, New Mexico

Description:

View Northeast, of proposed excavation area containing Trench 2.



Photograph No. 3

Facility: Copperhead Fee 31 E CTB
(09.07.21)

County: Eddy County, New Mexico

Description:

View West, of proposed excavation area containing Trench 3.



PHOTOGRAPHIC LOG

COG Operating, LLC

Photograph No. 4

Facility: Copperhead Fee 31 E CTB
(09.07.21)

County: Eddy County, New Mexico

Description:

View East, of proposed excavation area containing Trench 4.



Photograph No. 5

Facility: Copperhead Fee 31 E CTB
(09.07.21)

County: Eddy County, New Mexico

Description:

View Southeast, of proposed excavation area containing Trench 5.



Photograph No. 6

Facility: Copperhead Fee 31 E CTB
(09.07.21)

County: Eddy County, New Mexico

Description:

View Southeast, of proposed excavation area containing Trench 6.





Appendix A

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)


Cause of Release

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name _____	Title: _____
Signature: <u></u> _____	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: <u>Ramona Marcus</u>	Date: <u>9/27/2021</u>

NAPP2127034861

L48 Spill Volume Estimate Form												
Facility Name & Number:		Copperhead Fee 31E CTB										
Asset Area:		DBWN										
Release Discovery Date & Time:		9/7/2021										
Release Type:		Produced Water										
Provide any known details about the event:		The release was caused by a hole in the transfer pump flex pipe due to corrosion.										
Spill Calculation - On Pad Surface Pool Spill												
Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Deepest point in each of the areas (in.)	No. of boundaries of "shore" in each area	Estimated <u>Pool</u> Area (sq. ft.)	Estimated Average Depth (ft.)	Estimated volume of each pool area (bbl.)	Penetration allowance (ft.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)
Rectangle A	240.0	54.0	0.25	3	12960.000	0.007	16.020	0.000	16.026			
Rectangle B	153.0	23.0	0.25	3	3519.000	0.007	4.350	0.000	4.351			
Rectangle C					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle D					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle E					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle F					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle G					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle H					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle I					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle J					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Total Volume Release:									20.377			

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 52031

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 52031
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
marcus	None	9/27/2021

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____



Appendix B

Nearest water well

COG Operating, LLC

Legend

- 0.50 Mile Radius
- 2.53 Miles
- 3.08 Miles
- 3.58 Miles
- Copperhead Fee 31 E CTB (09.07.21)
- USGS Water Well
- NMSEO Water Well

22.35' - Drilled 1998

145' - Drilled 2017

68.74' - Drilled 1958

Copperhead Fee 31 E CTB (09.07.21)

726

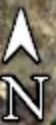
NEW MEXICO

726

285

US Hwy 285

Pecos River



2 mi

Medium Karst

COG Operating, LLC

Legend

- ⊙ Copperhead Fee 31 E CTB (09.07.21)
- HIGH
- MEDIUM

Copperhead Fee 31 E CTB (09.07.21) ⊙

726

TEXAS

726

285

Google Earth

1 mi

N

Pecos River



National Water Information System: Mapper



Site Information



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 6	Q 4	Q 16	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 01354 X-3	CUB	ED	2	1	3	23	26S	29E	598323	3543837		170		
C 02038	C	ED	3	2	4	26	26S	29E	599204	3541992*		200		
C 03507 POD1	C	ED	1	3	3	05	26S	29E	593064	3548313		140	78	62
C 03508 POD1	C	ED	1	3	3	05	26S	29E	593063	3548361		140	75	65
C 03605 POD1	CUB	ED	4	2	3	27	26S	29E	596990	3541983		45	0	45
C 04561 POD1	CUB	ED	4	3	3	24	26S	29E	599924	3543208				

Average Depth to Water: **51 feet**

Minimum Depth: **0 feet**

Maximum Depth: **78 feet**

Record Count: 6

PLSS Search:

Township: 26S

Range: 29E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/28/21 10:19 AM


Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tw	Rng	X	Y
	C 04022 POD2	2	2	2	27	26S	28E	588106	3543082 
<hr/>									
Driller License: 1184		Driller Company:				WEST TEXAS WATER WELL SERVICE			
Driller Name: KEITH, RONNY									
Drill Start Date: 05/08/2017		Drill Finish Date:				05/12/2017		Plug Date:	
Log File Date: 06/05/2017		PCW Rcv Date:						Source: Shallow	
Pump Type:		Pipe Discharge Size:						Estimated Yield: 60 GPM	
Casing Size: 12.25		Depth Well:				250 feet		Depth Water: 145 feet	
<hr/>									
Water Bearing Stratifications:					Top	Bottom	Description		
					150	160	Sandstone/Gravel/Conglomerate		
					160	180	Sandstone/Gravel/Conglomerate		
					180	190	Sandstone/Gravel/Conglomerate		
<hr/>									
Casing Perforations:					Top	Bottom			
					130	250			
<hr/>									

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/28/21 10:21 AM

POINT OF DIVERSION SUMMARY



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National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater Geographic Area: New Mexico GO

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- Explore the *NEW* [USGS National Water Dashboard](#) interactive map to access real-time water data from over 13,500 stations nationwide.
- [Full News](#)

Groundwater levels for New Mexico

Click to hide state-specific text

! Important: [Next Generation Monitoring Location Page](#)

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 320145104041701

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 320145104041701 26S.28E.22.234431

Eddy County, New Mexico

Latitude 32°01'45", Longitude 104°04'17" NAD27

Land-surface elevation 2,980 feet above NGVD29

The depth of the well is 23.00 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measur
1987-12-12			D 62610		2958.98	NGVD29	1		S	
1987-12-12			D 62611		2960.55	NAVD88	1		S	
1987-12-12			D 72019	21.02			1		S	
1998-01-22			D 62610		2957.65	NGVD29	1		S	
1998-01-22			D 62611		2959.22	NAVD88	1		S	
1998-01-22			D 72019	22.35			1		S	

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface

Section	Code	Description
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	S	Steel-tape measurement.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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Title: Groundwater for New Mexico: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?>

Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2021-09-21 21:11:49 EDT

0.28 0.24 nadww01





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National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater Geographic Area: New Mexico GO

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- [Full News](#)

Groundwater levels for New Mexico

Click to hide state-specific text

Important: [Next Generation Monitoring Location Page](#)

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 320126103562801

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 320126103562801 26S.29E.22.340

Eddy County, New Mexico

Latitude 32°01'22", Longitude 103°58'26" NAD27

Land-surface elevation 2,888 feet above NGVD29

The depth of the well is 80 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measur
1958-08-18			D	62610	2819.26	NGVD29	1	Z		
1958-08-18			D	62611	2820.78	NAVD88	1	Z		
1958-08-18			D	72019	68.74		1	Z		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static

Section	Code	Description
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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Page Last Modified: 2021-09-21 21:14:35 EDT
0.27 0.23 nadww01

Appendix D

Soil Boring Log and Groundwater Location Bore Location Map



Project Name :	COG - Copperhead Fee A 3H (02.08.22)	Date :	Monday, April 25, 2022
Project No. :	1023	Sampler :	Lane Scarborough
Location :	Eddy County, New Mexico	Driller :	Scarborough Drilling
Coordinates :	32.016146, -104.021411	Method :	Air Rotary
Elevation :	2,935'		

Depth (ft.)	WL	Soil Description	Lithology	Depth (ft.)	WL	Soil Description	Lithology
0		(0') - Light Brown soft clayey sand, with 20% medium loose sub angular sand, dry, some organics (SC)		50		(50') - light-dark brown stiff soft clayey sand with 3% fine loose soft, sub angular sand, dry, no organics (ML)	
5		(5') - Light Brown soft clayey sand, with 20% medium loose sub angular sand, dry, some organics (SC)		55		(55') - light-dark brown stiff soft clayey sand with 3% fine loose soft, sub angular sand, dry, no organics (ML)	
10		(10') - Light brown, stiff soft clayey sand, with 3% fine loose sub angular sand, dry, no organics (SC)		60			
15		(15') - Light brown, stiff soft clayey sand, with 3% fine loose sub angular sand, dry, no organics (SC)		65			
20		(20') - Light brown, stiff soft clayey sand, with 3% fine loose sub angular sand, dry, no organics (SC)		70			
25		(25') - Light brown, stiff soft clayey sand, with 3% fine loose sub angular sand, dry, no organics (SC)		75			
30		(30') - light-dark brown stiff soft clayey sand with 3% fine loose soft, sub angular sand, dry, no organics (ML)		80			
35		(35') - light-dark brown stiff soft clayey sand with 3% fine loose soft, sub angular sand, dry, no organics (ML)		85			
40		(40') - light-dark brown stiff soft clayey sand with 3% fine loose soft, sub angular sand, dry, no organics (ML)		90			
45		(45') - light-dark brown stiff soft clayey sand with 3% fine loose soft, sub angular sand, dry, no organics (ML)		95			
50				105			

Comments : Boring terminated at 55' at 10:00 AM Central Time with no presence of groundwater or moisture.

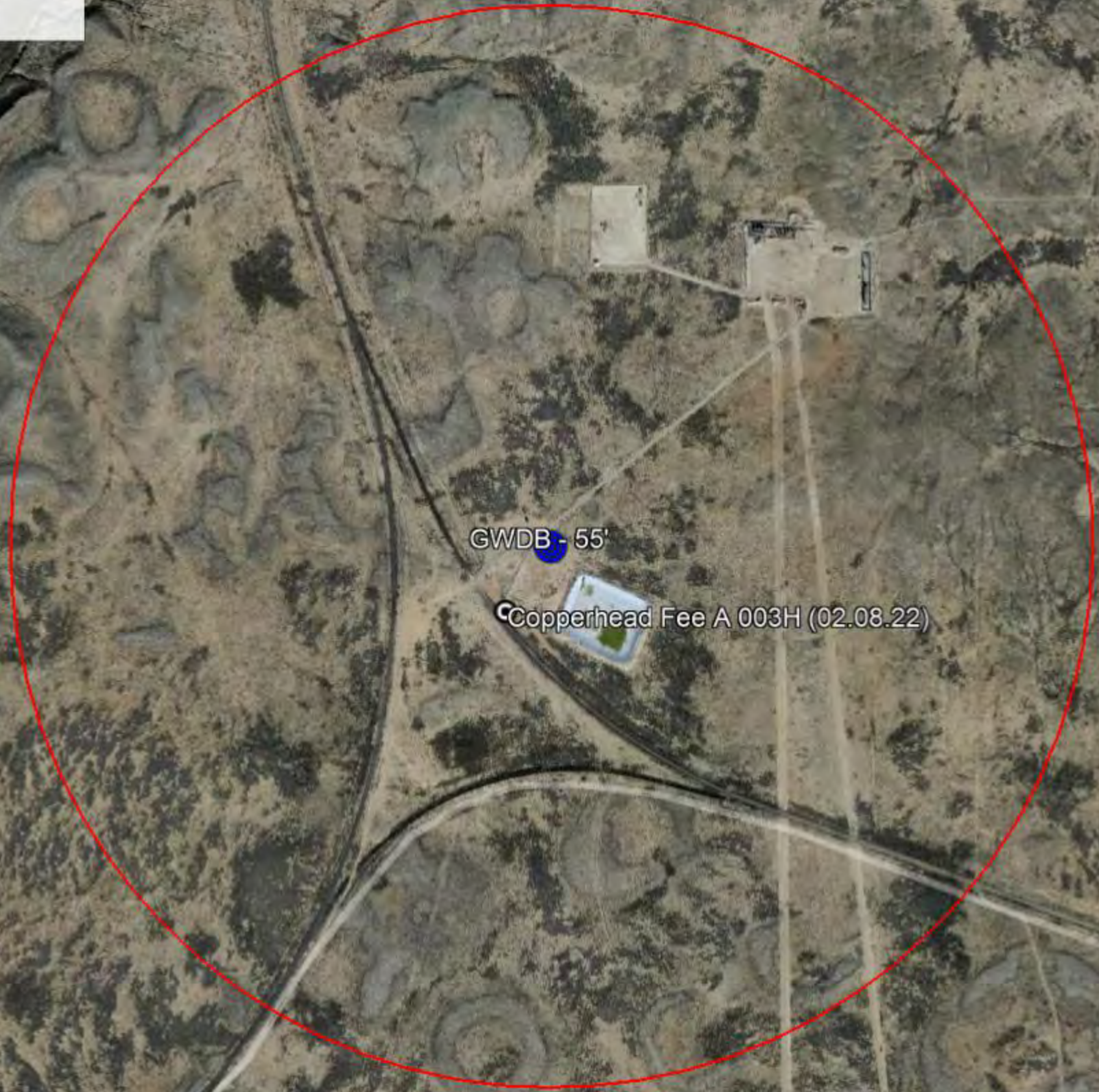
Well gauged on 4/29/22 at 11:00 AM Central Time with no detection of groundwater or moisture

Groundwater Determination Bore

COG Operating

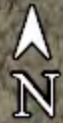
Legend

- 0.50 Mile Radius
- Copperhead Fee A 003H (02.08.22)
- GWDB - 55'



GWDB - 55'

Copperhead Fee A 003H (02.08.22)



2000 ft

Appendix E

Laboratory Analytical Reports



ANALYTICAL REPORT

April 14, 2022

Arcadis_ConocoPhillips

Sample Delivery Group: L1480575
Samples Received: 04/09/2022
Project Number: 30130426
Description: Copperhead CTB

Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Entire Report Reviewed By:

A handwritten signature in blue ink, appearing to read "Chris McCord".

Chris McCord
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

Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
SW1-2-040722 L1480575-01	5	
SW2-2-040722 L1480575-02	6	⁴ Cn
B-1-4-040722 L1480575-03	7	⁵ Sr
SW-3-2-040822 L1480575-04	8	
B-2-4-040822 L1480575-05	9	⁶ Qc
SW-4-2-040822 L1480575-06	10	
SW-5-2-040822 L1480575-07	11	⁷ Gl
Qc: Quality Control Summary	12	⁸ Al
Total Solids by Method 2540 G-2011	12	
Wet Chemistry by Method 300.0	13	⁹ Sc
Gl: Glossary of Terms	14	
Al: Accreditations & Locations	15	
Sc: Sample Chain of Custody	16	

SW1-2-040722 L1480575-01 Solid

Collected by Justin Nixon
Collected date/time 04/07/22 13:15
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847336	1	04/13/22 10:03	04/13/22 10:16	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1846964	1	04/13/22 09:34	04/13/22 13:26	LBR	Mt. Juliet, TN

¹ Cp² Tc³ Ss

SW2-2-040722 L1480575-02 Solid

Collected by Justin Nixon
Collected date/time 04/07/22 13:30
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847336	1	04/13/22 10:03	04/13/22 10:16	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1846964	1	04/13/22 09:34	04/13/22 14:04	LBR	Mt. Juliet, TN

⁴ Cn⁵ Sr⁶ Qc

B-1-4-040722 L1480575-03 Solid

Collected by Justin Nixon
Collected date/time 04/07/22 14:30
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847336	1	04/13/22 10:03	04/13/22 10:16	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1846964	5.15	04/13/22 09:34	04/13/22 14:14	LBR	Mt. Juliet, TN

⁷ Gl⁸ Al⁹ Sc

SW-3-2-040822 L1480575-04 Solid

Collected by Justin Nixon
Collected date/time 04/07/22 15:00
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847336	1	04/13/22 10:03	04/13/22 10:16	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1846964	1.03	04/13/22 09:34	04/13/22 14:24	LBR	Mt. Juliet, TN

B-2-4-040822 L1480575-05 Solid

Collected by Justin Nixon
Collected date/time 04/08/22 15:00
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847336	1	04/13/22 10:03	04/13/22 10:16	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1846964	1.04	04/13/22 09:34	04/13/22 14:33	LBR	Mt. Juliet, TN

SW-4-2-040822 L1480575-06 Solid

Collected by Justin Nixon
Collected date/time 04/08/22 15:10
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847336	1	04/13/22 10:03	04/13/22 10:16	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1846964	1.05	04/13/22 09:34	04/13/22 14:43	LBR	Mt. Juliet, TN

SW-5-2-040822 L1480575-07 Solid

Collected by Justin Nixon
Collected date/time 04/08/22 15:20
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847336	1	04/13/22 10:03	04/13/22 10:16	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1846964	1.01	04/13/22 09:34	04/13/22 14:52	LBR	Mt. Juliet, TN

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 McCord
Project Manager

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.3		1	04/13/2022 10:16	WG1847336

¹ Cp

² Tc

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	103		9.97	21.7	1	04/13/2022 13:26	WG1846964

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Collected date/time: 04/07/22 13:30

L1480575

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.8		1	04/13/2022 10:16	WG1847336

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	361		10.1	22.0	1	04/13/2022 14:04	WG1846964

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

B-1-4-040722

Collected date/time: 04/07/22 14:30

L1480575

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.6		1	04/13/2022 10:16	WG1847336

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	1600		52.3	114	5.15	04/13/2022 14:14	WG1846964

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.4		1	04/13/2022 10:16	WG1847336

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	17.5	<u>J</u>	10.3	22.3	1.03	04/13/2022 14:24	WG1846964

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Collected date/time: 04/08/22 15:00

L1480575

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.3		1	04/13/2022 10:16	WG1847336

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	264		11.0	23.8	1.04	04/13/2022 14:33	WG1846964

Collected date/time: 04/08/22 15:10

L1480575

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.7		1	04/13/2022 10:16	WG1847336

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	244		11.1	24.2	1.05	04/13/2022 14:43	WG1846964

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/08/22 15:20

L1480575

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.9		1	04/13/2022 10:16	WG1847336

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	239		9.89	21.5	1.01	04/13/2022 14:52	WG1846964

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011 [L1480575-01,02,03,04,05,06,07](#)

Method Blank (MB)

(MB) R3780904-1 04/13/22 10:16

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00200			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1480575-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1480575-03 04/13/22 10:16 • (DUP) R3780904-3 04/13/22 10:16

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	90.6	90.8	1	0.236		10

Laboratory Control Sample (LCS)

(LCS) R3780904-2 04/13/22 10:16

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 300.0

[L1480575-01,02,03,04,05,06,07](#)

Method Blank (MB)

(MB) R3780778-1 04/13/22 09:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0

L1480323-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1480323-04 04/13/22 12:39 • (DUP) R3780778-3 04/13/22 12:48

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	2620	2640	5.05	0.450		20

L1480575-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1480575-01 04/13/22 13:26 • (DUP) R3780778-6 04/13/22 13:36

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	103	108	1.02	4.10		20

Laboratory Control Sample (LCS)

(LCS) R3780778-2 04/13/22 09:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	203	101	90.0-110	

L1480323-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1480323-04 04/13/22 12:39 • (MS) R3780778-4 04/13/22 12:58 • (MSD) R3780778-5 04/13/22 13:07

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	586	2620	3230	3150	103	88.7	5.1	80.0-120			2.65	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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.

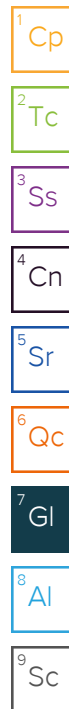
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	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

J	The identification of the analyte is acceptable; the reported value is an estimate.
---	---



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.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Released to Imaging: 10/27/2022 3:50:39 PM



ANALYTICAL REPORT

April 21, 2022

Arcadis_ConocoPhillips

Sample Delivery Group: L1480576
Samples Received: 04/09/2022
Project Number: 30130426
Description: Copperhead CTB

Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Entire Report Reviewed By:

Chris McCord
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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SW1-2-040722 L1480576-01 Solid

Collected by Justin Nixon
Collected date/time 04/07/22 13:15
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847545	1	04/13/22 07:48	04/13/22 07:54	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1848120	1	04/12/22 10:33	04/13/22 23:32	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1849240	1	04/15/22 13:29	04/16/22 14:33	JN	Mt. Juliet, TN

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

SW2-2-040722 L1480576-02 Solid

Collected by Justin Nixon
Collected date/time 04/07/22 13:30
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847546	1	04/13/22 17:37	04/13/22 17:52	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1848120	1	04/12/22 10:33	04/13/22 23:53	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1849240	1	04/15/22 13:29	04/16/22 14:19	JN	Mt. Juliet, TN

B-1-4-040722 L1480576-03 Solid

Collected by Justin Nixon
Collected date/time 04/07/22 14:30
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847546	1	04/13/22 17:37	04/13/22 17:52	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1848120	1	04/12/22 10:33	04/14/22 00:15	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1849240	1	04/15/22 13:29	04/16/22 14:06	JN	Mt. Juliet, TN

SW-3-2-040722 L1480576-04 Solid

Collected by Justin Nixon
Collected date/time 04/07/22 15:00
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847546	1	04/13/22 17:37	04/13/22 17:52	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1848120	1	04/12/22 10:33	04/14/22 00:36	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1849240	1	04/15/22 13:29	04/16/22 13:52	JN	Mt. Juliet, TN

B-2-4-040822 L1480576-05 Solid

Collected by Justin Nixon
Collected date/time 04/08/22 15:00
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847546	1	04/13/22 17:37	04/13/22 17:52	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1848120	1	04/12/22 10:33	04/14/22 00:58	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1849240	1	04/15/22 13:29	04/16/22 13:11	JN	Mt. Juliet, TN

SW-4-2-040822 L1480576-06 Solid

Collected by Justin Nixon
Collected date/time 04/08/22 15:10
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847546	1	04/13/22 17:37	04/13/22 17:52	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1848120	1	04/12/22 10:33	04/14/22 01:19	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1849240	1	04/15/22 13:29	04/16/22 13:25	JN	Mt. Juliet, TN

SAMPLE SUMMARY

SW-5-2-040822 L1480576-07 Solid

Collected by Justin Nixon
Collected date/time 04/08/22 15:20
Received date/time 04/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1847546	1	04/13/22 17:37	04/13/22 17:52	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1848120	1	04/12/22 10:33	04/14/22 01:41	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1849240	1	04/15/22 13:29	04/16/22 13:38	JN	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr


⁶Qc

⁷Gl

⁸Al

⁹Sc

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 McCord
Project Manager

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

Collected date/time: 04/07/22 13:15

L1480576

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.6		1	04/13/2022 07:54	WG1847545

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	0.000790		0.000131	0.000546	1	04/13/2022 23:32	WG1848120
Toluene	0.00112	J	0.000164	0.00546	1	04/13/2022 23:32	WG1848120
Ethylbenzene	U		0.000120	0.000546	1	04/13/2022 23:32	WG1848120
Total Xylene	U		0.000502	0.00164	1	04/13/2022 23:32	WG1848120
TPH (GC/FID) Low Fraction	U		0.0237	0.109	1	04/13/2022 23:32	WG1848120
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/13/2022 23:32	WG1848120
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/13/2022 23:32	WG1848120

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.40	J	1.76	4.37	1	04/16/2022 14:33	WG1849240
C28-C36 Motor Oil Range	18.6		0.299	4.37	1	04/16/2022 14:33	WG1849240
(S) o-Terphenyl	61.6			18.0-148		04/16/2022 14:33	WG1849240

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SW22-040722

Collected date/time: 04/07/22 13:30

L1480576

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.3		1	04/13/2022 17:52	WG1847546

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	0.000971		0.000132	0.000548	1	04/13/2022 23:53	WG1848120
Toluene	0.00132	J	0.000164	0.00548	1	04/13/2022 23:53	WG1848120
Ethylbenzene	U		0.000121	0.000548	1	04/13/2022 23:53	WG1848120
Total Xylene	U		0.000504	0.00164	1	04/13/2022 23:53	WG1848120
TPH (GC/FID) Low Fraction	U		0.0238	0.110	1	04/13/2022 23:53	WG1848120
(S) a,a,a-Trifluorotoluene(FID)	109			77.0-120		04/13/2022 23:53	WG1848120
(S) a,a,a-Trifluorotoluene(PID)	99.5			72.0-128		04/13/2022 23:53	WG1848120

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.32	J	1.76	4.38	1	04/16/2022 14:19	WG1849240
C28-C36 Motor Oil Range	12.5		0.300	4.38	1	04/16/2022 14:19	WG1849240
(S) o-Terphenyl	55.1			18.0-148		04/16/2022 14:19	WG1849240

Collected date/time: 04/07/22 14:30

L1480576

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.1		1	04/13/2022 17:52	WG1847546

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000132	0.000549	1	04/14/2022 00:15	WG1848120
Toluene	U		0.000165	0.00549	1	04/14/2022 00:15	WG1848120
Ethylbenzene	U		0.000121	0.000549	1	04/14/2022 00:15	WG1848120
Total Xylene	U		0.000505	0.00165	1	04/14/2022 00:15	WG1848120
TPH (GC/FID) Low Fraction	U		0.0238	0.110	1	04/14/2022 00:15	WG1848120
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/14/2022 00:15	WG1848120
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/14/2022 00:15	WG1848120

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	1.88	J	1.77	4.39	1	04/16/2022 14:06	WG1849240
C28-C36 Motor Oil Range	8.73		0.301	4.39	1	04/16/2022 14:06	WG1849240
(S) o-Terphenyl	58.9			18.0-148		04/16/2022 14:06	WG1849240

SW-3-2-040722
Collected date/time: 04/07/22 15:00

L1480576

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.0		1	04/13/2022 17:52	WG1847546

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000133	0.000555	1	04/14/2022 00:36	WG1848120
Toluene	U		0.000167	0.00555	1	04/14/2022 00:36	WG1848120
Ethylbenzene	U		0.000122	0.000555	1	04/14/2022 00:36	WG1848120
Total Xylene	U		0.000511	0.00167	1	04/14/2022 00:36	WG1848120
TPH (GC/FID) Low Fraction	U		0.0241	0.111	1	04/14/2022 00:36	WG1848120
(S) a,a,a-Trifluorotoluene(FID)	109			77.0-120		04/14/2022 00:36	WG1848120
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/14/2022 00:36	WG1848120

3 Ss

4 Cn

5 Sr

6 Qc

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.79	4.44	1	04/16/2022 13:52	WG1849240
C28-C36 Motor Oil Range	4.74		0.304	4.44	1	04/16/2022 13:52	WG1849240
(S) o-Terphenyl	52.9			18.0-148		04/16/2022 13:52	WG1849240

7 Gl

8 Al

9 Sc

BZ-4-040822
Collected date/time: 04/08/22 15:00

L1480576

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.8		1	04/13/2022 17:52	WG1847546

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000135	0.000563	1	04/14/2022 00:58	WG1848120
Toluene	U		0.000169	0.00563	1	04/14/2022 00:58	WG1848120
Ethylbenzene	U		0.000124	0.000563	1	04/14/2022 00:58	WG1848120
Total Xylene	U		0.000518	0.00169	1	04/14/2022 00:58	WG1848120
TPH (GC/FID) Low Fraction	U		0.0244	0.113	1	04/14/2022 00:58	WG1848120
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/14/2022 00:58	WG1848120
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/14/2022 00:58	WG1848120

3 Ss

4 Cn

5 Sr

6 Qc

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.81	4.51	1	04/16/2022 13:11	WG1849240
C28-C36 Motor Oil Range	0.873	J	0.309	4.51	1	04/16/2022 13:11	WG1849240
(S) o-Terphenyl	55.5			18.0-148		04/16/2022 13:11	WG1849240

7 Gl

8 Al

9 Sc

SW-4-2-040822
Collected date/time: 04/08/22 15:10

L1480576

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.6		1	04/13/2022 17:52	WG1847546

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000135	0.000564	1	04/14/2022 01:19	WG1848120
Toluene	U		0.000169	0.00564	1	04/14/2022 01:19	WG1848120
Ethylbenzene	U		0.000124	0.000564	1	04/14/2022 01:19	WG1848120
Total Xylene	U		0.000519	0.00169	1	04/14/2022 01:19	WG1848120
TPH (GC/FID) Low Fraction	U		0.0245	0.113	1	04/14/2022 01:19	WG1848120
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/14/2022 01:19	WG1848120
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/14/2022 01:19	WG1848120

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.82	4.51	1	04/16/2022 13:25	WG1849240
C28-C36 Motor Oil Range	1.90	J	0.309	4.51	1	04/16/2022 13:25	WG1849240
(S) o-Terphenyl	60.4			18.0-148		04/16/2022 13:25	WG1849240

SW-5-2-040822

Collected date/time: 04/08/22 15:20

L1480576

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.0		1	04/13/2022 17:52	WG1847546

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000128	0.000532	1	04/14/2022 01:41	WG1848120
Toluene	U		0.000160	0.00532	1	04/14/2022 01:41	WG1848120
Ethylbenzene	U		0.000117	0.000532	1	04/14/2022 01:41	WG1848120
Total Xylene	U		0.000489	0.00160	1	04/14/2022 01:41	WG1848120
TPH (GC/FID) Low Fraction	U		0.0231	0.106	1	04/14/2022 01:41	WG1848120
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/14/2022 01:41	WG1848120
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/14/2022 01:41	WG1848120

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.71	4.26	1	04/16/2022 13:38	WG1849240
C28-C36 Motor Oil Range	5.54		0.292	4.26	1	04/16/2022 13:38	WG1849240
(S) o-Terphenyl	67.3			18.0-148		04/16/2022 13:38	WG1849240

W01847543
Total Solids by Method 2540 G-2011 [L1480576-01](#)

Method Blank (MB)

(MB) R3780837-1 04/13/22 07:54

Analyte	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
	%		%	%
Total Solids	0.00200			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1481268-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1481268-11 04/13/22 07:54 • (DUP) R3780837-3 04/13/22 07:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
	%	%		%		%
Total Solids	90.9	90.6	1	0.384		10

Laboratory Control Sample (LCS)

(LCS) R3780837-2 04/13/22 07:54

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁷Gl

⁸Al

⁹Sc

Total Solids by Method 2540 G-2011 [L1480576-02,03,04,05,06,07](#)

Method Blank (MB)

(MB) R3781068-1 04/13/22 17:52

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00300			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1480603-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1480603-03 04/13/22 17:52 • (DUP) R3781068-3 04/13/22 17:52

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	91.5	92.2	1	0.800		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3781068-2 04/13/22 17:52

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Volatile Organic Compounds (GC) by Method 8015/8021

[L1480576-01,02,03,04,05,06,07](#)

Method Blank (MB)

(MB) R3780976-3 04/13/22 21:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	109			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	100			72.0-128

Laboratory Control Sample (LCS)

(LCS) R3780976-2 04/13/22 20:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.31	96.5	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			101	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			106	72.0-128	

L1480652-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1480652-01 04/14/22 02:02 • (MS) R3780976-4 04/14/22 06:20 • (MSD) R3780976-5 04/14/22 06:42

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.776	2.15	3.68	25.0	52.8	1	10.0-151		J3	52.5	28
(S) a,a,a-Trifluorotoluene(FID)					99.2	96.6		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					101	101		72.0-128				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

[L1480576-01,02,03,04,05,06,07](#)

Method Blank (MB)

(MB) R3781858-2 04/16/22 12:47

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	52.1			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3781858-1 04/16/22 12:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	27.3	54.6	50.0-150	
(S) o-Terphenyl			67.6	18.0-148	

L1480555-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1480555-05 04/16/22 17:30 • (MS) R3781858-3 04/16/22 17:44 • (MSD) R3781858-4 04/16/22 17:57

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.3	2830	3570	2700	1220	0.000	20	50.0-150	<u>V</u>	<u>J3 V</u>	27.7	20
(S) o-Terphenyl					0.000	0.000		18.0-148	<u>J7</u>	<u>J7</u>		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Guide to Reading and Understanding Your Laboratory Report

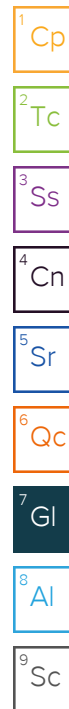
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	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.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
V	The sample concentration is too high to evaluate accurate spike recoveries.



Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122


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

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

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

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

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Company Name/Address Arcadis_ConocoPhillips 1004 N. Big Spring St. Suite 121 Midland, TX 79701 Report to: Justin Nixon		Billing Information Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129 Email To: justin.nixon@arcadis.com;william.foord@arcadi		Pres Chk		Analysis / Containers / Boreholes (Grid of 10 columns)										Chain of Custody Page <u>104</u> of <u>361</u>	
Project Description Copperhead CTB		City/State Collected:		Please Circle: PT MT CT ET		BTEXGRO, DRONM 402CIR-NOPres CMTORIDE-500-402CIR-NOPres										 MT JULIET, TN <small>12095 Julian Rd. Mount Juliet, TN 37122</small> <small>submitting a sample via this chain of custody</small> <small>constitutes acknowledgment and acceptance of the</small> <small>Pace Terms and Conditions found at:</small> <small>https://info.pace.com/Products/psa-standard-</small> <small>terms.pdf</small>	
Phone 432-214-2972		Client Project # 30130426		Lab Project # COPARCA-30130426												SDG # L480576	
Collected by (print) <i>Justin Nixon</i>		Site/Facility ID #		P.O. #												Table #	
Collected by (signature) <i>Justin Nixon</i>		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote # Standard/Contract												Acctnum: COPARCA Template: T206699 Prefixin: P915946 PM: 526 - Chris McCord PB:	
Immediately Packed on ice: N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Date Results Needed Standard/Contract		No. of Cntrs		Shipped Via:											
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	Remarks									
SW-1-2-040722		G	SS	1'	4-7-22	1315	2	-01									
SW-2-2-040722		G	SS	2'	↓	1330	2	-02									
SW-1-3-040722		G	SS	4'	↓	1420	2	-03									
SW-3-2-040722		G	SS	2'	↓	1500	2	-04									
SW-2-4-040822		G	SS	4'	4-8-22	1500	2	-05									
SW-4-2-040822		G	SS	4'	↓	1510	2	-06									
SW-5-1-040822		G	SS	2'	↓	1520	2	-07									
(Empty)		(Empty)	SS	(Empty)	(Empty)	(Empty)	(Empty)	(Empty)									
(Empty)		(Empty)	SS	(Empty)	(Empty)	(Empty)	(Empty)	(Empty)									
(Empty)		(Empty)	SS	(Empty)	(Empty)	(Empty)	(Empty)	(Empty)									
(Empty)		(Empty)	SS	(Empty)	(Empty)	(Empty)	(Empty)	(Empty)									

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier

Tracking # _____

Relinquished by (Signature): *Justin Nixon* Date: 4-8-22 Time: 1200

Received by (Signature): _____ Trip Blank Received: Yes (No) HCL/Meth TBR


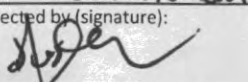
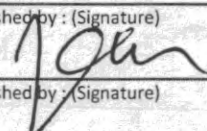
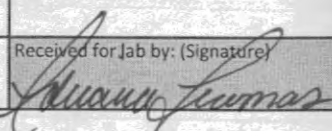
Temp: 5.3±0.5°C Bottles Received: 14

Relinquished by (Signature): _____ Date: 4-9-22 Time: 0930

Received for lab by (Signature): *William Thomas*

Date: 4-9-22 Time: 0930

Hold: _____ Condition: NCF / OK

Arcadis_ConocoPhillips 1004 N. Big Spring St. Suite 121 Midland, TX 79701 Report to: Justin Nixon				Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129 Email To: justin.nixon@arcadis.com;william.foord@arcadi				Pres Chk		Analysis / Container / Preservative <div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEXGRO, DRONM 4ozClr-NoPres</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">CHLORIDE-300 4ozClr-NoPres</div> </div>										Chain of Custody Page <u>105</u> of <u>361</u>  PEOPLE ADVANCING SCIENCE MT JULIET, TN <small>12065 Lebanon Rd Mount Juliet, TN 37122 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</small> C006 Table # Acctnum: COPARCA Template: T206699 Prelogin: P915946 PM: 526 - Chris McCord PB: Shipped Via: <div style="display: flex;"> <div style="flex: 1;">Remarks</div> <div style="flex: 1;">Sample # (lab only)</div> </div>																																																																																																																																																			
Project Description: Copperhead CTB		City/State Collected: Eddy, NM		Please Circle: PT MT CT ET		No. of Cntrs																																																																																																																																																																	
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Sample ID</th> <th>Comp/Grab</th> <th>Matrix *</th> <th>Depth</th> <th>Date</th> <th>Time</th> <th colspan="2">Cntrs</th> <th colspan="6"></th> </tr> </thead> <tbody> <tr> <td>SW-1-2'-040722</td> <td>G</td> <td>SS</td> <td>2'</td> <td>4-7-22</td> <td>1315</td> <td>2</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>SW-2-2'-040722</td> <td>G</td> <td>SS</td> <td>2'</td> <td></td> <td>1330</td> <td>2</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>B-1-4'-040722</td> <td>G</td> <td>SS</td> <td>4'</td> <td></td> <td>1430</td> <td>2</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>SW-3-2'-040722</td> <td>G</td> <td>SS</td> <td>2'</td> <td></td> <td>1500</td> <td>2</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>B-2-4'-040822</td> <td>G</td> <td>SS</td> <td>4'</td> <td>4-8-22</td> <td>1500</td> <td>2</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>SW-4-2'-040822</td> <td>G</td> <td>SS</td> <td>2'</td> <td></td> <td>1510</td> <td>2</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>SW-5-2'-040822</td> <td>G</td> <td>SS</td> <td>2'</td> <td></td> <td>1520</td> <td>2</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td> <td></td> <td>SS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td> <td></td> <td>SS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td> <td></td> <td>SS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>														Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs								SW-1-2'-040722	G	SS	2'	4-7-22	1315	2	X	X						SW-2-2'-040722	G	SS	2'		1330	2	X	X						B-1-4'-040722	G	SS	4'		1430	2	X	X						SW-3-2'-040722	G	SS	2'		1500	2	X	X						B-2-4'-040822	G	SS	4'	4-8-22	1500	2	X	X						SW-4-2'-040822	G	SS	2'		1510	2	X	X						SW-5-2'-040822	G	SS	2'		1520	2	X	X								SS														SS														SS											
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Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier				Tracking # 1203-5786-9669				<div style="display: flex; justify-content: space-between;"> <div> pH _____ Temp _____ Flow _____ Other _____ </div> <div> Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> NP <input checked="" type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N If Applicable VOA Zero Headpace: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N </div> </div>																																																																																																																																																															
Relinquished by: (Signature) 		Date: 4-8-22		Time: 1745		Received by: (Signature) 		Trip Blank Received: Yes/No <input checked="" type="checkbox"/> HCL/MeOH <input checked="" type="checkbox"/> TBR		Temp: °C Bottles Received: 14 5.3+0-5.3°																																																																																																																																																													
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Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)		Date: Time: 4-9-22 0930		Hold:		Condition: NCF / OK																																																																																																																																																											



ANALYTICAL REPORT

April 15, 2022

Arcadis_ConocoPhillips

Sample Delivery Group: L1481943
Samples Received: 04/13/2022
Project Number: 30130426
Description: Copperhead CTB
Site: COPPERHEAD, NM
Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

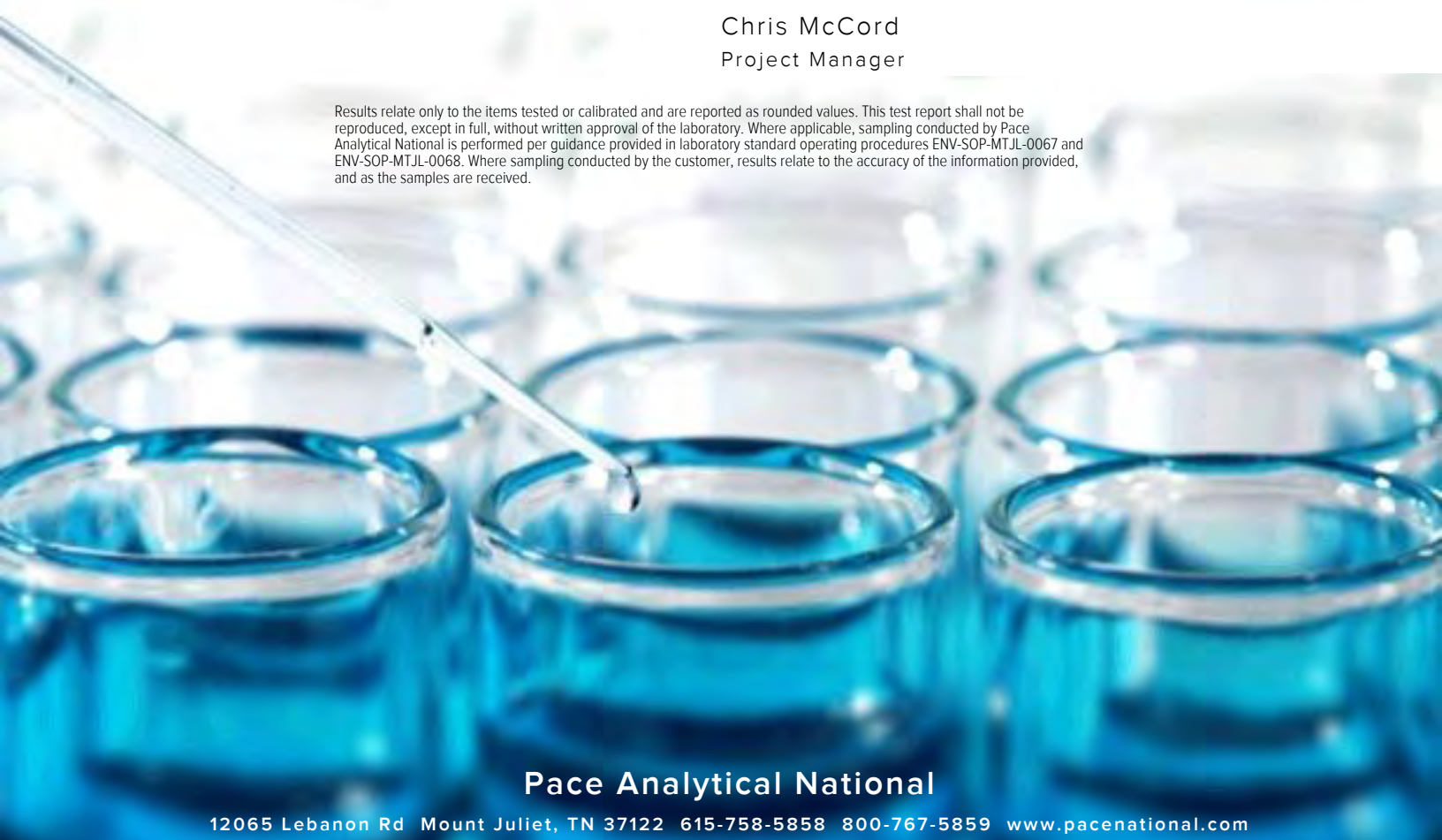


Entire Report Reviewed By:

[Preliminary Report]

Chris McCord
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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SW-8-2'-041122 L1481943-02	7
SW-9-2'-041122 L1481943-03	8
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B-4-4'-041122 L1481943-05	10
B-5-4'-041122 L1481943-06	11
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SW-7-2'-041122 L1481943-01 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 11:35
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848270	1	04/14/22 08:09	04/14/22 08:18	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1848166	1	04/14/22 01:45	04/14/22 07:05	KEG	Mt. Juliet, TN

¹ Cp² Tc³ Ss

SW-8-2'-041122 L1481943-02 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 13:00
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848270	1	04/14/22 08:09	04/14/22 08:18	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1848166	1	04/14/22 01:45	04/14/22 08:02	KEG	Mt. Juliet, TN

⁴ Cn⁵ Sr⁶ Gl

SW-9-2'-041122 L1481943-03 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 13:50
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848270	1	04/14/22 08:09	04/14/22 08:18	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1848166	1	04/14/22 01:45	04/14/22 08:11	KEG	Mt. Juliet, TN

⁷ Al⁸ Sc

B-3-4'-041122 L1481943-04 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 11:00
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848270	1	04/14/22 08:09	04/14/22 08:18	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1848166	5	04/14/22 01:45	04/14/22 08:21	KEG	Mt. Juliet, TN

B-4-4'-041122 L1481943-05 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 11:30
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848270	1	04/14/22 08:09	04/14/22 08:18	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1848166	5	04/14/22 01:45	04/14/22 08:30	KEG	Mt. Juliet, TN

B-5-4'-041122 L1481943-06 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 14:25
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848270	1	04/14/22 08:09	04/14/22 08:18	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1848166	5	04/14/22 01:45	04/14/22 08:40	KEG	Mt. Juliet, TN

B-6-4'-041122 L1481943-07 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 15:00
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848270	1	04/14/22 08:09	04/14/22 08:18	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1848166	5	04/14/22 01:45	04/14/22 08:49	KEG	Mt. Juliet, TN

SAMPLE SUMMARY

SW-7-2'-041122 L1481943-08 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 11:35
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848276	1	04/14/22 11:11	04/14/22 11:17	CMK	Mt. Juliet, TN

1Cp

2Tc

3Ss

4Cn

5Sr

6Gl

7Al

8Sc

SW-8-2'-041122 L1481943-09 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 13:00
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848276	1	04/14/22 11:11	04/14/22 11:17	CMK	Mt. Juliet, TN

SW-9-2'-041122 L1481943-10 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 13:50
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848276	1	04/14/22 11:11	04/14/22 11:17	CMK	Mt. Juliet, TN

B-3-4'-041122 L1481943-11 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 11:00
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848276	1	04/14/22 11:11	04/14/22 11:17	CMK	Mt. Juliet, TN

B-4-4'-041122 L1481943-12 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 11:30
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848276	1	04/14/22 11:11	04/14/22 11:17	CMK	Mt. Juliet, TN

B-5-4'-041122 L1481943-13 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 14:25
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848276	1	04/14/22 11:11	04/14/22 11:17	CMK	Mt. Juliet, TN

B-6-4'-041122 L1481943-14 Solid

Collected by Justin Nixon
Collected date/time 04/11/22 15:00
Received date/time 04/13/22 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1848276	1	04/14/22 11:11	04/14/22 11:17	CMK	Mt. Juliet, TN

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.

[Preliminary Report]

Chris McCord
Project Manager

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Gl

7

Al

8

Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.7		1	04/14/2022 08:18	WG1848270

¹ Cp

² Tc

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	63.5		9.20	20.0	1	04/14/2022 07:05	WG1848166

³ Ss

⁴ Cn

⁵ Sr

⁶ Gl

⁷ Al

⁸ Sc

SW-8-Z-041122

L1481943

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.2		1	04/14/2022 08:18	WG1848270

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	132		9.77	21.2	1	04/14/2022 08:02	WG1848166

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Gl

7 Al

8 Sc

Collected date/time: 04/11/22 13:50

L1481943

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.1		1	04/14/2022 08:18	WG1848270

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	493		9.67	21.0	1	04/14/2022 08:11	WG1848166

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

Collected date/time: 04/11/22 11:00

L1481943

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.6		1	04/14/2022 08:18	WG1848270

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	992		49.1	107	5	04/14/2022 08:21	WG1848166

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Gl⁷ Al⁸ Sc

04/11/22

Collected date/time: 04/11/22 11:30

L1481943

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.9		1	04/14/2022 08:18	WG1848270

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	1480		50.6	110	5	04/14/2022 08:30	WG1848166

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Gl⁷ Al⁸ Sc

Collected date/time: 04/11/22 14:25

L1481943

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.5		1	04/14/2022 08:18	WG1848270

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	988		49.7	108	5	04/14/2022 08:40	WG1848166

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Gl⁷ Al⁸ Sc

Collected date/time: 04/11/22 15:00

L1481943

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.5		1	04/14/2022 08:18	WG1848270

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	1490		50.8	110	5	04/14/2022 08:49	WG1848166

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Gl⁷ Al⁸ Sc

Collected date/time: 04/11/22 11:35

L1481943

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.7		1	04/14/2022 11:17	WG1848276

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

Collected date/time: 04/11/22 13:00

L1481943

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.8		1	04/14/2022 11:17	WG1848276

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

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.2		1	04/14/2022 11:17	WG1848276

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

Collected date/time: 04/11/22 11:00

L1481943

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.8		1	04/14/2022 11:17	WG1848276

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Gl

⁷Al

⁸Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.0		1	04/14/2022 11:17	WG1848276

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

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	89.0		1	04/14/2022 11:17	WG1848276

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

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.2		1	04/14/2022 11:17	WG1848276

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

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

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
SDG	Sample Delivery Group.
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.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

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



Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122


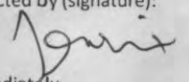
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Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina 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.



Arcadis_ConocoPhillips				Billing Information:				Analysis / Container / Preservative				Chain of Custody			
1004 N. Big Spring St. Suite 121 Midland, TX 79701				Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129				Pres Chk				 MT JULIET, TN 12065 Lebanon Rd Mount Juliet, TN 37122 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			
Report to: Justin Nixon				Email To: justin.nixon@arcadis.com;william.foord@arcadi											
Project Description: Copperhead CTB				City/State Collected: Eddy, NM				Please Circle: PT MT CT ET							
Phone: 432-214-2972				Client Project # 30130426				Lab Project # COPARCA-30130426							
Collected by (print): Justin Nixon				Site/Facility ID # Copperhead, NM				P.O. #							
Collected by (signature): 				Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day				Quote #							
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				Date Results Needed 4-15-22				No. of Cntrs							
Sample ID				Comp/Grab		Matrix *		Depth		Date		Time			
SW-7-2'-041122				Comp		SS		2'		4-11-22		1135		2	
SW-8-2'-041122				Comp		SS		2'				1300		2	
SW-9-2'-041122				Comp		SS		2'				1350		2	
B-3-4'-041122				Comp		SS		4'				1100		2	
B-4-4'-041122				Comp		SS		4'				1130		2	
B-5-4'-041122				Comp		SS		4'				1425		2	
B-6-4'-041122				Comp		SS		4'				1500		2	
						SS									
						SS									
						SS									

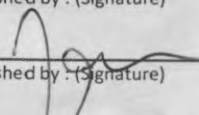
* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks:
Need 2 day TAT for CF-300.0

pH _____ Temp _____
 Flow _____ Other _____

Samples returned via:
☐ UPS ☒ FedEx ☐ Courier

Tracking # **571961778810**

Relinquished by: (Signature)  Date: **4-12-22** Time: **1700**

Relinquished by: (Signature) _____ Date: _____ Time: _____

Relinquished by: (Signature) _____ Date: _____ Time: _____

Received by: (Signature) _____ Trip Blank Received: Yes/No ☒ HCL / MeOH TBR


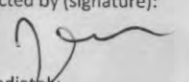
Received by: (Signature) _____ Trip Blank Received: Yes/No ☒ HCL / MeOH TBR

Received for lab by: (Signature) **Patricia Smith** Date: **4/13/22** Time: **0945**

Hold: _____ Condition: **NCF / OK**

Sample Receipt Checklist

COC Seal Present/Intact:	NP	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
COC Signed/Accurate:		<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Bottles arrive intact:		<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Correct bottles used:		<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Sufficient volume sent:		<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
If Applicable			
VOA Zero Headspace:		<input type="checkbox"/> Y	<input type="checkbox"/> N
Preservation Correct/Checked:		<input type="checkbox"/> Y	<input type="checkbox"/> N
RAD Screen <0.5 mR/hr:		<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N

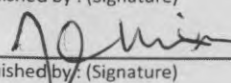
Arcadis_ConocoPhillips 1004 N. Big Spring St. Suite 121 Midland, TX 79701 Report to: Justin Nixon		Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129 Email To: justin.nixon@arcadis.com;william.foord@arcadi		Pres Chk		Analysis / Container / Preservative										Chain of Custody	
Project Description: Copperhead CTB		City/State Collected: Edwards County, NM		Please Circle: PT MT CT ET		BTEXGRO, DRONM 4ozClr-NoPres CHLORIDE 300 4ozClr-NoPres										 MT JULIET, TN 12065 Lebanon Rd Mount Juliet, TN 37122 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	
Phone: 432-214-2972		Client Project # 30130426		Lab Project # COPARCA-30130426												SDG # 1481943	
Collected by (print): Justin Nixon		Site/Facility ID # Copperhead, NM		P.O. #												Table #	
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #												Acctnum: COPARCA Template: T206699 Prelogin: P915946 PM: 526 - Chris McCord PB:	
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Date Results Needed Standard		No. of Cntrs		Shipped Via:		Remarks		Sample # (lab only)							
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs										
SW-7-2'-041122		Comp	SS	2'	4-11-22	1135	2	X									
SW-8-2'-041122		Comp	SS	2'	4-11-22	1300	2	X									
SW-9-2'-041122		Comp	SS	2'	4-11-22	1350	2	X									
B-3-4'-041122		Comp	SS	4'	4-11-22	1100	2	X									
B-4-4'-041122		Comp	SS	4'	4-11-22	1130	2	X									
B-5-4'-041122		Comp	SS	4'	4-11-22	1425	2	X									
B-6-4'-041122		Comp	SS	4'	4-11-22	1500	2	X									
			SS														
			SS														
			SS														

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

Remarks:

Samples returned via:
☐ UPS ☒ FedEx ☐ Courier

Tracking # **571961778016**

Relinquished by: (Signature)  Date: **4-12-22** Time: **1700**

Relinquished by: (Signature) Date: Time:

Relinquished by: (Signature) Date: Time:

Received by: (Signature) Trip Blank Received: Yes ☒ No ☐
 HCL / MeOH
 TBR

Received by: (Signature) Temp: **2.8** °C Bottles Received: **14**

Received for lab by: (Signature) **Patricia Smith** Date: **4/13/22** Time: **0945**

Hold: Condition: **NCF / OK**

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

If preservation required by Login: Date/Time



ANALYTICAL REPORT

April 18, 2022

Arcadis_ConocoPhillips

Sample Delivery Group: L1482872
Samples Received: 04/15/2022
Project Number: 30130426
Description: Copperhead CTB

Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Entire Report Reviewed By:

A handwritten signature in blue ink, appearing to read "Chris McCord".

Chris McCord
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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SW-11-2'-041322 L1482872-01 Solid

Collected by Justin Nixon
Collected date/time 04/13/22 10:00
Received date/time 04/15/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1849266	1	04/16/22 12:21	04/16/22 12:30	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1849287	1	04/15/22 22:15	04/16/22 00:25	LBR	Mt. Juliet, TN

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

B-7-4'-041322 L1482872-02 Solid

Collected by Justin Nixon
Collected date/time 04/13/22 10:15
Received date/time 04/15/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1849266	1	04/16/22 12:21	04/16/22 12:30	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1849287	10	04/15/22 22:15	04/16/22 00:44	LBR	Mt. Juliet, TN

B-8-4'-041322 L1482872-03 Solid

Collected by Justin Nixon
Collected date/time 04/13/22 11:30
Received date/time 04/15/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1849266	1	04/16/22 12:21	04/16/22 12:30	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1849287	10	04/15/22 22:15	04/16/22 00:54	LBR	Mt. Juliet, TN

B-9-4'-041322 L1482872-04 Solid

Collected by Justin Nixon
Collected date/time 04/13/22 11:40
Received date/time 04/15/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1849266	1	04/16/22 12:21	04/16/22 12:30	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1849287	5	04/15/22 22:15	04/16/22 01:03	LBR	Mt. Juliet, TN

SW-13-2'-041322 L1482872-05 Solid

Collected by Justin Nixon
Collected date/time 04/13/22 12:00
Received date/time 04/15/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1849266	1	04/16/22 12:21	04/16/22 12:30	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1849287	1.01	04/15/22 22:15	04/16/22 01:13	LBR	Mt. Juliet, TN

SW-15-2'-041322 L1482872-06 Solid

Collected by Justin Nixon
Collected date/time 04/13/22 14:00
Received date/time 04/15/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1849266	1	04/16/22 12:21	04/16/22 12:30	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1849287	1	04/15/22 22:15	04/16/22 01:22	LBR	Mt. Juliet, TN

SW-16-2'-041322 L1482872-07 Solid

Collected by Justin Nixon
Collected date/time 04/13/22 14:20
Received date/time 04/15/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1849266	1	04/16/22 12:21	04/16/22 12:30	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1849287	1	04/15/22 22:15	04/16/22 01:32	LBR	Mt. Juliet, TN

B-10-4'-041322 L1482872-08 Solid

Collected by Justin Nixon
Collected date/time 04/13/22 15:00
Received date/time 04/15/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1849266	1	04/16/22 12:21	04/16/22 12:30	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1849287	1	04/15/22 22:15	04/16/22 02:00	LBR	Mt. Juliet, TN

¹Cp

²Tc

³Ss

B-11-4'-041322 L1482872-09 Solid

Collected by Justin Nixon
Collected date/time 04/13/22 15:30
Received date/time 04/15/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1849266	1	04/16/22 12:21	04/16/22 12:30	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1849287	1	04/15/22 22:15	04/16/22 02:10	LBR	Mt. Juliet, TN

⁴Cn

⁵Sr

⁶Qc

B-12-4'-041422 L1482872-10 Solid

Collected by Justin Nixon
Collected date/time 04/14/22 11:30
Received date/time 04/15/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1849266	1	04/16/22 12:21	04/16/22 12:30	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1849287	10	04/15/22 22:15	04/16/22 02:20	LBR	Mt. Juliet, TN

⁷Gl

⁸Al


⁹Sc

B-13-4'-041422 L1482872-11 Solid

Collected by Justin Nixon
Collected date/time 04/14/22 14:15
Received date/time 04/15/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1849314	1	04/16/22 10:35	04/16/22 10:55	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1849287	1	04/15/22 22:15	04/16/22 02:29	LBR	Mt. Juliet, TN

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 McCord
Project Manager

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.5		1	04/16/2022 12:30	WG1849266

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	113		9.53	20.7	1	04/16/2022 00:25	WG1849287

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.6		1	04/16/2022 12:30	WG1849266

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	1550		96.2	209	10	04/16/2022 00:44	WG1849287

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

Collected date/time: 04/13/22 11:30

L1482872

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.6		1	04/16/2022 12:30	WG1849266

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	3180		102	221	10	04/16/2022 00:54	WG1849287

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/13/22 11:40

L1482872

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.2		1	04/16/2022 12:30	WG1849266

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	1360		52.2	113	5	04/16/2022 01:03	WG1849287

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/13/22 12:00

L1482872

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.7		1	04/16/2022 12:30	WG1849266

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	714		10.1	22.0	1.01	04/16/2022 01:13	WG1849287

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.2		1	04/16/2022 12:30	WG1849266

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	157		9.67	21.0	1	04/16/2022 01:22	WG1849287

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.8		1	04/16/2022 12:30	WG1849266

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	714		9.91	21.5	1	04/16/2022 01:32	WG1849287

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/13/22 15:00

L1482872

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.9		1	04/16/2022 12:30	WG1849266

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	810		9.90	21.5	1	04/16/2022 02:00	WG1849287

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Collected date/time: 04/13/22 15:30

L1482872

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.6		1	04/16/2022 12:30	WG1849266

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	580		9.72	21.1	1	04/16/2022 02:10	WG1849287

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

B-12-4-0414-22
Collected date/time: 04/14/22 11:30

L1482872

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.4		1	04/16/2022 12:30	WG1849266

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	2940		105	229	10	04/16/2022 02:20	WG1849287

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

B-15-4-041422
Collected date/time: 04/14/22 14:15

L1482872

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.6		1	04/16/2022 10:55	WG1849314

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	797		10.6	23.1	1	04/16/2022 02:29	WG1849287

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011 [L1482872-01,02,03,04,05,06,07,08,09,10](#)

Method Blank (MB)

(MB) R3782103-1 04/16/22 12:30

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1482872-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1482872-01 04/16/22 12:30 • (DUP) R3782103-3 04/16/22 12:30

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP RPD Limits
Total Solids	96.5	96.6	1	0.0318	10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3782103-2 04/16/22 12:30

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Method Blank (MB)

(MB) R3782084-1 04/16/22 10:55

Analyte	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
	%		%	%
Total Solids	0.00100			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1482872-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1482872-11 04/16/22 10:55 • (DUP) R3782084-3 04/16/22 10:55

Analyte	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
	%	%		%		%
Total Solids	86.6	86.4	1	0.255		10

Laboratory Control Sample (LCS)

(LCS) R3782084-2 04/16/22 10:55

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
	%	%	%	%	
Total Solids	50.0	50.0	99.9	85.0-115	

Wet Chemistry by Method 300.0

[L1482872-01,02,03,04,05,06,07,08,09,10,11](#)

Method Blank (MB)

(MB) R3781831-1 04/15/22 23:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0

L1482872-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1482872-01 04/16/22 00:25 • (DUP) R3781831-3 04/16/22 00:35

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	113	111	1	1.27		20

L1482872-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1482872-11 04/16/22 02:29 • (DUP) R3781831-4 04/16/22 02:39

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	797	796	1	0.171		20

Laboratory Control Sample (LCS)

(LCS) R3781831-2 04/16/22 00:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	217	109	90.0-110	

L1482872-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1482872-11 04/16/22 02:29 • (MS) R3781831-5 04/16/22 02:48 • (MSD) R3781831-6 04/16/22 02:58

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	577	797	1450	1440	114	111	1	80.0-120	E	E	1.03	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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.

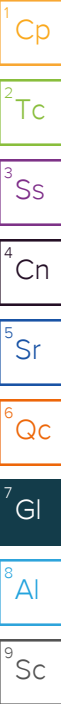
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	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

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
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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.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Company Name/Address: Arcadis_ConocoPhillips 1004 N. Big Spring St. Suite 121 Midland, TX 79701		Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129		Pres Chk		Analysis / Container / Preservative										Chain of Custody Page 1 of 2			
Report to: Justin Nixon		Email To: justin.nixon@arcadis.com;william.foord@arcadi														 MT JULIET, TN 12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubs/pas-standard-terms.pdf			
Project Description: Copperhead CTB		City/State Collected: Edwardsburg, NM		Please Circle: PT MT CT ET												SDG # L1482872 J181			
Phone: 432-214-2972		Client Project # 30130426		Lab Project # COPARCA-30130426												Acctnum: COPARCA Template: T206699 Prelogin: P915946 PM: 526 - Chris McCord PB:			
Collected by (print): Justin Nixon		Site/Facility ID #		P.O. #												Shipped Via:			
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #												Remarks			
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				Date Results Needed 4-16-22												Sample # (lab only)			
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs												
Sw-11-2'-041322		Comp	SS	2'	4-13-22	1000	2											-01	
B-7-4'-041322			SS	4'		1015												-02	
B-8-4'-041322			SS	4'		1130												-03	
B-9-4'-041322			SS	4'		1140												-04	
Sw-13-2'-041322			SS	2'		1200												-05	
Sw-15-2'-041322			SS	2'		1400												-06	
Sw-16-2'-041322			SS	2'		1420												-07	
B-10-4'-041322			SS	4'		1500												-08	
B-11-4'-041322			SS	4'		1530												-09	
B-12-4'-041322			SS	4'	4-14-22	1130												-10	

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

Remarks:

Samples returned via:
☐ UPS ☒ FedEx ☐ Courier

Tracking # **571961778600**

pH _____ Temp _____

Flow _____ Other _____

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☐ N

COC Signed/Accurate: ☒ Y ☐ N

Bottles arrive intact: ☒ Y ☐ N

Correct bottles used: ☒ Y ☐ N

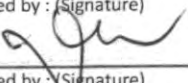
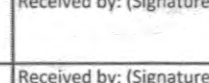
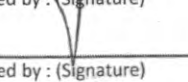

Sufficient volume sent: ☒ Y ☐ N


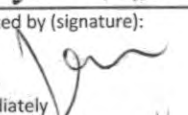
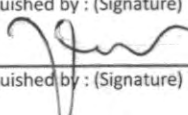
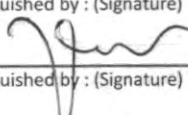
If Applicable

VOA Zero HeadSpace: ☐ Y ☐ N

Preservation Correct/Checked: ☒ Y ☐ N

RAD Screen <0.5 mR/hr: ☒ Y ☐ N

Relinquished by: (Signature) 	Date: 4-14-22	Time: 1730	Received by: (Signature) 	Trip Blank Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> HCL/MeOH TBR	If preservation required by Login: Date/Time
Relinquished by: (Signature) 	Date:	Time:	Received by: (Signature)	Temp: 1.7 °C Bottles Received: 22	
Relinquished by: (Signature) 	Date:	Time:	Received for lab by: (Signature) Patricia Smith	Date: 4/15/22 Time: 0900	

Company Name/Address: Arcadis_ConocoPhillips 1004 N. Big Spring St. Suite 121 Midland, TX 79701 Report to: Justin Nixon				Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129 Email To: justin.nixon@arcadis.com;william.foord@arcadi				Analysis / Container / Preservative Pres Chk				Chain of Custody Page <u>151</u> of <u>361</u>  MT JULIET, TN 12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubs/pas-standard-terms.pdf																																																											
Project Description: Copperhead CTB				City/State Collected: Edwards County, NM		Please Circle: PT MT CT ET		BIEXGRO, DRONIM 4ozClr-NoPres CHLORIDE-300 4ozClr-NoPres																																																															
Phone: 432-214-2972		Client Project # 30130426		Lab Project # COPARCA-30130426																																																																			
Collected by (print): Justin Nixon		Site/Facility ID # Edwards County NM (B)		P.O. #																																																																			
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote # Date Results Needed 4-16-22																																																																			
Immediately Packed on Ice N <u> </u> Y <u> </u>		No. of Cntrs		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Sample ID</th> <th>Comp/Grab</th> <th>Matrix *</th> <th>Depth</th> <th>Date</th> <th>Time</th> </tr> <tr> <td>B-B-4-041422</td> <td>Comp</td> <td>SS</td> <td>4</td> <td>4-14-22</td> <td>1415</td> </tr> <tr><td> </td><td> </td><td>SS</td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td>SS</td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td>SS</td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td>SS</td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td>SS</td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td>SS</td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td>SS</td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td>SS</td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td>SS</td><td> </td><td> </td><td> </td></tr> </table>		Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	B-B-4-041422	Comp	SS	4	4-14-22	1415			SS						SS						SS						SS						SS						SS						SS						SS						SS			
Sample ID	Comp/Grab	Matrix *	Depth			Date	Time																																																																
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* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks:		pH _____ Temp _____ Flow _____ Other _____																																																																			
Samples returned via: UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>		Tracking # 571961778000		Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N																																																																			
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ANALYTICAL REPORT

May 18, 2022

Revised Report

Arcadis_ConocoPhillips

Sample Delivery Group: L1483715
Samples Received: 04/19/2022
Project Number: 30130426
Description: Copperhead CTB

Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Entire Report Reviewed By:

A handwritten signature in blue ink, appearing to read "Chris McCord".

Chris McCord
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 Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

SW-18-2-041822 L1483715-01 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 09:04
Received date/time 04/19/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851262	1	04/20/22 12:51	04/20/22 13:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1851220	1	04/19/22 15:16	04/21/22 17:03	CAM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1853125	1	04/23/22 16:27	04/24/22 07:27	TJD	Mt. Juliet, TN

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

SW-20-2-041822 L1483715-02 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 09:09
Received date/time 04/19/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851262	1	04/20/22 12:51	04/20/22 13:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1851220	1	04/19/22 15:16	04/21/22 17:24	CAM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1853125	1	04/23/22 16:27	04/24/22 07:40	TJD	Mt. Juliet, TN

SW-21-2-041822 L1483715-03 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 10:50
Received date/time 04/19/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851262	1	04/20/22 12:51	04/20/22 13:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1851220	1	04/19/22 15:16	04/21/22 13:35	CAM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1853954	1	04/25/22 20:36	04/26/22 09:26	JAS	Mt. Juliet, TN

B-14-4-041822 L1483715-04 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 10:55
Received date/time 04/19/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851262	1	04/20/22 12:51	04/20/22 13:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1851220	1	04/19/22 15:16	04/21/22 13:57	CAM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1853954	1	04/25/22 20:36	04/26/22 09:39	JAS	Mt. Juliet, TN

B-15-4-041822 L1483715-05 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 11:00
Received date/time 04/19/22 09:00

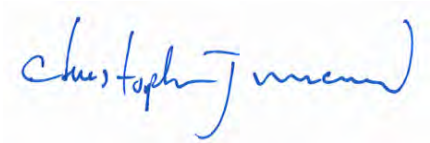
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851262	1	04/20/22 12:51	04/20/22 13:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1851220	1	04/19/22 15:16	04/21/22 14:32	CAM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1853954	1	04/25/22 20:36	04/26/22 09:52	JAS	Mt. Juliet, TN

SW-24-2-041822 L1483715-06 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 14:09
Received date/time 04/19/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851262	1	04/20/22 12:51	04/20/22 13:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1851220	1	04/19/22 15:16	04/21/22 14:54	CAM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1853954	1	04/25/22 20:36	04/26/22 10:06	JAS	Mt. Juliet, TN

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 McCord
Project Manager

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

Report Revision History

Level II Report - Version 1: 04/26/22 21:34

Project Narrative

5/18/22: Revised samples IDs.

SW-18-12-041822
Collected date/time: 04/18/22 09:04

L1483715

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	98.6		1	04/20/2022 13:02	WG1851262

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00107		0.000122	0.000507	1	04/21/2022 17:03	WG1851220
Toluene	0.00266	J	0.000152	0.00507	1	04/21/2022 17:03	WG1851220
Ethylbenzene	U		0.000112	0.000507	1	04/21/2022 17:03	WG1851220
Total Xylene	0.00131	J	0.000467	0.00152	1	04/21/2022 17:03	WG1851220
TPH (GC/FID) Low Fraction	U		0.0220	0.101	1	04/21/2022 17:03	WG1851220
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		04/21/2022 17:03	WG1851220
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		04/21/2022 17:03	WG1851220

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.63	4.06	1	04/24/2022 07:27	WG1853125
C28-C36 Motor Oil Range	9.22		0.278	4.06	1	04/24/2022 07:27	WG1853125
(S) o-Terphenyl	68.0			18.0-148		04/24/2022 07:27	WG1853125

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.3		1	04/20/2022 13:02	WG1851262

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	0.000725		0.000123	0.000514	1	04/21/2022 17:24	WG1851220
Toluene	0.00169	J	0.000154	0.00514	1	04/21/2022 17:24	WG1851220
Ethylbenzene	U		0.000113	0.000514	1	04/21/2022 17:24	WG1851220
Total Xylene	0.000658	J	0.000473	0.00154	1	04/21/2022 17:24	WG1851220
TPH (GC/FID) Low Fraction	U		0.0223	0.103	1	04/21/2022 17:24	WG1851220
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		04/21/2022 17:24	WG1851220
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		04/21/2022 17:24	WG1851220

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.65	4.11	1	04/24/2022 07:40	WG1853125
C28-C36 Motor Oil Range	7.24		0.282	4.11	1	04/24/2022 07:40	WG1853125
(S) o-Terphenyl	60.1			18.0-148		04/24/2022 07:40	WG1853125

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SW-21-2-041822
Collected date/time: 04/18/22 10:50

L1483715

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	84.8		1	04/20/2022 13:02	WG1851262

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000141	0.000589	1	04/21/2022 13:35	WG1851220
Toluene	U		0.000177	0.00589	1	04/21/2022 13:35	WG1851220
Ethylbenzene	U		0.000130	0.000589	1	04/21/2022 13:35	WG1851220
Total Xylene	U		0.000542	0.00177	1	04/21/2022 13:35	WG1851220
TPH (GC/FID) Low Fraction	U		0.0256	0.118	1	04/21/2022 13:35	WG1851220
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		04/21/2022 13:35	WG1851220
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		04/21/2022 13:35	WG1851220

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.90	4.72	1	04/26/2022 09:26	WG1853954
C28-C36 Motor Oil Range	2.32	J	0.323	4.72	1	04/26/2022 09:26	WG1853954
(S) o-Terphenyl	63.2			18.0-148		04/26/2022 09:26	WG1853954

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/18/22 10:55

L1483715

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.9		1	04/20/2022 13:02	WG1851262

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000129	0.000538	1	04/21/2022 13:57	WG1851220
Toluene	U		0.000162	0.00538	1	04/21/2022 13:57	WG1851220
Ethylbenzene	U		0.000118	0.000538	1	04/21/2022 13:57	WG1851220
Total Xylene	U		0.000495	0.00162	1	04/21/2022 13:57	WG1851220
TPH (GC/FID) Low Fraction	U		0.0234	0.108	1	04/21/2022 13:57	WG1851220
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		04/21/2022 13:57	WG1851220
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		04/21/2022 13:57	WG1851220

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.73	4.31	1	04/26/2022 09:39	WG1853954
C28-C36 Motor Oil Range	3.78	J	0.295	4.31	1	04/26/2022 09:39	WG1853954
(S) o-Terphenyl	55.9			18.0-148		04/26/2022 09:39	WG1853954

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/18/22 11:00

L1483715

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.6		1	04/20/2022 13:02	WG1851262

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000137	0.000571	1	04/21/2022 14:32	WG1851220
Toluene	U		0.000171	0.00571	1	04/21/2022 14:32	WG1851220
Ethylbenzene	U		0.000126	0.000571	1	04/21/2022 14:32	WG1851220
Total Xylene	U		0.000525	0.00171	1	04/21/2022 14:32	WG1851220
TPH (GC/FID) Low Fraction	U		0.0248	0.114	1	04/21/2022 14:32	WG1851220
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/21/2022 14:32	WG1851220
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/21/2022 14:32	WG1851220

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.84	4.57	1	04/26/2022 09:52	WG1853954
C28-C36 Motor Oil Range	2.60	J	0.313	4.57	1	04/26/2022 09:52	WG1853954
(S) o-Terphenyl	70.6			18.0-148		04/26/2022 09:52	WG1853954

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SW-2442-041822
Collected date/time: 04/18/22 14:09

L1483715

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.0		1	04/20/2022 13:02	WG1851262

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000133	0.000555	1	04/21/2022 14:54	WG1851220
Toluene	U		0.000167	0.00555	1	04/21/2022 14:54	WG1851220
Ethylbenzene	U		0.000122	0.000555	1	04/21/2022 14:54	WG1851220
Total Xylene	U		0.000511	0.00167	1	04/21/2022 14:54	WG1851220
TPH (GC/FID) Low Fraction	U		0.0241	0.111	1	04/21/2022 14:54	WG1851220
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		04/21/2022 14:54	WG1851220
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/21/2022 14:54	WG1851220

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.79	4.44	1	04/26/2022 10:06	WG1853954
C28-C36 Motor Oil Range	3.71	J	0.304	4.44	1	04/26/2022 10:06	WG1853954
(S) o-Terphenyl	55.0			18.0-148		04/26/2022 10:06	WG1853954

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011 [L1483715-01,02,03,04,05,06](#)

Method Blank (MB)

(MB) R3783609-1 04/20/22 13:02

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1483715-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1483715-01 04/20/22 13:02 • (DUP) R3783609-3 04/20/22 13:02

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	98.6	98.5	1	0.0757		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3783609-2 04/20/22 13:02

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Volatile Organic Compounds (GC) by Method 8015/8021

L1483715-01,02,03,04,05,06

Method Blank (MB)

(MB) R3783576-3 04/21/22 07:54

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128

Laboratory Control Sample (LCS)

(LCS) R3783576-1 04/21/22 06:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0423	84.6	76.0-121	
Toluene	0.0500	0.0441	88.2	80.0-120	
Ethylbenzene	0.0500	0.0433	86.6	80.0-124	
Total Xylene	0.150	0.132	88.0	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			111	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			101	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3783576-2 04/21/22 07:10

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.87	88.5	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			96.7	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			103	72.0-128	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3784550-1 04/24/22 06:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	0.562	⌵	0.274	4.00
(S) o-Terphenyl	68.9			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3784550-2 04/24/22 07:00

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	35.7	71.4	50.0-150	
(S) o-Terphenyl			91.1	18.0-148	

L1483503-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1483503-01 04/24/22 10:50 • (MS) R3784550-3 04/24/22 11:03 • (MSD) R3784550-4 04/24/22 11:17

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	48.0	414	304	271	0.000	0.000	5	50.0-150	⌵	⌵	11.5	20
(S) o-Terphenyl					32.2	29.3		18.0-148				

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

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

L1483715-03,04,05,06

Method Blank (MB)

(MB) R3785114-1 04/26/22 08:59

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	80.0			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3785114-2 04/26/22 09:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	29.7	59.4	50.0-150	
(S) o-Terphenyl			83.2	18.0-148	

L1483981-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1483981-16 04/26/22 10:27 • (MS) R3785119-1 04/26/22 10:40 • (MSD) R3785119-2 04/26/22 10:53

Analyte	Spike Amount (dry) mg/kg	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.0	U	36.6	36.1	60.8	60.9	1	50.0-150			1.35	20
(S) o-Terphenyl					57.5	62.4		18.0-148				

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Guide to Reading and Understanding Your Laboratory Report

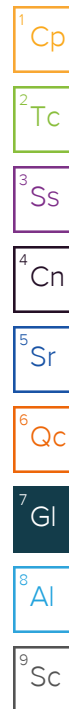
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	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.
V	The sample concentration is too high to evaluate accurate spike recoveries.



Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122


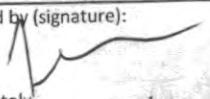
Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia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

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

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

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

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

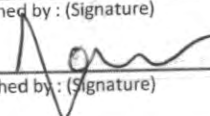
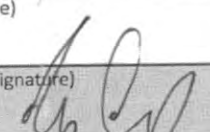
Company Name/Address: Arcadis_ConocoPhillips 1004 N. Big Spring St. Suite 121 Midland, TX 79701				Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129				Pres Chk				Analysis / Container / Preservative												Chain of Custody Page <u>168</u> of <u>1</u>					
Report to: Justin Nixon				Email To: justin.nixon@arcadis.com;william.foord@arcadi				<div style="text-align: center;">  MT JULIET, TN 12065 Lebanon Rd. Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubs/pas-standard-terms.pdf </div>																					
Project Description: Copperhead CTB				City/State Collected: <u>Edwards County, MS</u>																						Please Circle: PT MT CT ET			
Phone: 432-214-2972				Client Project # 30130426				Lab Project # COPARCA-30130426				<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEXGRO, DRONM 4ozCir-NoPres</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">CHLORIDE-300 4ozCir-NoPres</div> </div>																	
Collected by (print): <u>Justin Nixon</u>				Site/Facility ID #				P.O. #																					
Collected by (signature): 				Rush? (Lab MUST Be Notified) Same Day _____ Five Day _____ Next Day _____ 5 Day (Rad Only) _____ Two Day _____ 10 Day (Rad Only) _____ Three Day _____				Quote # <u>Standard</u>				Date Results Needed <u>Standard</u>				No. of Cntrs <u>20</u>													
Immediately Packed on Ice N <u> </u> Y <u>X</u>																													
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time																							
SW-19-2-041822		Comp	SS	2'	04/18/22	9:04	21	X																					
SW-20-2-041822		Comp	SS	2'	04/18/22	9:09	21	X																					
SW-21-2-041822		Comp	SS	2'	04/18/22	10:50	21	X																					
B-14-4-041822		Comp	SS	4'	04/18/22	10:55	21	X																					
B-15-4-041822		Comp	SS	4'	04/18/22	11:00	21	X																					
SW-24-2-041822		Comp	SS	2'	04/18/22	1409	21	X																					
			SS																										
			SS																										
			SS																										
			SS																										
			SS																										
			SS																										

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

Remarks:

Samples returned via: UPS ✓ FedEx Courier

Tracking # 5719 6177 7996

Relinquished by: (Signature) 		Date: <u>4-18-22</u>	Time: <u>1730</u>	Received by: (Signature) 		Trip Blank Received: Yes <u>(No)</u> HCL / MeOH TBR	
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: <u>1.5°C ± 0.5°C</u> Bottles Received: <u>6462</u>	
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature)		Date: <u>4-19-22</u> Time: <u>0900</u>	

Sample Receipt Checklist

COC Seal Present/Intact: NP N

COC Signed/Accurate: N

Bottles arrive intact: N

Correct bottles used: N

Sufficient volume sent: N

If Applicable

VOA Zero Headspace: Y N

Preservation Correct/Checked: Y N

RAD Screen <0.5 mR/hr: Y N

If preservation required by Login: Date/Time

Hold: _____ Condition: NCF / OK

Chris McCord

From: Nixon, Justin <Justin.Nixon@arcadis.com>
Sent: Tuesday, May 10, 2022 2:35 PM
To: Chris McCord; Foord, Scott
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291

Categories: Reporting Follow-up

CAUTION: This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Chris,

Thank you for taking the time to discuss earlier along with helping on the costs to finalize the last 2 batches.

Here is a list of what is needed corrected for the nomenclature:

-For L1483715, L1484210 we need to change SW-19 to SW-18 -L1484811, L1484817 please change B-23 to B-30
-L1488507 (waiting on the lab report for the BTEX and TPH) change B-24 to B-32, B-25 to B-34, and B-27 to B-36.

If you have any questions or need clarification, please let us know.

Thanks,

Justin

-----Original Message-----

From: Chris McCord <Chris.McCord@pacelabs.com>
Sent: Monday, May 9, 2022 11:46 AM
To: Nixon, Justin <Justin.Nixon@arcadis.com>; Foord, Scott <William.Foord@arcadis.com>
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291

I updated the date on that one too after it went out. Sorry for the confusion.

Thanks.

Christopher McCord
Project Manager II | National
Pace Analytical - National
12065 Lebanon Road | Mt. Juliet, TN 37122
o.615.773.3281 | pacenational.com

MAKE YOUR PAYMENTS ONLINE

Please note that email addresses for staff at the Pace Analytical National Center for Testing & Innovation have changed. My new email address is chris.mccord@pacelabs.com. Please update your records accordingly.

-----Original Message-----

From: Nixon, Justin <Justin.Nixon@arcadis.com>
Sent: Monday, May 09, 2022 9:12 AM
To: Chris McCord <Chris.McCord@pacelabs.com>; Foord, Scott <William.Foord@arcadis.com>
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291



ANALYTICAL REPORT

April 20, 2022

Arcadis_ConocoPhillips

Sample Delivery Group: L1483720
Samples Received: 04/19/2022
Project Number: 30130426
Description: Copperhead CTB

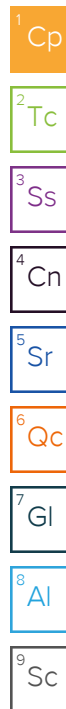
Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

Entire Report Reviewed By:

A handwritten signature in blue ink, appearing to read "Chris McCord".

Chris McCord
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 National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
SW-19-2'-041822 L1483720-01	5
SW-20-2'-041822 L1483720-02	6
SW-21-2'-041822 L1483720-03	7
B-14-4'-041822 L1483720-04	8
B-15-4'-041822 L1483720-05	9
SW-24-2'-041822 L1483720-06	10
Qc: Quality Control Summary	11
Total Solids by Method 2540 G-2011	11
Wet Chemistry by Method 300.0	12
Gl: Glossary of Terms	13
Al: Accreditations & Locations	14
Sc: Sample Chain of Custody	15

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

SW-19-2'-041822 L1483720-01 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 09:04
Received date/time 04/19/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1850845	1	04/19/22 16:56	04/19/22 17:27	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851152	1	04/20/22 01:15	04/20/22 02:56	KEG	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SW-20-2'-041822 L1483720-02 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 09:09
Received date/time 04/19/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1850845	1	04/19/22 16:56	04/19/22 17:27	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851152	1	04/20/22 01:15	04/20/22 03:33	KEG	Mt. Juliet, TN

SW-21-2'-041822 L1483720-03 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 10:50
Received date/time 04/19/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1850845	1	04/19/22 16:56	04/19/22 17:27	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851152	1	04/20/22 01:15	04/20/22 03:43	KEG	Mt. Juliet, TN

B-14-4'-041822 L1483720-04 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 10:55
Received date/time 04/19/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1850845	1	04/19/22 16:56	04/19/22 17:27	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851152	10	04/20/22 01:15	04/20/22 03:52	KEG	Mt. Juliet, TN

B-15-4'-041822 L1483720-05 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 11:00
Received date/time 04/19/22 09:00


Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1850845	1	04/19/22 16:56	04/19/22 17:27	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851152	10.3	04/20/22 01:15	04/20/22 04:02	KEG	Mt. Juliet, TN

SW-24-2'-041822 L1483720-06 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 14:09
Received date/time 04/19/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1850845	1	04/19/22 16:56	04/19/22 17:27	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851152	1	04/20/22 01:15	04/20/22 04:30	KEG	Mt. Juliet, TN

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 McCord
Project Manager

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

Collected date/time: 04/18/22 09:04

L1483720

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	98.3		1	04/19/2022 17:27	WG1850845

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	89.4		9.36	20.3	1	04/20/2022 02:56	WG1851152

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/18/22 09:09

L1483720

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.1		1	04/19/2022 17:27	WG1850845

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	449		9.57	20.8	1	04/20/2022 03:33	WG1851152

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

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.1		1	04/19/2022 17:27	WG1850845

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	47.9		10.8	23.5	1	04/20/2022 03:43	WG1851152

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/18/22 10:55

L1483720

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.6		1	04/19/2022 17:27	WG1850845

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	5820		99.4	216	10	04/20/2022 03:52	WG1851152

B-15-4-041822
Collected date/time: 04/18/22 11:00

L1483720

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.6		1	04/19/2022 17:27	WG1850845

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	2620		110	238	10.3	04/20/2022 04:02	WG1851152

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/18/22 14:09

L1483720

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.2		1	04/19/2022 17:27	WG1850845

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	325		10.2	22.2	1	04/20/2022 04:30	WG1851152

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

Total Solids by Method 2540 G-2011 [L1483720-01,02,03,04,05,06](#)

Method Blank (MB)

(MB) R3782983-1 04/19/22 17:27

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1483720-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1483720-02 04/19/22 17:27 • (DUP) R3782983-3 04/19/22 17:27

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	96.1	96.1	1	0.0398		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3782983-2 04/19/22 17:27

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Method Blank (MB)

(MB) R3782945-1 04/20/22 02:22

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0

L1483720-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1483720-01 04/20/22 02:56 • (DUP) R3782945-3 04/20/22 03:05

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP RPD Limits %
Chloride	89.4	89.3	1	0.0999	20

Laboratory Control Sample (LCS)

(LCS) R3782945-2 04/20/22 02:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	215	108	90.0-110	

L1483720-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1483720-01 04/20/22 02:56 • (MS) R3782945-4 04/20/22 03:14 • (MSD) R3782945-5 04/20/22 03:24

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	509	89.4	618	636	104	107	1	80.0-120			2.76	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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.

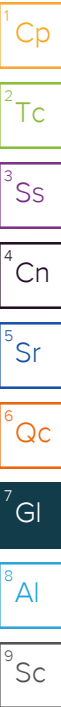
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	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

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



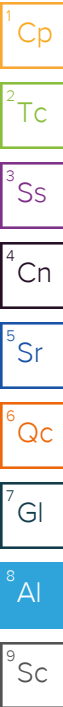
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122


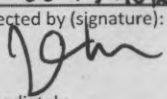
Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	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.



Company Name/Address: Arcadis_ConocoPhillips 1004 N. Big Spring St. Suite 121 Midland, TX 79701				Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129				Pres Chk		Analysis / Container / Preservative										Chain of Custody Page <u>184</u> of <u>361</u>					
Report to: Justin Nixon				Email To: justin.nixon@arcadis.com;william.foord@arcadis.com																 MT JULIET, TN 12065 Lebanon Rd Mount Juliet, TN 37122 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					
Project Description: Copperhead CTB				City/State Collected: Eddy, NM		Please Circle: PT MT CT ET														SDG # 11483720 D108					
Phone: 432-214-2972				Client Project # 30130426				Lab Project # COPARCA-30130426												Acctnum: COPARCA Template: T206699 Prelogin: P915946 PM: 526 - Chris McCord PB:					
Collected by (print): Justin Nixon				Site/Facility ID #				P.O. #												Shipped Via:					
Collected by (signature): 				Rush? (Lab MUST Be Notified) <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day				Quote #		Date Results Needed 4-20-22		No. of Cntrs 21												Remarks Sample # (lab only)	
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>																									
Sample ID				Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	Pres	Container	Preservative	Chain of Custody	Page	of	Total									
Sw-19-2'-041822				Camp	SS	2'	4-18-22	904	21	X	CLORIDE-300 4ozClr-NoPres	CLORIDE-300 4ozClr-NoPres													
Sw-20-2'-041822					SS	2'		909		X															
Sw-21-2'-041822					SS	2'		1050		X															
B-14-4'-041822					SS	2'		1055		X															
B-15-4'-041822					SS	2'		1100		X															
Sw-24-2'-041822					SS	2'		1404		X															
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ANALYTICAL REPORT

April 21, 2022

Arcadis_ConocoPhillips

Sample Delivery Group: L1484208
Samples Received: 04/20/2022
Project Number: 30130426
Description: Copperhead CTB

Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Entire Report Reviewed By:

A handwritten signature in blue ink, appearing to read "Chris McCord".

Chris McCord
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 Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

B-22-4-041922 L1484208-01 Solid

			Collected by Justin Nixon	Collected date/time 04/19/22 14:00	Received date/time 04/20/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851516	1	04/20/22 14:47	04/20/22 15:05	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1.02	04/20/22 22:25	04/21/22 00:52	KEG	Mt. Juliet, TN

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

B-23-4-041922 L1484208-02 Solid

			Collected by Justin Nixon	Collected date/time 04/19/22 14:00	Received date/time 04/20/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851516	1	04/20/22 14:47	04/20/22 15:05	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1	04/20/22 22:25	04/21/22 01:30	KEG	Mt. Juliet, TN

SW-10-2-041922 L1484208-03 Solid

			Collected by Justin Nixon	Collected date/time 04/19/22 14:00	Received date/time 04/20/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851516	1	04/20/22 14:47	04/20/22 15:05	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1	04/20/22 22:25	04/21/22 01:40	KEG	Mt. Juliet, TN

SW-12-2-041922 L1484208-04 Solid

			Collected by Justin Nixon	Collected date/time 04/19/22 14:00	Received date/time 04/20/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851516	1	04/20/22 14:47	04/20/22 15:05	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1	04/20/22 22:25	04/21/22 01:49	KEG	Mt. Juliet, TN

SW-14-2-041922 L1484208-05 Solid

			Collected by Justin Nixon	Collected date/time 04/19/22 14:00	Received date/time 04/20/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851517	1	04/20/22 16:58	04/20/22 17:11	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1.04	04/20/22 22:25	04/21/22 02:18	KEG	Mt. Juliet, TN

SW-17-2-041922 L1484208-06 Solid

			Collected by Justin Nixon	Collected date/time 04/19/22 14:00	Received date/time 04/20/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851517	1	04/20/22 16:58	04/20/22 17:11	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1	04/20/22 22:25	04/21/22 02:27	KEG	Mt. Juliet, TN

SW-19-2-041922 L1484208-07 Solid

			Collected by Justin Nixon	Collected date/time 04/19/22 14:00	Received date/time 04/20/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851517	1	04/20/22 16:58	04/20/22 17:11	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1	04/20/22 22:25	04/21/22 02:37	KEG	Mt. Juliet, TN

B-16-4-041822 L1484208-08 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 15:20
Received date/time 04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851649	1	04/20/22 15:37	04/20/22 15:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	5	04/20/22 22:25	04/21/22 02:46	KEG	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

B-17-2-041822 L1484208-09 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 15:30
Received date/time 04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851649	1	04/20/22 15:37	04/20/22 15:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	5	04/20/22 22:25	04/21/22 03:05	KEG	Mt. Juliet, TN

4 Cn

5 Sr

6 Qc

B-20-4-041922 L1484208-10 Solid

Collected by Justin Nixon
Collected date/time 04/19/22 10:25
Received date/time 04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851649	1	04/20/22 15:37	04/20/22 15:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	5.15	04/20/22 22:25	04/21/22 03:15	KEG	Mt. Juliet, TN

7 Gl

8 Al

9 Sc

B-21-4-041922 L1484208-11 Solid

Collected by Justin Nixon
Collected date/time 04/19/22 10:40
Received date/time 04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851649	1	04/20/22 15:37	04/20/22 15:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1	04/20/22 22:25	04/21/22 03:24	KEG	Mt. Juliet, TN

SW-16A-041822 L1484208-12 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 15:45
Received date/time 04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851649	1	04/20/22 15:37	04/20/22 15:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1.03	04/20/22 22:25	04/21/22 03:34	KEG	Mt. Juliet, TN

SW-26-2-041822 L1484208-13 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 15:00
Received date/time 04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851649	1	04/20/22 15:37	04/20/22 15:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1.03	04/20/22 22:25	04/21/22 03:43	KEG	Mt. Juliet, TN

SW-28-2-041822 L1484208-14 Solid

Collected by Justin Nixon
Collected date/time 04/18/22 15:15
Received date/time 04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851649	1	04/20/22 15:37	04/20/22 15:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1.01	04/20/22 22:25	04/21/22 04:12	KEG	Mt. Juliet, TN

SAMPLE SUMMARY

SW-30-2-041922 L1484208-15 Solid

Collected by Justin Nixon
Collected date/time 04/19/22 10:00
Received date/time 04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851649	1	04/20/22 15:37	04/20/22 15:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1	04/20/22 22:25	04/21/22 04:21	KEG	Mt. Juliet, TN

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

SW-32-2-041922 L1484208-16 Solid

Collected by Justin Nixon
Collected date/time 04/19/22 10:10
Received date/time 04/20/22 09:00

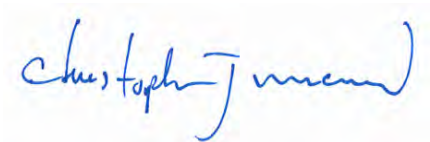
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851649	1	04/20/22 15:37	04/20/22 15:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1	04/20/22 22:25	04/21/22 04:31	KEG	Mt. Juliet, TN

SW-33-2-041922 L1484208-17 Solid

Collected by Justin Nixon
Collected date/time 04/19/22 10:15
Received date/time 04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851649	1	04/20/22 15:37	04/20/22 15:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1851807	1.01	04/20/22 22:25	04/21/22 04:40	KEG	Mt. Juliet, TN

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 McCord
Project Manager

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/19/22 14:00

L1484208

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.0		1	04/20/2022 15:05	WG1851516

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	596		9.67	21.0	1.02	04/21/2022 00:52	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/19/22 14:00

L1484208

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.1		1	04/20/2022 15:05	WG1851516

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	633		9.47	20.6	1	04/21/2022 01:30	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.2		1	04/20/2022 15:05	WG1851516

¹ Cp² Tc

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	66.5		9.66	21.0	1	04/21/2022 01:40	WG1851807

³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/19/22 14:00

L1484208

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.7		1	04/20/2022 15:05	WG1851516

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	33.9		9.72	21.1	1	04/21/2022 01:49	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.3		1	04/20/2022 17:11	WG1851517

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	33.5		10.1	22.1	1.04	04/21/2022 02:18	WG1851807

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.3		1	04/20/2022 17:11	WG1851517

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	26.3		9.86	21.4	1	04/21/2022 02:27	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

SW-19-12-041922
Collected date/time: 04/19/22 14:00

L1484208

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.2		1	04/20/2022 17:11	WG1851517

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	25.0		9.87	21.5	1	04/21/2022 02:37	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/18/22 15:20

L1484208

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.6		1	04/20/2022 15:49	WG1851649

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	1330		55.0	120	5	04/21/2022 02:46	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/18/22 15:30

L1484208

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.8		1	04/20/2022 15:49	WG1851649

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	1240		51.8	113	5	04/21/2022 03:05	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/19/22 10:25

L1484208

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.6		1	04/20/2022 15:49	WG1851649

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	1370		51.8	113	5.15	04/21/2022 03:15	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/19/22 10:40

L1484208

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.8		1	04/20/2022 15:49	WG1851649

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	728		10.7	23.3	1	04/21/2022 03:24	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.2		1	04/20/2022 15:49	WG1851649

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	28.4		10.4	22.6	1.03	04/21/2022 03:34	WG1851807

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/18/22 15:00

L1484208

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.2		1	04/20/2022 15:49	WG1851649

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	22.6		10.3	22.3	1.03	04/21/2022 03:43	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/18/22 15:15

L1484208

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	89.3		1	04/20/2022 15:49	WG1851649

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	37.3		10.4	22.6	1.01	04/21/2022 04:12	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.1		1	04/20/2022 15:49	WG1851649

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	145		9.78	21.3	1	04/21/2022 04:21	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/19/22 10:10

L1484208

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.2		1	04/20/2022 15:49	WG1851649

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	203		9.98	21.7	1	04/21/2022 04:31	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/19/22 10:15

L1484208

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.9		1	04/20/2022 15:49	WG1851649

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	136		10.0	21.7	1.01	04/21/2022 04:40	WG1851807

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011 [L1484208-01,02,03,04](#)

Method Blank (MB)

(MB) R3783615-1 04/20/22 15:05

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1484198-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1484198-02 04/20/22 15:05 • (DUP) R3783615-3 04/20/22 15:05

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	81.5	82.2	1	0.904		10

Laboratory Control Sample (LCS)

(LCS) R3783615-2 04/20/22 15:05

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁷Gl

⁸Al

⁹Sc

Total Solids by Method 2540 G-2011 [L1484208-05.06.07](#)

Method Blank (MB)

(MB) R3783655-1 04/20/22 17:11

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00300			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1484208-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1484208-06 04/20/22 17:11 • (DUP) R3783655-3 04/20/22 17:11

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	93.3	93.0	1	0.281		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3783655-2 04/20/22 17:11

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Total Solids by Method 2540 G-2011 [L1484208-08,09,10,11,12,13,14,15,16,17](#)

Method Blank (MB)

(MB) R3783629-1 04/20/22 15:49

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1484208-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1484208-13 04/20/22 15:49 • (DUP) R3783629-3 04/20/22 15:49

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	92.2	92.3	1	0.136		10

Laboratory Control Sample (LCS)

(LCS) R3783629-2 04/20/22 15:49

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3783478-1 04/20/22 23:29

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0

L1484208-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1484208-01 04/21/22 00:52 • (DUP) R3783478-3 04/21/22 01:01

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	596	610	1.02	2.27		20

L1484208-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1484208-08 04/21/22 02:46 • (DUP) R3783478-6 04/21/22 02:56

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1330	1350	5	1.32		20

Laboratory Control Sample (LCS)

(LCS) R3783478-2 04/20/22 23:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	214	107	90.0-110	

L1484208-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1484208-01 04/21/22 00:52 • (MS) R3783478-4 04/21/22 01:11 • (MSD) R3783478-5 04/21/22 01:20

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	515	596	1170	1180	112	113	1.02	80.0-120	E	E	0.433	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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.

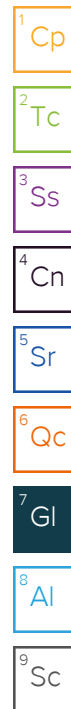
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	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

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
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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.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Company Name/Address: Arcadis_ConocoPhillips		Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129		Pres Chk		Analysis / Container / Preservative										Chain of Custody		
1004 N. Big Spring St. Suite 121 Midland, TX 79701		Email To: justin.nixon@arcadis.com;william.foord@arcadi														 MT JULIET, TN 12065 Lebanon Rd Mount Juliet, TN 37122 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		
Report to: Justin Nixon		City/State Collected: <i>Edley Canyon</i>		Please Circle: PT MT CT ET														
Project Description: Copperhead CTB		Client Project # 30130426		Lab Project # COPARCA-30130426														
Phone: 432-214-2972		Site/Facility ID #		P.O. #												SDG # <i>L14 84208</i>		
Collected by (print): <i>Justin Nixon</i>		Rush? (Lab MUST Be Notified)		Quote #												Table B216		
Collected by (signature): <i>[Signature]</i>		<input checked="" type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Date Results Needed <i>4-21-22</i>												Acctnum: COPARCA		
Immediately Packed on Ice <i>N</i>																Template: T206699		
																Prelogin: P915946		
																PM: 526 - Chris McCord		
																PB:		
																Shipped Via:		
																Remarks Sample # (lab only)		
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs											
<i>B-22-4' - 041922</i>		<i>Comp</i>	<i>SS</i>	<i>4'</i>	<i>4-19-22</i>	<i>1400</i>	<i>2</i>											<i>-01</i>
<i>B-23-4' - 041922</i>			<i>SS</i>	<i>4'</i>		<i>1405</i>	<i>1</i>											<i>-02</i>
<i>SW-10-2' - 041922</i>			<i>SS</i>	<i>2'</i>		<i>1410</i>	<i>1</i>											<i>-03</i>
<i>SW-12-2' - 041922</i>			<i>SS</i>	<i>2'</i>		<i>1430</i>	<i>1</i>											<i>-04</i>
<i>SW-14-2' - 041922</i>			<i>SS</i>	<i>2'</i>		<i>1435</i>	<i>1</i>											<i>-05</i>
<i>SW-17-2' - 041922</i>			<i>SS</i>	<i>2'</i>		<i>1450</i>	<i>1</i>											<i>-06</i>
<i>SW-19-2' - 041922</i>		<i>✓</i>	<i>SS</i>	<i>2'</i>	<i>✓</i>	<i>1500</i>	<i>1</i>											<i>-07</i>
			<i>SS</i>															
			<i>SS</i>															
			<i>SS</i>															

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

Remarks:

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier

Tracking # *5719 6077 7985*

Relinquished by: (Signature) *[Signature]* Date: *4-19-22* Time: *1815*

Relinquished by: (Signature) Date: Time:

Relinquished by: (Signature) Date: Time:

Received by: (Signature) Trip Blank Received: Yes ☒ No ☐

Temp: *20.6* °C Bottles Received: *6* If preservation required by Login: Date/Time

Received for lab by: (Signature) *[Signature]* Date: *4/20/22* Time: *0900* Hold: Condition: ☒ NCF ☐ OK

Sample Receipt Checklist

COC Seal Present/Intact: ☒ NP ☐ Y ☐ N

COC Signed/Accurate: ☒ Y ☐ N

Bottles arrive intact: ☒ Y ☐ N

Correct bottles used: ☒ Y ☐ N

Sufficient volume sent: ☒ Y ☐ N

If Applicable

VOA Zero Headspace: ☐ Y ☒ N

Preservation Correct/Checked: ☐ Y ☒ N

RAD Screen <0.5 mR/hr: ☐ Y ☒ N

4/20-NCF-L1484208/L1484210 COPARCA

R1/R2

Time estimate: 0h Time spent: 0h

Members

 Hailey Melson (responsible)  Christopher McCord

Due on 23 April 2022 5:00 PM for target Done

- ☐ Login Clarification needed
- ☐ Chain of custody is incomplete
- ☐ Please specify Metals requested
- ☐ Please specify TCLP requested
- ☒ Received additional samples not listed on COC
- ☐ Sample IDs on containers do not match IDs on COC
- ☐ Client did not "X" analysis
- ☐ Chain of Custody is missing
- ☐ If no COC: Received by: _____
- ☐ If no COC: Date/Time: _____
- ☐ If no COC: Temp./Cont.Rec./pH: _____
- ☐ If no COC: Carrier: _____
- ☐ If no COC: Tracking #: _____
- ☐ Client informed by call
- ☒ Client informed by Email
- ☐ Client informed by Voicemail
- ☒ Date/Time: 4/20/22 13:14
- ☒ PM initials: CM
- ☒ Client Contact: Justin Nixon

Comments

Hailey Melson

20 April 2022 11:13 AM

Received the attached list of samples not listed on COC.

Christopher McCord

20 April 2022 1:15 PM

Log additional samples received for CHLORIDE-300, TS under L1484208 and log for BTEXGRO, DRONM, TS on as separate SDG as R5 due 4/27.



ANALYTICAL REPORT

May 18, 2022

Revised Report

Arcadis_ConocoPhillips

Sample Delivery Group: L1484210
Samples Received: 04/20/2022
Project Number: 30130426
Description: Copperhead CTB

Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Entire Report Reviewed By:

Chris McCord
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 Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

B-22-4-041922 L1484210-01 Solid

Collected by

Collected date/time

Received date/time

04/19/22 14:00

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851748	1	04/21/22 18:48	04/21/22 19:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 00:36	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 10:21	JAS	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

B-23-4-041922 L1484210-02 Solid

Collected by

Collected date/time

Received date/time

04/19/22 14:05

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851748	1	04/21/22 18:48	04/21/22 19:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 00:58	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 01:06	JAS	Mt. Juliet, TN

SW-10-2-041922 L1484210-03 Solid

Collected by

Collected date/time

Received date/time

04/19/22 14:10

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851748	1	04/21/22 18:48	04/21/22 19:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 02:43	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 01:20	JAS	Mt. Juliet, TN

SW-12-2-041922 L1484210-04 Solid

Collected by

Collected date/time

Received date/time

04/19/22 14:30

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851748	1	04/21/22 18:48	04/21/22 19:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 03:05	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 02:05	JAS	Mt. Juliet, TN

SW-14-2-041922 L1484210-05 Solid

Collected by

Collected date/time

Received date/time

04/19/22 14:35

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851748	1	04/21/22 18:48	04/21/22 19:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 03:26	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 10:34	JAS	Mt. Juliet, TN

SW-17-2-041922 L1484210-06 Solid

Collected by

Collected date/time

Received date/time

04/19/22 14:50

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851748	1	04/21/22 18:48	04/21/22 19:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 03:48	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 03:53	JAS	Mt. Juliet, TN

SW-18-2-041922 L1484210-07 Solid

Collected by

Collected date/time

Received date/time

04/19/22 15:00

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851748	1	04/21/22 18:48	04/21/22 19:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 04:09	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 04:06	JAS	Mt. Juliet, TN

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

B-16-4-041822 L1484210-08 Solid

Collected by

Collected date/time

Received date/time

04/18/22 15:20

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851748	1	04/21/22 18:48	04/21/22 19:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 04:31	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 04:20	JAS	Mt. Juliet, TN

B-17-2-041822 L1484210-09 Solid

Collected by

Collected date/time

Received date/time

04/18/22 15:30

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851748	1	04/21/22 18:48	04/21/22 19:02	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 04:52	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 04:33	JAS	Mt. Juliet, TN

B-20-4-041922 L1484210-10 Solid

Collected by

Collected date/time

Received date/time

04/19/22 10:25

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851749	1	04/21/22 10:40	04/21/22 10:53	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 05:14	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 04:47	JAS	Mt. Juliet, TN

B-21-4-041922 L1484210-11 Solid

Collected by

Collected date/time

Received date/time

04/19/22 10:40

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851749	1	04/21/22 10:40	04/21/22 10:53	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 05:35	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 05:00	JAS	Mt. Juliet, TN

SW-16A-2-041822 L1484210-12 Solid

Collected by

Collected date/time

Received date/time

04/18/22 15:45

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851749	1	04/21/22 10:40	04/21/22 10:53	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 05:57	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 05:14	JAS	Mt. Juliet, TN

SW-26-2-041822 L1484210-13 Solid

Collected by

Collected date/time

Received date/time

04/18/22 15:00

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851749	1	04/21/22 10:40	04/21/22 10:53	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 06:19	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 05:27	JAS	Mt. Juliet, TN

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

SW-28-2-041822 L1484210-14 Solid

Collected by

Collected date/time

Received date/time

04/18/22 15:15

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851749	1	04/21/22 10:40	04/21/22 10:53	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 06:40	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 05:40	JAS	Mt. Juliet, TN

SW-30-2-041922 L1484210-15 Solid

Collected by

Collected date/time

Received date/time

04/19/22 10:00

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851749	1	04/21/22 10:40	04/21/22 10:53	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 07:02	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 05:54	JAS	Mt. Juliet, TN

SW-32-2-041922 L1484210-16 Solid

Collected by

Collected date/time

Received date/time

04/19/22 10:10

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851749	1	04/21/22 10:40	04/21/22 10:53	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 07:23	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 06:07	JAS	Mt. Juliet, TN

SW-33-2-041922 L1484210-17 Solid

Collected by

Collected date/time

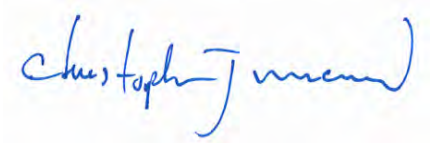
Received date/time

04/19/22 10:15

04/20/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1851749	1	04/21/22 10:40	04/21/22 10:53	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1852309	1	04/21/22 10:38	04/22/22 07:45	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1854041	1	04/25/22 17:35	04/26/22 06:21	JAS	Mt. Juliet, TN

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 McCord
Project Manager

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

Report Revision History

Level II Report - Version 1: 04/26/22 21:30

Project Narrative

5/18/22: Revised samples IDs.

Collected date/time: 04/19/22 14:00

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.2		1	04/21/2022 19:02	WG1851748

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000123	0.000514	1	04/22/2022 00:36	WG1852309
Toluene	0.000695	J	0.000154	0.00514	1	04/22/2022 00:36	WG1852309
Ethylbenzene	U		0.000113	0.000514	1	04/22/2022 00:36	WG1852309
Total Xylene	U		0.000473	0.00154	1	04/22/2022 00:36	WG1852309
TPH (GC/FID) Low Fraction	U		0.0223	0.103	1	04/22/2022 00:36	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/22/2022 00:36	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	103			72.0-128		04/22/2022 00:36	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	5.22		1.66	4.11	1	04/26/2022 10:21	WG1854041
C28-C36 Motor Oil Range	11.9		0.282	4.11	1	04/26/2022 10:21	WG1854041
(S) o-Terphenyl	44.9			18.0-148		04/26/2022 10:21	WG1854041

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/19/22 14:05

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.4		1	04/21/2022 19:02	WG1851748

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000123	0.000513	1	04/22/2022 00:58	WG1852309
Toluene	0.00147	J	0.000154	0.00513	1	04/22/2022 00:58	WG1852309
Ethylbenzene	U		0.000113	0.000513	1	04/22/2022 00:58	WG1852309
Total Xylene	U		0.000472	0.00154	1	04/22/2022 00:58	WG1852309
TPH (GC/FID) Low Fraction	U		0.0223	0.103	1	04/22/2022 00:58	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/22/2022 00:58	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 00:58	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	6.41		1.65	4.11	1	04/26/2022 01:06	WG1854041
C28-C36 Motor Oil Range	14.1		0.281	4.11	1	04/26/2022 01:06	WG1854041
(S) o-Terphenyl	67.7			18.0-148		04/26/2022 01:06	WG1854041

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SW-10-2-041922
Collected date/time: 04/19/22 14:10

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.5		1	04/21/2022 19:02	WG1851748

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000126	0.000523	1	04/22/2022 02:43	WG1852309
Toluene	U		0.000157	0.00523	1	04/22/2022 02:43	WG1852309
Ethylbenzene	U		0.000115	0.000523	1	04/22/2022 02:43	WG1852309
Total Xylene	U		0.000481	0.00157	1	04/22/2022 02:43	WG1852309
TPH (GC/FID) Low Fraction	U		0.0227	0.105	1	04/22/2022 02:43	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	108			77.0-120		04/22/2022 02:43	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	100			72.0-128		04/22/2022 02:43	WG1852309

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	2.50	J J3	1.69	4.19	1	04/26/2022 01:20	WG1854041
C28-C36 Motor Oil Range	15.2		0.287	4.19	1	04/26/2022 01:20	WG1854041
(S) o-Terphenyl	64.2			18.0-148		04/26/2022 01:20	WG1854041

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SW-12-041922
Collected date/time: 04/19/22 14:30

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.9		1	04/21/2022 19:02	WG1851748

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	0.00116		0.000126	0.000527	1	04/22/2022 03:05	WG1852309
Toluene	0.00180	J	0.000158	0.00527	1	04/22/2022 03:05	WG1852309
Ethylbenzene	U		0.000116	0.000527	1	04/22/2022 03:05	WG1852309
Total Xylene	U		0.000485	0.00158	1	04/22/2022 03:05	WG1852309
TPH (GC/FID) Low Fraction	U		0.0229	0.105	1	04/22/2022 03:05	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/22/2022 03:05	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 03:05	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	2.84	J	1.70	4.22	1	04/26/2022 02:05	WG1854041
C28-C36 Motor Oil Range	17.4		0.289	4.22	1	04/26/2022 02:05	WG1854041
(S) o-Terphenyl	74.6			18.0-148		04/26/2022 02:05	WG1854041

SW-14-2-041922
Collected date/time: 04/19/22 14:35

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.9		1	04/21/2022 19:02	WG1851748

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	0.00112		0.000128	0.000532	1	04/22/2022 03:26	WG1852309
Toluene	0.00130	J	0.000160	0.00532	1	04/22/2022 03:26	WG1852309
Ethylbenzene	U		0.000117	0.000532	1	04/22/2022 03:26	WG1852309
Total Xylene	U		0.000490	0.00160	1	04/22/2022 03:26	WG1852309
TPH (GC/FID) Low Fraction	U		0.0231	0.106	1	04/22/2022 03:26	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/22/2022 03:26	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 03:26	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	3.81	J	1.71	4.26	1	04/26/2022 10:34	WG1854041
C28-C36 Motor Oil Range	22.9		0.292	4.26	1	04/26/2022 10:34	WG1854041
(S) o-Terphenyl	72.8			18.0-148		04/26/2022 10:34	WG1854041

SW-17-2-041922
Collected date/time: 04/19/22 14:50

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.7		1	04/21/2022 19:02	WG1851748

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	0.00105		0.000128	0.000534	1	04/22/2022 03:48	WG1852309
Toluene	0.00152	J	0.000160	0.00534	1	04/22/2022 03:48	WG1852309
Ethylbenzene	U		0.000117	0.000534	1	04/22/2022 03:48	WG1852309
Total Xylene	U		0.000491	0.00160	1	04/22/2022 03:48	WG1852309
TPH (GC/FID) Low Fraction	U		0.0232	0.107	1	04/22/2022 03:48	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/22/2022 03:48	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 03:48	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	3.49	J	1.72	4.27	1	04/26/2022 03:53	WG1854041
C28-C36 Motor Oil Range	13.5		0.293	4.27	1	04/26/2022 03:53	WG1854041
(S) o-Terphenyl	62.3			18.0-148		04/26/2022 03:53	WG1854041

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/19/22 15:00

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.6		1	04/21/2022 19:02	WG1851748

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	0.000755		0.000128	0.000534	1	04/22/2022 04:09	WG1852309
Toluene	0.00151	J	0.000160	0.00534	1	04/22/2022 04:09	WG1852309
Ethylbenzene	U		0.000118	0.000534	1	04/22/2022 04:09	WG1852309
Total Xylene	U		0.000491	0.00160	1	04/22/2022 04:09	WG1852309
TPH (GC/FID) Low Fraction	U		0.0232	0.107	1	04/22/2022 04:09	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		04/22/2022 04:09	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 04:09	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	2.05	J	1.72	4.27	1	04/26/2022 04:06	WG1854041
C28-C36 Motor Oil Range	12.8		0.293	4.27	1	04/26/2022 04:06	WG1854041
(S) o-Terphenyl	58.5			18.0-148		04/26/2022 04:06	WG1854041

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/18/22 15:20

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	84.3		1	04/21/2022 19:02	WG1851748

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000142	0.000593	1	04/22/2022 04:31	WG1852309
Toluene	U		0.000178	0.00593	1	04/22/2022 04:31	WG1852309
Ethylbenzene	U		0.000130	0.000593	1	04/22/2022 04:31	WG1852309
Total Xylene	U		0.000546	0.00178	1	04/22/2022 04:31	WG1852309
TPH (GC/FID) Low Fraction	U		0.0257	0.119	1	04/22/2022 04:31	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		04/22/2022 04:31	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		04/22/2022 04:31	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.91	4.74	1	04/26/2022 04:20	WG1854041
C28-C36 Motor Oil Range	3.02	J	0.325	4.74	1	04/26/2022 04:20	WG1854041
(S) o-Terphenyl	57.7			18.0-148		04/26/2022 04:20	WG1854041

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/18/22 15:30

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.8		1	04/21/2022 19:02	WG1851748

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000138	0.000576	1	04/22/2022 04:52	WG1852309
Toluene	U		0.000173	0.00576	1	04/22/2022 04:52	WG1852309
Ethylbenzene	U		0.000127	0.000576	1	04/22/2022 04:52	WG1852309
Total Xylene	U		0.000530	0.00173	1	04/22/2022 04:52	WG1852309
TPH (GC/FID) Low Fraction	U		0.0250	0.115	1	04/22/2022 04:52	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/22/2022 04:52	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 04:52	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	1.92	J	1.86	4.61	1	04/26/2022 04:33	WG1854041
C28-C36 Motor Oil Range	6.69		0.316	4.61	1	04/26/2022 04:33	WG1854041
(S) o-Terphenyl	73.8			18.0-148		04/26/2022 04:33	WG1854041

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/19/22 10:25

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.3		1	04/21/2022 10:53	WG1851749

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000131	0.000548	1	04/22/2022 05:14	WG1852309
Toluene	U		0.000164	0.00548	1	04/22/2022 05:14	WG1852309
Ethylbenzene	U		0.000120	0.000548	1	04/22/2022 05:14	WG1852309
Total Xylene	U		0.000504	0.00164	1	04/22/2022 05:14	WG1852309
TPH (GC/FID) Low Fraction	U		0.0238	0.110	1	04/22/2022 05:14	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		04/22/2022 05:14	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 05:14	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.76	4.38	1	04/26/2022 04:47	WG1854041
C28-C36 Motor Oil Range	6.32		0.300	4.38	1	04/26/2022 04:47	WG1854041
(S) o-Terphenyl	68.9			18.0-148		04/26/2022 04:47	WG1854041

Collected date/time: 04/19/22 10:40

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.1		1	04/21/2022 10:53	WG1851749

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000139	0.000580	1	04/22/2022 05:35	WG1852309
Toluene	U		0.000174	0.00580	1	04/22/2022 05:35	WG1852309
Ethylbenzene	U		0.000128	0.000580	1	04/22/2022 05:35	WG1852309
Total Xylene	U		0.000534	0.00174	1	04/22/2022 05:35	WG1852309
TPH (GC/FID) Low Fraction	U		0.0252	0.116	1	04/22/2022 05:35	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/22/2022 05:35	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 05:35	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.87	4.64	1	04/26/2022 05:00	WG1854041
C28-C36 Motor Oil Range	3.98	J	0.318	4.64	1	04/26/2022 05:00	WG1854041
(S) o-Terphenyl	51.1			18.0-148		04/26/2022 05:00	WG1854041

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/18/22 15:45

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.3		1	04/21/2022 10:53	WG1851749

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000131	0.000548	1	04/22/2022 05:57	WG1852309
Toluene	U		0.000164	0.00548	1	04/22/2022 05:57	WG1852309
Ethylbenzene	U		0.000121	0.000548	1	04/22/2022 05:57	WG1852309
Total Xylene	U		0.000504	0.00164	1	04/22/2022 05:57	WG1852309
TPH (GC/FID) Low Fraction	U		0.0238	0.110	1	04/22/2022 05:57	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/22/2022 05:57	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		04/22/2022 05:57	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.76	4.38	1	04/26/2022 05:14	WG1854041
C28-C36 Motor Oil Range	8.56		0.300	4.38	1	04/26/2022 05:14	WG1854041
(S) o-Terphenyl	71.5			18.0-148		04/26/2022 05:14	WG1854041

SW-2642-041822
Collected date/time: 04/18/22 15:00

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.5		1	04/21/2022 10:53	WG1851749

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000130	0.000540	1	04/22/2022 06:19	WG1852309
Toluene	U		0.000162	0.00540	1	04/22/2022 06:19	WG1852309
Ethylbenzene	U		0.000119	0.000540	1	04/22/2022 06:19	WG1852309
Total Xylene	U		0.000497	0.00162	1	04/22/2022 06:19	WG1852309
TPH (GC/FID) Low Fraction	U		0.0235	0.108	1	04/22/2022 06:19	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/22/2022 06:19	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 06:19	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.74	4.32	1	04/26/2022 05:27	WG1854041
C28-C36 Motor Oil Range	8.17		0.296	4.32	1	04/26/2022 05:27	WG1854041
(S) o-Terphenyl	65.5			18.0-148		04/26/2022 05:27	WG1854041

SW-2642-041822
Collected date/time: 04/18/22 15:15

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.4		1	04/21/2022 10:53	WG1851749

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000131	0.000547	1	04/22/2022 06:40	WG1852309
Toluene	U		0.000164	0.00547	1	04/22/2022 06:40	WG1852309
Ethylbenzene	U		0.000120	0.000547	1	04/22/2022 06:40	WG1852309
Total Xylene	U		0.000503	0.00164	1	04/22/2022 06:40	WG1852309
TPH (GC/FID) Low Fraction	U		0.0237	0.109	1	04/22/2022 06:40	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/22/2022 06:40	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 06:40	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.76	4.38	1	04/26/2022 05:40	WG1854041
C28-C36 Motor Oil Range	10.9		0.300	4.38	1	04/26/2022 05:40	WG1854041
(S) o-Terphenyl	67.3			18.0-148		04/26/2022 05:40	WG1854041

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SW-3042-041922
Collected date/time: 04/19/22 10:00

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.8		1	04/21/2022 10:53	WG1851749

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000128	0.000533	1	04/22/2022 07:02	WG1852309
Toluene	U		0.000160	0.00533	1	04/22/2022 07:02	WG1852309
Ethylbenzene	U		0.000117	0.000533	1	04/22/2022 07:02	WG1852309
Total Xylene	U		0.000490	0.00160	1	04/22/2022 07:02	WG1852309
TPH (GC/FID) Low Fraction	U		0.0231	0.107	1	04/22/2022 07:02	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		04/22/2022 07:02	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 07:02	WG1852309

3 Ss

4 Cn

5 Sr

6 Qc

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	1.78	J	1.72	4.26	1	04/26/2022 05:54	WG1854041
C28-C36 Motor Oil Range	11.1		0.292	4.26	1	04/26/2022 05:54	WG1854041
(S) o-Terphenyl	59.7			18.0-148		04/26/2022 05:54	WG1854041

7 Gl

8 Al

9 Sc

SW-3242-041922
Collected date/time: 04/19/22 10:10

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.7		1	04/21/2022 10:53	WG1851749

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000129	0.000539	1	04/22/2022 07:23	WG1852309
Toluene	U		0.000162	0.00539	1	04/22/2022 07:23	WG1852309
Ethylbenzene	U		0.000119	0.000539	1	04/22/2022 07:23	WG1852309
Total Xylene	U		0.000496	0.00162	1	04/22/2022 07:23	WG1852309
TPH (GC/FID) Low Fraction	U		0.0234	0.108	1	04/22/2022 07:23	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/22/2022 07:23	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 07:23	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	1.96	J	1.74	4.32	1	04/26/2022 06:07	WG1854041
C28-C36 Motor Oil Range	12.7		0.296	4.32	1	04/26/2022 06:07	WG1854041
(S) o-Terphenyl	71.7			18.0-148		04/26/2022 06:07	WG1854041

SW-3542-041922

Collected date/time: 04/19/22 10:15

L1484210

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.5		1	04/21/2022 10:53	WG1851749

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000128	0.000535	1	04/22/2022 07:45	WG1852309
Toluene	U		0.000160	0.00535	1	04/22/2022 07:45	WG1852309
Ethylbenzene	U		0.000118	0.000535	1	04/22/2022 07:45	WG1852309
Total Xylene	U		0.000492	0.00160	1	04/22/2022 07:45	WG1852309
TPH (GC/FID) Low Fraction	U		0.0232	0.107	1	04/22/2022 07:45	WG1852309
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/22/2022 07:45	WG1852309
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		04/22/2022 07:45	WG1852309

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	1.84	<u>J</u>	1.72	4.28	1	04/26/2022 06:21	WG1854041
C28-C36 Motor Oil Range	13.3		0.293	4.28	1	04/26/2022 06:21	WG1854041
(S) o-Terphenyl	69.6			18.0-148		04/26/2022 06:21	WG1854041

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011 [L1484210-01,02,03,04,05,06,07,08,09](#)

Method Blank (MB)

(MB) R3784143-1 04/21/22 19:02

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1484210-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1484210-04 04/21/22 19:02 • (DUP) R3784143-3 04/21/22 19:02

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	94.9	94.7	1	0.191		10

Laboratory Control Sample (LCS)

(LCS) R3784143-2 04/21/22 19:02

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	99.9	85.0-115	

⁷Gl

⁸Al

⁹Sc

Total Solids by Method 2540 G-2011 [L1484210-10,11,12,13,14,15,16,17](#)

Method Blank (MB)

(MB) R3783969-1 04/21/22 10:53

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1484210-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1484210-15 04/21/22 10:53 • (DUP) R3783969-3 04/21/22 10:53

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	93.8	93.8	1	0.0385		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3783969-2 04/21/22 10:53

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Volatile Organic Compounds (GC) by Method 8015/8021

[L1484210-01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17](#)

Method Blank (MB)

(MB) R3784660-3 04/22/22 00:15

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	112			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	103			72.0-128

Laboratory Control Sample (LCS)

(LCS) R3784660-1 04/21/22 21:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.05	91.8	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			102	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			107	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3784660-2 04/21/22 23:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0423	84.6	76.0-121	
Toluene	0.0500	0.0437	87.4	80.0-120	
Ethylbenzene	0.0500	0.0432	86.4	80.0-124	
Total Xylene	0.150	0.129	86.0	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			112	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			102	72.0-128	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Volatile Organic Compounds (GC) by Method 8015/8021

L1484210-01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17

L1484210-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1484210-09 04/22/22 04:52 • (MS) R3784660-4 04/22/22 09:11 • (MSD) R3784660-5 04/22/22 09:32

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	6.34	U	3.62	3.25	57.1	51.3	1	10.0-151			10.7	28
(S) a,a,a-Trifluorotoluene(FID)					99.3	101		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					104	102		72.0-128				

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

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

L1484210-01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17

Method Blank (MB)

(MB) R3785115-1 04/25/22 23:52

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	73.7			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3785115-2 04/26/22 00:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	38.1	76.2	50.0-150	
(S) o-Terphenyl			103	18.0-148	

L1484210-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1484210-03 04/26/22 01:20 • (MS) R3785115-3 04/26/22 01:33 • (MSD) R3785115-4 04/26/22 01:51

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	52.0	2.50	36.3	29.1	65.0	51.1	1	50.0-150		J3	22.1	20
(S) o-Terphenyl					72.2	66.9		18.0-148				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Guide to Reading and Understanding Your Laboratory Report

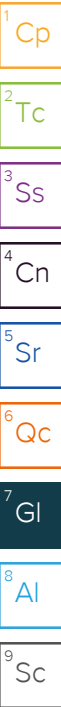
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	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.



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.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Company Name/Address: Arcadis_ConocoPhillips		Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129		Pres Chk		Analysis / Container / Preservative										Chain of Custody	
1004 N. Big Spring St. Suite 121 Midland, TX 79701		Report to: Justin Nixon		Email To: justin.nixon@arcadis.com;william.foord@arcadi		<div style="text-align: center;">  MT JULIET, TN 12065 Lebanon Rd Mount Juliet, TN 37122 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 </div>										SDG # L1484210 Table # Acctnum: COPARCA Template: T206699 Prelogin: P915946 PM: 526 - Chris McCord PB: Shipped Via:	
Project Description: Copperhead CTB		City/State Collected: Eddy County, NY		Please Circle: PT MT CT ET												BTEXGRO, DRONM 4ozClr-NoPres CHLORIDE-300 4ozClr-NoPres	
Phone: 432-214-2972		Client Project # 30130426		Lab Project # COPARCA-30130426													
Collected by (print): <i>Justin Nixon</i>		Site/Facility ID #		P.O. #													
Collected by (signature): <i>[Signature]</i>		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #													
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Date Results Needed Standard		No. of Cntrs													
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time											Remarks	Sample # (lab only)
B-22-4' -041922	Comp	SS		4-19-22		X											-01
B-23-4' -041922		SS															-02
SW-10-2' -041922		SS															-03
SW-12-2' -041922		SS															-04
SW-14-2' -041922		SS															-05
SW-17-2' -041922		SS															-06
SW-19-2' -041922		SS															-07
		SS															
		SS															
		SS															

* Matrix:

SS - Soil AIR - Air F - Filter

GW - Groundwater B - Bioassay

WW - Wastewater

DW - Drinking Water

OT - Other

Remarks:

Samples returned via:
☐ UPS ☒ FedEx ☐ Courier

Tracking # **5719 6177 7985**

pH _____ Temp _____

Flow _____ Other _____

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☐ N

COC Signed/Accurate: ☒ Y ☐ N

Bottles arrive intact: ☒ Y ☐ N

Correct bottles used: ☒ Y ☐ N

Sufficient volume sent: ☒ Y ☐ N

If Applicable

VOA Zero Headspace: ☐ Y ☐ N

Preservation Correct/Checked: ☒ Y ☐ N

RAD Screen <0.5 mR/hr: ☒ Y ☐ N

Relinquished by: (Signature) <i>[Signature]</i>	Date: 4-19-22	Time: 815	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> HCL/MeOH TBR
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature)	Temp: °C JAAL6.6+0=-.6
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Bottles Received: 0900 If preservation required by Login: Date/Time Hold: 0900 Condition: NCE / OK

4/20-NCF-L1484208/L1484210 COPARCA

R1/R2

Time estimate: oh

Time spent: oh

Members

HM Hailey Melson (responsible) Christopher McCord

Due on 23 April 2022 5:00 PM for target Done

- ☐ Login Clarification needed
- ☐ Chain of custody is incomplete
- ☐ Please specify Metals requested
- ☐ Please specify TCLP requested
- ☒ Received additional samples not listed on COC
- ☐ Sample IDs on containers do not match IDs on COC
- ☐ Client did not "X" analysis
- ☐ Chain of Custody is missing
- ☐ If no COC: Received by: _____
- ☐ If no COC: Date/Time: _____
- ☐ If no COC: Temp./Cont.Rec./pH: _____
- ☐ If no COC: Carrier: _____
- ☐ If no COC: Tracking #: _____
- ☐ Client informed by call
- ☒ Client informed by Email
- ☐ Client informed by Voicemail
- ☒ Date/Time: 4/20/22 13:14
- ☒ PM initials: CM
- ☒ Client Contact: Justin Nixon

Comments

Hailey Melson

20 April 2022 11:13 AM

Received the attached list of samples not listed on COC.

Christopher McCord

20 April 2022 1:15 PM

Log additional samples received for CHLORIDE-300, TS under L1484208 and log for BTEXGRO, DRONM, TS on as separate SDG as R5 due 4/27.

Chris McCord

From: Nixon, Justin <Justin.Nixon@arcadis.com>
Sent: Tuesday, May 10, 2022 2:35 PM
To: Chris McCord; Foord, Scott
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291

Categories: Reporting Follow-up

CAUTION: This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Chris,

Thank you for taking the time to discuss earlier along with helping on the costs to finalize the last 2 batches.

Here is a list of what is needed corrected for the nomenclature:

-For L1483715, L1484210 we need to change SW-19 to SW-18 -L1484811, L1484817 please change B-23 to B-30
-L1488507 (waiting on the lab report for the BTEX and TPH) change B-24 to B-32, B-25 to B-34, and B-27 to B-36.

If you have any questions or need clarification, please let us know.

Thanks,

Justin

-----Original Message-----

From: Chris McCord <Chris.McCord@pacelabs.com>
Sent: Monday, May 9, 2022 11:46 AM
To: Nixon, Justin <Justin.Nixon@arcadis.com>; Foord, Scott <William.Foord@arcadis.com>
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291

I updated the date on that one too after it went out. Sorry for the confusion.

Thanks.

Christopher McCord
Project Manager II | National
Pace Analytical - National
12065 Lebanon Road | Mt. Juliet, TN 37122
o.615.773.3281 | pacenational.com

MAKE YOUR PAYMENTS ONLINE

Please note that email addresses for staff at the Pace Analytical National Center for Testing & Innovation have changed. My new email address is chris.mccord@pacelabs.com. Please update your records accordingly.

-----Original Message-----

From: Nixon, Justin <Justin.Nixon@arcadis.com>
Sent: Monday, May 09, 2022 9:12 AM
To: Chris McCord <Chris.McCord@pacelabs.com>; Foord, Scott <William.Foord@arcadis.com>
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291



ANALYTICAL REPORT

May 18, 2022

Revised Report

Arcadis_ConocoPhillips

Sample Delivery Group: L1484811
Samples Received: 04/21/2022
Project Number: 30130426
Description: Copperhead CTB

Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Entire Report Reviewed By:

Chris McCord
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

Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
SW-23-2' L1484811-01	5	
B-30-4' L1484811-02	6	⁴ Cn
SW-25-2' L1484811-03	7	⁵ Sr
B-25-4' L1484811-04	8	
SW-27-2' L1484811-05	9	⁶ Qc
B-27-4' L1484811-06	10	
Qc: Quality Control Summary	11	⁷ Gl
Total Solids by Method 2540 G-2011	11	⁸ Al
Wet Chemistry by Method 300.0	12	
Gl: Glossary of Terms	13	⁹ Sc
Al: Accreditations & Locations	14	
Sc: Sample Chain of Custody	15	

SW-23-2' L1484811-01 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/20/22 09:40

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1852412	1	04/21/22 15:33	04/21/22 15:40	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1852562	1	04/21/22 22:40	04/22/22 05:44	LBR	Mt. Juliet, TN

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

B-30-4' L1484811-02 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/20/22 10:05

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1852412	1	04/21/22 15:33	04/21/22 15:40	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1852562	1	04/21/22 22:40	04/22/22 06:50	LBR	Mt. Juliet, TN

SW-25-2' L1484811-03 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/20/22 10:55

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1852412	1	04/21/22 15:33	04/21/22 15:40	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1852562	1	04/21/22 22:40	04/22/22 07:06	LBR	Mt. Juliet, TN

B-25-4' L1484811-04 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/20/22 10:55

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1852412	1	04/21/22 15:33	04/21/22 15:40	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1852562	1	04/21/22 22:40	04/22/22 07:22	LBR	Mt. Juliet, TN

SW-27-2' L1484811-05 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/20/22 11:40

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1852412	1	04/21/22 15:33	04/21/22 15:40	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1852562	1	04/21/22 22:40	04/22/22 07:39	LBR	Mt. Juliet, TN

B-27-4' L1484811-06 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/20/22 12:05

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1852412	1	04/21/22 15:33	04/21/22 15:40	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1852562	1.04	04/21/22 22:40	04/22/22 07:55	LBR	Mt. Juliet, TN

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 McCord
Project Manager

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Report Revision History

Level II Report - Version 1: 04/22/22 18:14

Project Narrative

5/18/22: Revised samples IDs.

Collected date/time: 04/20/22 09:40

L1484811

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.2		1	04/21/2022 15:40	WG1852412

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	22.2	J P1	11.1	24.0	1	04/22/2022 05:44	WG1852562

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/20/22 10:05

L1484811

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.0		1	04/21/2022 15:40	WG1852412

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	21.3	<u>J</u>	10.1	22.0	1	04/22/2022 06:50	WG1852562

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/20/22 10:55

L1484811

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.4		1	04/21/2022 15:40	WG1852412

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	12.0	<u>J</u>	10.8	23.4	1	04/22/2022 07:06	WG1852562

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

Collected date/time: 04/20/22 10:55

L1484811

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.8		1	04/21/2022 15:40	WG1852412

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	34.7		9.91	21.5	1	04/22/2022 07:22	WG1852562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.9		1	04/21/2022 15:40	WG1852412

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	19.2	<u>J</u>	10.5	22.8	1	04/22/2022 07:39	WG1852562

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/20/22 12:05

L1484811

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.3		1	04/21/2022 15:40	WG1852412

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		11.2	24.4	1.04	04/22/2022 07:55	WG1852562

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011 [L1484811-01,02,03,04,05,06](#)

Method Blank (MB)

(MB) R3784095-1 04/21/22 15:40

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1484811-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1484811-01 04/21/22 15:40 • (DUP) R3784095-3 04/21/22 15:40

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	83.2	83.5	1	0.343		10

Laboratory Control Sample (LCS)

(LCS) R3784095-2 04/21/22 15:40

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 300.0

[L1484811-01,02,03,04,05,06](#)

Method Blank (MB)

(MB) R3784153-1 04/21/22 23:56

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0

L1484014-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1484014-04 04/22/22 01:38 • (DUP) R3784153-3 04/22/22 01:54

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	U	U	1	0.000		20

L1484811-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1484811-01 04/22/22 05:44 • (DUP) R3784153-6 04/22/22 06:00

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	22.2	16.8	1	27.7	J P1	20

Laboratory Control Sample (LCS)

(LCS) R3784153-2 04/22/22 00:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	211	105	90.0-110	

L1484014-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1484014-04 04/22/22 01:38 • (MS) R3784153-4 04/22/22 02:11 • (MSD) R3784153-5 04/22/22 02:27

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	593	U	610	611	103	103	1	80.0-120			0.0964	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	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

J	The identification of the analyte is acceptable; the reported value is an estimate.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Company Name/Address: Arcadis_ConocoPhillips 1004 N. Big Spring St. Suite 121 Midland, TX 79701				Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129				Pres Chk		Analysis / Container / Preservative <div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEXGRO, DRONM 4ozClr-NoPres</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">CHLORIDE-300 4ozClr-NoPres</div> </div>										Chain of Custody Page ____ of ____ PEOPLE ADVANCING SCIENCE MT JULIET, TN <small>12065 Lebanon Rd. Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubs/pas-standard-terms.pdf</small>	
Report to: Justin Nixon				Email To: justin.nixon@arcadis.com; william.foord@arcadi																	
Project Description: Copperhead CTB				City/State Collected:				Please Circle: PT MT CT ET													
Phone: 432-214-2972				Client Project # 30130426				Lab Project # COPARCA-30130426													
Collected by (print): <i>Terry S. Kozzwell</i>				Site/Facility ID #				P.O. #													
Collected by (signature): 				Rush? (Lab MUST Be Notified) Same Day _____ Five Day _____ <input checked="" type="checkbox"/> Next Day _____ 5 Day (Rad Only) _____ Two Day _____ 10 Day (Rad Only) _____ Three Day _____				Quote #		Date Results Needed		No. of Cntrs									
Immediately Packed on Ice N _____ Y <input checked="" type="checkbox"/>																					
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time															
50-23-2'		Comp	SS		04/20/22	0940															
B-23-4'			SS			1005															
50-25-2'			SS			1035															
B-25-4'			SS			1055															
50-27-2'			SS			1140															
B-27-4'		Comp	SS		04/20/22	1205															
			SS																		
			SS																		
			SS																		
			SS																		

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

Remarks:

Samples returned via: _____ Tracking # **5719 6177 8753**

Relinquished by: (Signature) _____ Date: _____ Time: _____

Relinquished by: (Signature) _____ Date: _____ Time: _____

Relinquished by: (Signature) _____ Date: _____ Time: _____

pH _____ Temp _____

Flow _____ Other _____

Sample Receipt Checklist

COC Seal Present/Intact: ☒ NP ☒ N

COC Signed/Accurate: ☒ ☒ N

Bottles arrive intact: ☒ ☒ N

Correct bottles used: ☒ ☒ N

Sufficient volume sent: ☒ ☒ N

If Applicable

VOA Zero Headpace: ☒ ☒ N

Preservation Correct/Checked: ☒ ☒ N

RAD Screen <0.5 mR/hr: ☒ ☒ N

Temp: **20.0** °C Bottles Received: **20**

Date: **04/21/22** Time: **0930**

If preservation required by Login: Date/Time

Hold: _____ Condition: **NCF / OK**

Chris McCord

From: Nixon, Justin <Justin.Nixon@arcadis.com>
Sent: Tuesday, May 10, 2022 2:35 PM
To: Chris McCord; Foord, Scott
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291

Categories: Reporting Follow-up

CAUTION: This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Chris,

Thank you for taking the time to discuss earlier along with helping on the costs to finalize the last 2 batches.

Here is a list of what is needed corrected for the nomenclature:

-For L1483715, L1484210 we need to change SW-19 to SW-18 -L1484811, L1484817 please change B-23 to B-30
-L1488507 (waiting on the lab report for the BTEX and TPH) change B-24 to B-32, B-25 to B-34, and B-27 to B-36.

If you have any questions or need clarification, please let us know.

Thanks,

Justin

-----Original Message-----

From: Chris McCord <Chris.McCord@pacelabs.com>
Sent: Monday, May 9, 2022 11:46 AM
To: Nixon, Justin <Justin.Nixon@arcadis.com>; Foord, Scott <William.Foord@arcadis.com>
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291

I updated the date on that one too after it went out. Sorry for the confusion.

Thanks.

Christopher McCord
Project Manager II | National
Pace Analytical - National
12065 Lebanon Road | Mt. Juliet, TN 37122
o.615.773.3281 | pacenational.com

MAKE YOUR PAYMENTS ONLINE

Please note that email addresses for staff at the Pace Analytical National Center for Testing & Innovation have changed. My new email address is chris.mccord@pacelabs.com. Please update your records accordingly.

-----Original Message-----

From: Nixon, Justin <Justin.Nixon@arcadis.com>
Sent: Monday, May 09, 2022 9:12 AM
To: Chris McCord <Chris.McCord@pacelabs.com>; Foord, Scott <William.Foord@arcadis.com>
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291



ANALYTICAL REPORT

May 18, 2022

Revised Report

Arcadis_ConocoPhillips

Sample Delivery Group: L1484817
Samples Received: 04/21/2022
Project Number: 30130426
Description: Copperhead CTB

Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Entire Report Reviewed By:

A handwritten signature in blue ink, appearing to read "Chris McCord".

Chris McCord
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

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
SW-23-2' L1484817-01	5
B-30-4' L1484817-02	6
SW-25-2' L1484817-03	7
B-25-4' L1484817-04	8
SW-27-2' L1484817-05	9
B-27-4' L1484817-06	10
Qc: Quality Control Summary	11
Total Solids by Method 2540 G-2011	11
Volatile Organic Compounds (GC) by Method 8015/8021	12
Semi-Volatile Organic Compounds (GC) by Method 8015M	16
Gl: Glossary of Terms	17
Al: Accreditations & Locations	18
Sc: Sample Chain of Custody	19

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

SW-23-2' L1484817-01 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/20/22 09:40

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1852639	1	04/22/22 12:49	04/22/22 13:05	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1853063	1	04/22/22 08:02	04/24/22 21:14	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855224	1	04/28/22 08:14	04/28/22 18:54	JDG	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

B-30-4' L1484817-02 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/20/22 10:05

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1852639	1	04/22/22 12:49	04/22/22 13:05	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1853297	1	04/22/22 08:02	04/24/22 20:51	JHH	Mt. Juliet, TN

SW-25-2' L1484817-03 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/20/22 10:35

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1852639	1	04/22/22 12:49	04/22/22 13:05	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1853698	1.01	04/22/22 08:02	04/25/22 20:08	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855224	1	04/28/22 08:14	04/28/22 19:33	JDG	Mt. Juliet, TN

B-25-4' L1484817-04 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/20/22 10:55

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1852639	1	04/22/22 12:49	04/22/22 13:05	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1853698	1	04/22/22 08:02	04/25/22 20:29	ACG	Mt. Juliet, TN

SW-27-2' L1484817-05 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/20/22 11:40

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1852639	1	04/22/22 12:49	04/22/22 13:05	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1853698	1	04/22/22 08:02	04/25/22 20:51	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1855224	1	04/28/22 08:14	04/28/22 19:45	JDG	Mt. Juliet, TN

B-27-4' L1484817-06 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/20/22 12:05

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1852639	1	04/22/22 12:49	04/22/22 13:05	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1853698	1.01	04/22/22 08:02	04/25/22 21:13	ACG	Mt. Juliet, TN

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 McCord
Project Manager

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Report Revision History

Level II Report - Version 1: 04/29/22 13:52

Project Narrative

5/18/22: Revised samples IDs.

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	83.2		1	04/22/2022 13:05	WG1852639

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	0.000440	B J	0.000144	0.000601	1	04/24/2022 21:14	WG1853063
Toluene	0.000936	B J	0.000180	0.00601	1	04/24/2022 21:14	WG1853063
Ethylbenzene	0.000453	J	0.000132	0.000601	1	04/24/2022 21:14	WG1853063
Total Xylene	0.000753	B J	0.000553	0.00180	1	04/24/2022 21:14	WG1853063
TPH (GC/FID) Low Fraction	U		0.0261	0.120	1	04/24/2022 21:14	WG1853063
(S) a,a,a-Trifluorotoluene(FID)	105			77.0-120		04/24/2022 21:14	WG1853063
(S) a,a,a-Trifluorotoluene(PID)	106			72.0-128		04/24/2022 21:14	WG1853063

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.16	J	1.93	4.81	1	04/28/2022 18:54	WG1855224
C28-C36 Motor Oil Range	5.73		0.329	4.81	1	04/28/2022 18:54	WG1855224
(S) o-Terphenyl	58.2			18.0-148		04/28/2022 18:54	WG1855224

Collected date/time: 04/20/22 10:05

L1484817

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.3		1	04/22/2022 13:05	WG1852639

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000508	B J	0.000139	0.000580	1	04/24/2022 20:51	WG1853297
Toluene	0.000902	B J	0.000174	0.00580	1	04/24/2022 20:51	WG1853297
Ethylbenzene	0.000357	J	0.000128	0.000580	1	04/24/2022 20:51	WG1853297
Total Xylene	0.00101	B J	0.000533	0.00174	1	04/24/2022 20:51	WG1853297
TPH (GC/FID) Low Fraction	U		0.0252	0.116	1	04/24/2022 20:51	WG1853297
(S) a,a,a-Trifluorotoluene(FID)	105			77.0-120		04/24/2022 20:51	WG1853297
(S) a,a,a-Trifluorotoluene(PID)	105			72.0-128		04/24/2022 20:51	WG1853297

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	86.4		1	04/22/2022 13:05	WG1852639

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	0.00134	J3 J5	0.000140	0.000585	1.01	04/25/2022 20:08	WG1853698
Toluene	0.00179	J J3 J5	0.000176	0.00585	1.01	04/25/2022 20:08	WG1853698
Ethylbenzene	U	J3	0.000129	0.000585	1.01	04/25/2022 20:08	WG1853698
Total Xylene	U	J3	0.000538	0.00176	1.01	04/25/2022 20:08	WG1853698
TPH (GC/FID) Low Fraction	U		0.0254	0.117	1.01	04/25/2022 20:08	WG1853698
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/25/2022 20:08	WG1853698
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		04/25/2022 20:08	WG1853698

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.09	J	1.86	4.63	1	04/28/2022 19:33	WG1855224
C28-C36 Motor Oil Range	9.73		0.317	4.63	1	04/28/2022 19:33	WG1855224
(S) o-Terphenyl	69.6			18.0-148		04/28/2022 19:33	WG1855224

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/20/22 10:55

L1484817

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	73.3		1	04/22/2022 13:05	WG1852639

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000164	0.000682	1	04/25/2022 20:29	WG1853698
Toluene	U		0.000205	0.00682	1	04/25/2022 20:29	WG1853698
Ethylbenzene	U		0.000150	0.000682	1	04/25/2022 20:29	WG1853698
Total Xylene	U		0.000628	0.00205	1	04/25/2022 20:29	WG1853698
TPH (GC/FID) Low Fraction	U		0.0296	0.136	1	04/25/2022 20:29	WG1853698
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		04/25/2022 20:29	WG1853698
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		04/25/2022 20:29	WG1853698

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	86.4		1	04/22/2022 13:05	WG1852639

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	0.00122		0.000139	0.000579	1	04/25/2022 20:51	WG1853698
Toluene	0.00254	<u>J</u>	0.000174	0.00579	1	04/25/2022 20:51	WG1853698
Ethylbenzene	U		0.000127	0.000579	1	04/25/2022 20:51	WG1853698
Total Xylene	U		0.000533	0.00174	1	04/25/2022 20:51	WG1853698
TPH (GC/FID) Low Fraction	U		0.0251	0.116	1	04/25/2022 20:51	WG1853698
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/25/2022 20:51	WG1853698
(S) a,a,a-Trifluorotoluene(PID)	103			72.0-128		04/25/2022 20:51	WG1853698

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.77	<u>J</u>	1.86	4.63	1	04/28/2022 19:45	WG1855224
C28-C36 Motor Oil Range	13.3		0.317	4.63	1	04/28/2022 19:45	WG1855224
(S) o-Terphenyl	68.7			18.0-148		04/28/2022 19:45	WG1855224

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/20/22 12:05

L1484817

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	82.6		1	04/22/2022 13:05	WG1852639

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000147	0.000612	1.01	04/25/2022 21:13	WG1853698
Toluene	U		0.000184	0.00612	1.01	04/25/2022 21:13	WG1853698
Ethylbenzene	U		0.000134	0.000612	1.01	04/25/2022 21:13	WG1853698
Total Xylene	U		0.000563	0.00184	1.01	04/25/2022 21:13	WG1853698
TPH (GC/FID) Low Fraction	U		0.0265	0.122	1.01	04/25/2022 21:13	WG1853698
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		04/25/2022 21:13	WG1853698
(S) a,a,a-Trifluorotoluene(PID)	100			72.0-128		04/25/2022 21:13	WG1853698

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011 [L1484817-01,02,03,04,05,06](#)

Method Blank (MB)

(MB) R3784283-1 04/22/22 13:05

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1484817-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1484817-04 04/22/22 13:05 • (DUP) R3784283-3 04/22/22 13:05

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	73.3	73.8	1	0.630		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3784283-2 04/22/22 13:05

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Volatile Organic Compounds (GC) by Method 8015/8021

L1484817-01

Method Blank (MB)

(MB) R3785484-3 04/24/22 19:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000267	U	0.000120	0.000500
Toluene	0.000260	U	0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	0.000530	U	0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	106			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	106			72.0-128

Laboratory Control Sample (LCS)

(LCS) R3785484-1 04/24/22 18:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0450	90.0	76.0-121	
Toluene	0.0500	0.0497	99.4	80.0-120	
Ethylbenzene	0.0500	0.0440	88.0	80.0-124	
Total Xylene	0.150	0.142	94.7	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			105	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			104	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3785484-2 04/24/22 18:27

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.22	94.9	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			109	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			112	72.0-128	

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Volatile Organic Compounds (GC) by Method 8015/8021

L1484817-02

Method Blank (MB)

(MB) R3785485-3 04/24/22 19:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000267	U	0.000120	0.000500
Toluene	0.000260	U	0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	0.000530	U	0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	106			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	106			72.0-128

Laboratory Control Sample (LCS)

(LCS) R3785485-1 04/24/22 18:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0450	90.0	76.0-121	
Toluene	0.0500	0.0497	99.4	80.0-120	
Ethylbenzene	0.0500	0.0440	88.0	80.0-124	
Total Xylene	0.150	0.142	94.7	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			105	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			104	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3785485-2 04/24/22 18:27

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.22	94.9	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			109	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			112	72.0-128	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

L1484817-03,04,05,06

Method Blank (MB)

(MB) R3784968-3 04/25/22 19:25

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128

Laboratory Control Sample (LCS)

(LCS) R3784968-1 04/25/22 18:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0435	87.0	76.0-121	
Toluene	0.0500	0.0462	92.4	80.0-120	
Ethylbenzene	0.0500	0.0447	89.4	80.0-124	
Total Xylene	0.150	0.136	90.7	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			111	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			101	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3784968-2 04/25/22 18:42

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.94	89.8	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			100	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			105	72.0-128	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1484817-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1484817-03 04/25/22 20:08 • (MS) R3784968-4 04/26/22 03:41 • (MSD) R3784968-5 04/26/22 04:02

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0579	0.00134	0.0250	0.101	40.9	173	1	10.0-155		J3 J5	121	32
Toluene	0.0579	0.00179	0.0267	0.0989	43.1	168	1	10.0-160		J3 J5	115	34
Ethylbenzene	0.0579	U	0.0242	0.0883	41.8	153	1	10.0-160		J3	114	32
Total Xylene	0.174	U	0.0719	0.263	41.4	151	1	10.0-160		J3	114	32
(S) a,a,a-Trifluorotoluene(FID)					111	109		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					102	98.7		72.0-128				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

L1484817-01,03,05

Method Blank (MB)

(MB) R3786434-1 04/28/22 18:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	0.475	⬇	0.274	4.00
(S) o-Terphenyl	78.7			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3786434-2 04/28/22 18:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	35.0	70.0	50.0-150	
(S) o-Terphenyl			77.5	18.0-148	

L1484817-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1484817-01 04/28/22 18:54 • (MS) R3786434-3 04/28/22 19:07 • (MSD) R3786434-4 04/28/22 19:20

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	56.9	2.16	39.5	44.2	65.6	74.3	1	50.0-150			11.2	20
(S) o-Terphenyl					73.3	78.7		18.0-148				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Guide to Reading and Understanding Your Laboratory Report

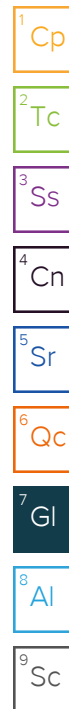
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	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.
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.



Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122


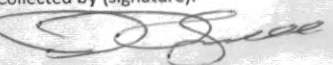
Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	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.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Company Name/Address: Arcadis_ConocoPhillips 1004 N. Big Spring St. Suite 121 Midland, TX 79701				Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129				Analysis / Container / Preservative Pres Chk				Chain of Custody Page <u>283</u> of <u>361</u>  MT JULIET, TN 12065 Lebanon Rd. Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubs/pas-standard-terms.pdf							
Report to: Justin Nixon				Email To: justin.nixon@arcadis.com;william.foord@arcadis.com				SDG # <u>U484817</u> E004 Acctnum: COPARCA Template: T206699 Prelogin: P915946 PM: 526 - Chris McCord PB: Shipped Via:											
Project Description: Copperhead CTB				City/State Collected:								Please Circle: PT MT CT ET							
Phone: 432-214-2972				Client Project # 30130426								Lab Project # COPARCA-30130426							
Collected by (print): <i>Terry S. Longwell</i>				Site/Facility ID #								P.O. #							
Collected by (signature): 				Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day				Quote #											
Immediately Packed on Ice N <u> </u> Y <u>X</u>				Date Results Needed				No. of Cntrs											
Sample ID				Comp/Grab		Matrix *		Depth		Date		Time		BTEXGRO, DRONM 4ozClr-NoPres CHLORIDE-300 4ozClr-NoPres		Remarks		Sample # (lab only)	
SW-23-2'				Comp		SS		042022		0940		1		X		-41		-41	
B-23-4'				Comp		SS		042022		1005		1		X		-42		-42	
SW-25-2'				Comp		SS		042022		1035		1		X		-43		-43	
B-25-4'				Comp		SS		042022		1055		1		X		-44		-44	
SW-27-2'				Comp		SS		042022		1140		1		X		-45		-45	
B-27-4'				Comp		SS		042022		1205		1		X		-46		-46	
SS				Comp		SS		042022		1205		1		X		-47		-47	
SS				Comp		SS		042022		1205		1		X		-48		-48	
SS				Comp		SS		042022		1205		1		X		-49		-49	
SS				Comp		SS		042022		1205		1		X		-50		-50	
SS				Comp		SS		042022		1205		1		X		-51		-51	
SS				Comp		SS		042022		1205		1		X		-52		-52	
SS				Comp		SS		042022		1205		1		X		-53		-53	
SS				Comp		SS		042022		1205		1		X		-54		-54	
SS				Comp		SS		042022		1205		1		X		-55		-55	
SS				Comp		SS		042022		1205		1		X		-56		-56	
SS				Comp		SS		042022		1205		1		X		-57		-57	
SS				Comp		SS		042022		1205		1		X		-58		-58	
SS				Comp		SS		042022		1205		1		X		-59		-59	
SS				Comp		SS		042022		1205		1		X		-60		-60	
SS				Comp		SS		042022		1205		1		X		-61		-61	
SS				Comp		SS		042022		1205		1		X		-62		-62	
SS				Comp		SS		042022		1205		1		X		-63		-63	
SS				Comp		SS		042022		1205		1		X		-64		-64	
SS				Comp		SS		042022		1205		1		X		-65		-65	
SS				Comp		SS		042022		1205		1		X		-66		-66	
SS				Comp		SS		042022		1205		1		X		-67		-67	
SS				Comp		SS		042022		1205		1		X		-68		-68	
SS				Comp		SS		042022		1205		1		X		-69		-69	
SS				Comp		SS		042022		1205		1		X		-70		-70	
SS				Comp		SS		042022		1205		1		X		-71		-71	
SS				Comp		SS		042022		1205		1		X		-72		-72	
SS				Comp		SS		042022		1205		1		X		-73		-73	
SS				Comp		SS		042022		1205		1		X		-74		-74	
SS				Comp		SS		042022		1205		1		X		-75		-75	
SS				Comp		SS		042022		1205		1		X		-76		-76	
SS				Comp		SS		042022		1205		1		X		-77		-77	
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SS				Comp		SS		042022		1205		1		X		-79		-79	
SS				Comp		SS		042022		1205		1		X		-80		-80	
SS				Comp		SS		042022		1205		1		X		-81		-81	
SS				Comp		SS		042022		1205		1		X		-82		-82	
SS				Comp		SS		042022		1205		1		X		-83		-83	
SS				Comp		SS		042022		1205		1		X		-84		-84	
SS				Comp		SS		042022		1205		1		X		-85		-85	
SS				Comp		SS		042022		1205		1		X		-86		-86	
SS				Comp		SS		042022		1205		1		X		-87		-87	
SS				Comp		SS		042022		1205		1		X		-88		-88	
SS				Comp		SS		042022		1205		1		X		-89		-89	
SS				Comp		SS		042022		1205		1		X		-90		-90	
SS				Comp		SS		042022		1205		1		X		-91		-91	
SS				Comp															

Chris McCord

From: Nixon, Justin <Justin.Nixon@arcadis.com>
Sent: Tuesday, May 10, 2022 2:35 PM
To: Chris McCord; Foord, Scott
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291

Categories: Reporting Follow-up

CAUTION: This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Chris,

Thank you for taking the time to discuss earlier along with helping on the costs to finalize the last 2 batches.

Here is a list of what is needed corrected for the nomenclature:

-For L1483715, L1484210 we need to change SW-19 to SW-18 -L1484811, L1484817 please change B-23 to B-30
-L1488507 (waiting on the lab report for the BTEX and TPH) change B-24 to B-32, B-25 to B-34, and B-27 to B-36.

If you have any questions or need clarification, please let us know.

Thanks,

Justin

-----Original Message-----

From: Chris McCord <Chris.McCord@pacelabs.com>
Sent: Monday, May 9, 2022 11:46 AM
To: Nixon, Justin <Justin.Nixon@arcadis.com>; Foord, Scott <William.Foord@arcadis.com>
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291

I updated the date on that one too after it went out. Sorry for the confusion.

Thanks.

Christopher McCord
Project Manager II | National
Pace Analytical - National
12065 Lebanon Road | Mt. Juliet, TN 37122
o.615.773.3281 | pacenational.com

MAKE YOUR PAYMENTS ONLINE

Please note that email addresses for staff at the Pace Analytical National Center for Testing & Innovation have changed. My new email address is chris.mccord@pacelabs.com. Please update your records accordingly.

-----Original Message-----

From: Nixon, Justin <Justin.Nixon@arcadis.com>
Sent: Monday, May 09, 2022 9:12 AM
To: Chris McCord <Chris.McCord@pacelabs.com>; Foord, Scott <William.Foord@arcadis.com>
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291



ANALYTICAL REPORT

April 26, 2022

Arcadis_ConocoPhillips

Sample Delivery Group: L1485949
Samples Received: 04/23/2022
Project Number: 30130426
Description: Copperhead CTB

Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

Entire Report Reviewed By:

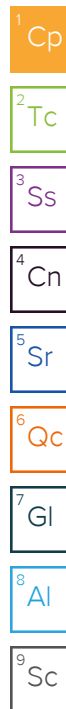
A handwritten signature in blue ink, appearing to read "Chris McCord".

Chris McCord
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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SW-31-2' L1485949-03	8
B-31-2.5' L1485949-04	9
B-33-2.5' L1485949-05	10
SW-37-2' L1485949-06	11
SW-39-1' L1485949-07	12
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SW-29-2' L1485949-01 Solid

				Collected by Jerry S. Longwell	Collected date/time 04/21/22 08:50	Received date/time 04/23/22 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1853843	1	04/25/22 10:16	04/25/22 10:56	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854105	1	04/25/22 22:17	04/26/22 04:05	KEG	Mt. Juliet, TN

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

B-29-2.5' L1485949-02 Solid

				Collected by Jerry S. Longwell	Collected date/time 04/21/22 09:09	Received date/time 04/23/22 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1853843	1	04/25/22 10:16	04/25/22 10:56	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854105	1	04/25/22 22:17	04/26/22 04:38	KEG	Mt. Juliet, TN

SW-31-2' L1485949-03 Solid

				Collected by Jerry S. Longwell	Collected date/time 04/21/22 09:50	Received date/time 04/23/22 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1853843	1	04/25/22 10:16	04/25/22 10:56	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854105	1	04/25/22 22:17	04/26/22 04:54	KEG	Mt. Juliet, TN

B-31-2.5' L1485949-04 Solid

				Collected by Jerry S. Longwell	Collected date/time 04/21/22 10:15	Received date/time 04/23/22 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1853843	1	04/25/22 10:16	04/25/22 10:56	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854105	1	04/25/22 22:17	04/26/22 05:11	KEG	Mt. Juliet, TN

B-33-2.5' L1485949-05 Solid

				Collected by Jerry S. Longwell	Collected date/time 04/21/22 12:10	Received date/time 04/23/22 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1853843	1	04/25/22 10:16	04/25/22 10:56	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854105	1	04/25/22 22:17	04/26/22 05:27	KEG	Mt. Juliet, TN

SW-37-2' L1485949-06 Solid

				Collected by Jerry S. Longwell	Collected date/time 04/21/22 11:34	Received date/time 04/23/22 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1853843	1	04/25/22 10:16	04/25/22 10:56	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854105	1	04/25/22 22:17	04/26/22 06:16	KEG	Mt. Juliet, TN

SW-39-1' L1485949-07 Solid

				Collected by Jerry S. Longwell	Collected date/time 04/21/22 14:50	Received date/time 04/23/22 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1853843	1	04/25/22 10:16	04/25/22 10:56	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854105	1.02	04/25/22 22:17	04/26/22 06:33	KEG	Mt. Juliet, TN

B-35-1' L1485949-08 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/21/22 13:00

Received date/time
04/23/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1853843	1	04/25/22 10:16	04/25/22 10:56	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854105	1.03	04/25/22 22:17	04/26/22 06:49	KEG	Mt. Juliet, TN

¹ Cp² Tc³ Ss

SW-35-2.5' L1485949-09 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/21/22 13:25

Received date/time
04/23/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1853843	1	04/25/22 10:16	04/25/22 10:56	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854105	1	04/25/22 22:17	04/26/22 07:06	KEG	Mt. Juliet, TN

⁴ Cn⁵ Sr⁶ Qc

SW-43-1' L1485949-10 Solid

Collected by
Jerry S. Longwell

Collected date/time
04/21/22 14:20

Received date/time
04/23/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1853843	1	04/25/22 10:16	04/25/22 10:56	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854105	1	04/25/22 22:17	04/26/22 07:22	KEG	Mt. Juliet, TN

⁷ Gl⁸ Al⁹ Sc

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 McCord
Project Manager

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	79.8		1	04/25/2022 10:56	WG1853843

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	15.3	<u>J</u>	11.5	25.1	1	04/26/2022 04:05	WG1854105

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

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	76.0		1	04/25/2022 10:56	WG1853843

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	68.8		12.1	26.3	1	04/26/2022 04:38	WG1854105

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

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.0		1	04/25/2022 10:56	WG1853843

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		11.1	24.1	1	04/26/2022 04:54	WG1854105

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Collected date/time: 04/21/22 10:15

L1485949

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.3		1	04/25/2022 10:56	WG1853843

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	35.3		11.0	24.0	1	04/26/2022 05:11	WG1854105

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	78.7		1	04/25/2022 10:56	WG1853843

¹ Cp

² Tc

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	71.1		11.7	25.4	1	04/26/2022 05:27	WG1854105

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Collected date/time: 04/21/22 11:34

L1485949

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	89.5		1	04/25/2022 10:56	WG1853843

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	204		10.3	22.4	1	04/26/2022 06:16	WG1854105

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.9		1	04/25/2022 10:56	WG1853843

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	12.4	<u>J</u>	10.9	23.8	1.02	04/26/2022 06:33	WG1854105

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/21/22 13:00

L1485949

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.2		1	04/25/2022 10:56	WG1853843

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	268		10.8	23.4	1.03	04/26/2022 06:49	WG1854105

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	82.8		1	04/25/2022 10:56	WG1853843

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	249		11.1	24.2	1	04/26/2022 07:06	WG1854105

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	81.0		1	04/25/2022 10:56	WG1853843

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

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	14.5	<u>J</u>	11.4	24.7	1	04/26/2022 07:22	WG1854105

Total Solids by Method 2540 G-2011 [L1485949-01,02,03,04,05,06,07,08,09,10](#)

Method Blank (MB)

(MB) R3784997-1 04/25/22 10:56

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00200			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1485949-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485949-01 04/25/22 10:56 • (DUP) R3784997-3 04/25/22 10:56

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	79.8	78.2	1	2.01		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3784997-2 04/25/22 10:56

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Wet Chemistry by Method 300.0

[L1485949-01,02,03,04,05,06,07,08,09,10](#)

Method Blank (MB)

(MB) R3784977-1 04/25/22 23:23

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0

L1484728-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1484728-01 04/26/22 00:16 • (DUP) R3784977-3 04/26/22 00:32

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP RPD Limits
Chloride	66.9	64.4	1	3.77	20

L1485949-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485949-01 04/26/22 04:05 • (DUP) R3784977-6 04/26/22 04:22

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP RPD Limits
Chloride	15.3	12.6	1.02	19.0	20

Laboratory Control Sample (LCS)

(LCS) R3784977-2 04/25/22 23:42

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	213	106	90.0-110	

L1484728-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1484728-01 04/26/22 00:16 • (MS) R3784977-4 04/26/22 00:48 • (MSD) R3784977-5 04/26/22 01:05

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
Chloride	500	66.9	572	570	101	101	1	80.0-120			0.353	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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.

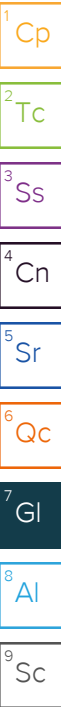
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	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

J	The identification of the analyte is acceptable; the reported value is an estimate.
---	---



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.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Released to Imaging: 10/27/2022 3:50:39 PM



ANALYTICAL REPORT

May 18, 2022

Revised Report

Arcadis_ConocoPhillips

Sample Delivery Group: L1488507
Samples Received: 05/02/2022
Project Number: 30130426
Description: Copperhead CTB

Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Entire Report Reviewed By:

A handwritten signature in blue ink, appearing to read "Chris McCord".

Chris McCord
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 Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

B-32-2.5-042522 L1488507-01 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:00
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858296	1	05/04/22 07:49	05/04/22 07:54	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 03:04	KEG	Mt. Juliet, TN

¹ Cp² Tc³ Ss

B-34-2.5-042522 L1488507-02 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:10
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858296	1	05/04/22 07:49	05/04/22 07:54	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 04:01	KEG	Mt. Juliet, TN

⁴ Cn⁵ Sr⁶ Qc

B-26-2.5-042522 L1488507-03 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:15
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858296	1	05/04/22 07:49	05/04/22 07:54	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 04:11	KEG	Mt. Juliet, TN

⁷ Gl⁸ Al⁹ Sc

B-36-2.5-042522 L1488507-04 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:20
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858296	1	05/04/22 07:49	05/04/22 07:54	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 04:20	KEG	Mt. Juliet, TN

B-28-2.5-042522 L1488507-05 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:30
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858296	1	05/04/22 07:49	05/04/22 07:54	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 04:30	KEG	Mt. Juliet, TN

B-42-2-042522 L1488507-06 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:40
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858296	1	05/04/22 07:49	05/04/22 07:54	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 04:39	KEG	Mt. Juliet, TN

B-44-2-042522 L1488507-07 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:45
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858296	1	05/04/22 07:49	05/04/22 07:54	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 04:49	KEG	Mt. Juliet, TN

B-46-2-042522 L1488507-08 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:50
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858296	1	05/04/22 07:49	05/04/22 07:54	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 04:58	KEG	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SW-38-1-042522 L1488507-09 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 14:00
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858296	1	05/04/22 07:49	05/04/22 07:54	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 05:27	KEG	Mt. Juliet, TN

SW-44-1-042522 L1488507-12 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 14:20
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858296	1	05/04/22 07:49	05/04/22 07:54	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 05:37	KEG	Mt. Juliet, TN

SW-46-1-042522 L1488507-13 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 14:30
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858297	1	05/04/22 07:59	05/04/22 08:06	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 05:46	KEG	Mt. Juliet, TN

B-47-1-042522 L1488507-14 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 15:05
Received date/time 05/02/22 09:00

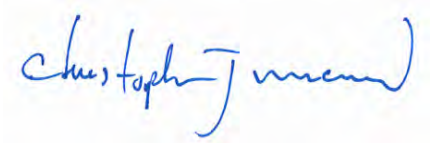
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858297	1	05/04/22 07:59	05/04/22 08:06	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 06:05	KEG	Mt. Juliet, TN

SW-48-1-042522 L1488507-16 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 15:10
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1858297	1	05/04/22 07:59	05/04/22 08:06	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1858229	1	05/03/22 23:10	05/04/22 06:15	KEG	Mt. Juliet, TN

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 McCord
Project Manager

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

Report Revision History

Level II Report - Version 1: 05/04/22 17:06

Project Narrative

5/18/22: Revised samples IDs.

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.6		1	05/04/2022 07:54	WG1858296

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	222		9.63	20.9	1	05/04/2022 03:04	WG1858229

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.9		1	05/04/2022 07:54	WG1858296

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	38.0		9.40	20.4	1	05/04/2022 04:01	WG1858229

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.4		1	05/04/2022 07:54	WG1858296

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	164		9.75	21.2	1	05/04/2022 04:11	WG1858229

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.3		1	05/04/2022 07:54	WG1858296

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	30.0		9.45	20.5	1	05/04/2022 04:20	WG1858229

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Collected date/time: 04/25/22 13:30

L1488507

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.2		1	05/04/2022 07:54	WG1858296

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	101		9.46	20.6	1	05/04/2022 04:30	WG1858229

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/25/22 13:40

L1488507

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.9		1	05/04/2022 07:54	WG1858296

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	16.1	<u>J</u>	9.70	21.1	1	05/04/2022 04:39	WG1858229

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/25/22 13:45

L1488507

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.7		1	05/04/2022 07:54	WG1858296

¹ Cp

² Tc

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	121		9.42	20.5	1	05/04/2022 04:49	WG1858229

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.2		1	05/04/2022 07:54	WG1858296

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	138		9.46	20.6	1	05/04/2022 04:58	WG1858229

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.7		1	05/04/2022 07:54	WG1858296

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	165		9.61	20.9	1	05/04/2022 05:27	WG1858229

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/25/22 14:20

L1488507

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.9		1	05/04/2022 07:54	WG1858296

¹ Cp² Tc

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	12.6	<u>J</u>	10.0	21.8	1	05/04/2022 05:37	WG1858229

³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/25/22 14:30

L1488507

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.5		1	05/04/2022 08:06	WG1858297

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	23.3	P1	10.2	22.1	1	05/04/2022 05:46	WG1858229

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/25/22 15:05

L1488507

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.4		1	05/04/2022 08:06	WG1858297

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	84.0		9.85	21.4	1	05/04/2022 06:05	WG1858229

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/25/22 15:10

L1488507

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.8		1	05/04/2022 08:06	WG1858297

Wet Chemistry by Method 300.0

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	128		10.1	22.0	1	05/04/2022 06:15	WG1858229

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

[L1488507-01,02,03,04,05,06,07,08,09,12](#)

Method Blank (MB)

(MB) R3788066-1 05/04/22 07:54

Analyte	MB Result %	<u>MB Qualifier</u>	MB MDL %	MB RDL %
Total Solids	0.000			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1488507-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1488507-02 05/04/22 07:54 • (DUP) R3788066-3 05/04/22 07:54

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits
Total Solids	97.9	97.7	1	0.162		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3788066-2 05/04/22 07:54

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Total Solids by Method 2540 G-2011 [L1488507-13,14,16](#)

Method Blank (MB)

(MB) R3788068-1 05/04/22 08:06

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00200			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1488691-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1488691-01 05/04/22 08:06 • (DUP) R3788068-3 05/04/22 08:06

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	96.2	95.4	1	0.880		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3788068-2 05/04/22 08:06

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Wet Chemistry by Method 300.0

[L1488507-01,02,03,04,05,06,07,08,09,12,13,14,16](#)

Method Blank (MB)

(MB) R3787797-1 05/04/22 00:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0

L1488507-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1488507-01 05/04/22 03:04 • (DUP) R3787797-3 05/04/22 03:33

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	222	213	1	4.36		20

L1488507-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1488507-13 05/04/22 05:46 • (DUP) R3787797-6 05/04/22 05:56

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	23.3	34.9	1	39.9	P1	20

Laboratory Control Sample (LCS)

(LCS) R3787797-2 05/04/22 00:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	217	108	90.0-110	

L1488507-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1488507-01 05/04/22 03:04 • (MS) R3787797-4 05/04/22 03:42 • (MSD) R3787797-5 05/04/22 03:52

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	523	222	749	744	101	99.8	1	80.0-120			0.588	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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.

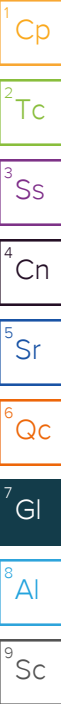
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	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

J	The identification of the analyte is acceptable; the reported value is an estimate.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.



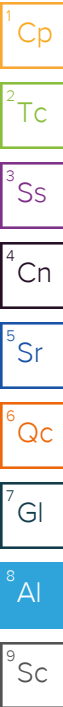
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



Company Name/Address: Arcadis_ConocoPhillips						Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129						Pres Chk		Analysis / Container / Preservative										Chain of Custody Page 1 of 2					
1004 N. Big Spring St. Suite 121 Midland, TX 79701																								 PEOPLE ADVANCING SCIENCE					
Report to: Justin Nixon						Email To: justin.nixon@arcadis.com;william.foord@arcadi																		MT JULIET, TN					
Project Description: Copperhead CTB						City/State Collected: Eddy County, NM						Please Circle: PT MT CT ET												12065 Lebanon Rd Mount Juliet, TN 37122 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					
Phone: 432-214-2972						Client Project # 30130426						Lab Project # COPARCA-30130426												SDG # L1988507 H124					
Collected by (print): Justin Nixon						Site/Facility ID #						P.O. #												Acctnum: COPARCA					
Collected by (signature): 						Rush? (Lab MUST Be Notified) <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day						Quote #												Template: T206699					
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>						Date Results Needed 4-27-22						No. of Cntrs												Prelogin: P915946 PM: 526 - Chris McCord PB:					
Sample ID						Comp/Grab		Matrix *		Depth		Date		Time												Shipped Via:			
B-24-2.5'-042522						COMP		SS		2.5'		04/25/22		1300		2												Remarks Sample # (lab only)	
B-25-2.5'-042522								SS		2.5'				1310														01	
B-26-2.5'-042522								SS		2.5'				1315														02	
B-27-2.5'-042522								SS		2.5'				1320														03	
B-28-2.5'-042522								SS		2.5'				1330														04	
B-42-2'-042522								SS		2'				1340														05	
B-44-2'-042522								SS		2'				1345														06	
B-46-2-042522								SS		2'				1350														07	
SW-38-1'-042522								SS		1'				1400														08	
SW-40-1'-042522								SS		1'				1405														09	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other _____						Remarks:						pH _____ Temp _____ Flow _____ Other _____						Samples returned via: ____ UPS <input checked="" type="checkbox"/> FedEx ____ Courier _____ Tracking # 5719 6177 8356						Temp: 23.1 ± 0.2 °C Bottles Received: 3Y					
Relinquished by : (Signature)						Date: 4-25-22						Time: 1815						Received by: (Signature)						Trip Blank Received: Yes / No HCL / MeOH TBR					
Relinquished by : (Signature)						Date:						Time:						Received by: (Signature)						If preservation required by Login: Date/Time					
Relinquished by : (Signature)						Date:						Time:						Received by: (Signature)						Hold: Condition: NCF / OK					

Used to Imaging: 10/27/2022 3:50:39 PM

Company Name/Address: Arcadis_ConocoPhillips		Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129		Pres Chk		Analysis / Container / Preservative										Chain of Custody Page 2 of 2	
1004 N. Big Spring St. Suite 121 Midland, TX 79701		Report to: Justin Nixon		Email To: justin.nixon@arcadis.com;william.foord@arcadi		<div style="text-align: center;">  MT JULIET, TN <small>12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubs/pas-standard-terms.pdf</small> </div>										<div style="text-align: center;">  MT JULIET, TN <small>12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubs/pas-standard-terms.pdf</small> </div>	
Project Description: Copperhead CTB		City/State Collected: Eddy County NM		Please Circle: PT MT CT ET													
Phone: 432-214-2972		Client Project # 30130426		Lab Project # COPARCA-30130426													
Collected by (print): <i>Justin Nixon</i>		Site/Facility ID #		P.O. #													
Collected by (signature): <i>Justin Nixon</i>		Rush? (Lab MUST Be Notified) Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input checked="" type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day <input type="checkbox"/>		Quote # 4-27-22													
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Date Results Needed 4-27-22		No. of Cntrs													
Sample ID		Comp/Grab		Matrix *		Depth		Date		Time		No. of Cntrs		Remarks		Sample # (lab only)	
SW-42-1'-042522		Comp		SS		1'		04/25/22		1410		2		X		11	
SW-44-1'-042522		↓		SS		1'		↓		1420		↓		X		12	
SW-46-1'-042522		↓		SS		1'		↓		1430		↓		X		13	
SW-47-1'-042522		↓		SS		1'		↓		1500		↓		X		14	
B-47-1'-042522		↓		SS		1'		4/25/22		1505		↓		X		15	
SW-52-1'-042522		Comp		SS		1'		↓		1500		↓		X		16	
SW-48-1'-042522		↓		SS		1'		↓		1510		↓		X		17	
SW-50-1'-042522		↓		SS		1'		↓		1520		↓		X		18	
				SS													
				SS													

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

Remarks:

Samples returned via: ☒ UPS ☐ FedEx ☐ Courier _____ Tracking # _____

Relinquished by: (Signature) *[Signature]* Date: **4-25-22** Time: **1815**

Relinquished by: (Signature) _____ Date: _____ Time: _____

Relinquished by: (Signature) _____ Date: _____ Time: _____

Received by: (Signature) *[Signature]* Date: **5/1/22** Time: **0900**

Trip Blank Received: Yes / No
HCL / MeOH
TBR

Temp: **23.4** °C Bottles Received: **34**

If preservation required by Login: Date/Time

Hold: _____ Condition: **OK**

5/2/22 - NCF L1488507 / L1488511 COPARCA

R1/R2

Time estimate: oh

Time spent: oh

Members



Matthew Shacklock (responsible)



Christopher McCord

- ☐ Parameter(s) past holding time
- ☒ Temperature not in range
- ☐ Improper container type
- ☐ pH not in range
- ☐ Insufficient sample volume
- ☐ Sample is biphasic
- ☐ Vials received with headspace
- ☐ Broken container
- ☐ Sufficient sample remains
- ☐ If broken container: Insufficient packing material around container
- ☐ If broken container: Insufficient packing material inside cooler
- ☐ If broken container: Improper handling by carrier: _____
- ☐ If broken container: Sample was frozen
- ☐ If broken container: Container lid not intact
- ☐ Client informed by Call
- ☒ Client informed by Email
- ☐ Client informed by Voicemail
- ☒ Date/Time: 5/3/22 11:33
- ☒ PM initials: CM
- ☒ Client Contact: Justin Nixon

Comments

Matthew Shacklock

2 May 2022 4:05 PM

Received @ 23.1 degrees. All ice melted.
L1488507 is marked as rush

Christopher McCord

3 May 2022 2:40 PM

Run as received. Leave L1488507-10, -11, -15, -17 and L1488511-10, -11, -15, -17 on hold.
Log CHLORIDE-300, TS on L1488507 as R2 due 5/4.

Matthew Shacklock

3 May 2022 2:51 PM

Done

Chris McCord

From: Nixon, Justin <Justin.Nixon@arcadis.com>
Sent: Tuesday, May 10, 2022 2:35 PM
To: Chris McCord; Foord, Scott
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291

Categories: Reporting Follow-up

CAUTION: This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Chris,

Thank you for taking the time to discuss earlier along with helping on the costs to finalize the last 2 batches.

Here is a list of what is needed corrected for the nomenclature:

-For L1483715, L1484210 we need to change SW-19 to SW-18 -L1484811, L1484817 please change B-23 to B-30
-L1488507 (waiting on the lab report for the BTEX and TPH) change B-24 to B-32, B-25 to B-34, and B-27 to B-36.

If you have any questions or need clarification, please let us know.

Thanks,

Justin

-----Original Message-----

From: Chris McCord <Chris.McCord@pacelabs.com>
Sent: Monday, May 9, 2022 11:46 AM
To: Nixon, Justin <Justin.Nixon@arcadis.com>; Foord, Scott <William.Foord@arcadis.com>
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291

I updated the date on that one too after it went out. Sorry for the confusion.

Thanks.

Christopher McCord
Project Manager II | National
Pace Analytical - National
12065 Lebanon Road | Mt. Juliet, TN 37122
o.615.773.3281 | pacenational.com

MAKE YOUR PAYMENTS ONLINE

Please note that email addresses for staff at the Pace Analytical National Center for Testing & Innovation have changed. My new email address is chris.mccord@pacelabs.com. Please update your records accordingly.

-----Original Message-----

From: Nixon, Justin <Justin.Nixon@arcadis.com>
Sent: Monday, May 09, 2022 9:12 AM
To: Chris McCord <Chris.McCord@pacelabs.com>; Foord, Scott <William.Foord@arcadis.com>
Subject: RE: Pace Analytical National Login for 30130426 Copperhead CTB L1490291



ANALYTICAL REPORT

May 13, 2022

Arcadis_ConocoPhillips

Sample Delivery Group: L1488511
Samples Received: 05/02/2022
Project Number: 30130426
Description: Copperhead CTB

Report To: Justin Nixon
1004 N. Big Spring St.
Suite 121
Midland, TX 79701

Entire Report Reviewed By:

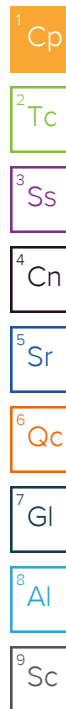
A handwritten signature in blue ink, appearing to read "Chris McCord".

Chris McCord
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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B-24-2.5-042522 L1488511-01 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:00
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859722	1	05/06/22 10:41	05/06/22 10:57	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 07:57	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 12:59	JN	Mt. Juliet, TN

¹ Cp² Tc³ Ss

B-25-2.5-042522 L1488511-02 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:10
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859722	1	05/06/22 10:41	05/06/22 10:57	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 08:18	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 12:47	JN	Mt. Juliet, TN

⁴ Cn⁵ Sr⁶ Qc⁷ Gl

B-26-2.5-042522 L1488511-03 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:15
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859722	1	05/06/22 10:41	05/06/22 10:57	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 08:40	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 13:12	JN	Mt. Juliet, TN

⁸ Al⁹ Sc

B-27-2.5-042522 L1488511-04 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:20
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859722	1	05/06/22 10:41	05/06/22 10:57	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 10:36	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 15:58	JN	Mt. Juliet, TN

B-28-2.5-042522 L1488511-05 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:30
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859722	1	05/06/22 10:41	05/06/22 10:57	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 10:57	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 14:41	JN	Mt. Juliet, TN

B-42-2-042522 L1488511-06 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:40
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859722	1	05/06/22 10:41	05/06/22 10:57	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 11:19	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 13:25	JN	Mt. Juliet, TN

B-44-2-042522 L1488511-07 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:45
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859722	1	05/06/22 10:41	05/06/22 10:57	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 11:41	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 14:54	JN	Mt. Juliet, TN

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

B-46-2-042522 L1488511-08 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 13:50
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859722	1	05/06/22 10:41	05/06/22 10:57	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 12:02	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 15:19	JN	Mt. Juliet, TN

SW-38-1-042522 L1488511-09 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 14:00
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859722	1	05/06/22 10:41	05/06/22 10:57	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 12:24	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 14:29	JN	Mt. Juliet, TN

SW-44-1-042522 L1488511-12 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 14:20
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859722	1	05/06/22 10:41	05/06/22 10:57	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 12:45	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 15:45	JN	Mt. Juliet, TN

SW-46-1-042522 L1488511-13 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 14:30
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859723	1	05/06/22 10:29	05/06/22 10:39	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 13:07	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 13:38	JN	Mt. Juliet, TN

B-47-1-042522 L1488511-14 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 15:05
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859723	1	05/06/22 10:29	05/06/22 10:39	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 13:28	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 15:32	JN	Mt. Juliet, TN

SAMPLE SUMMARY

SW-48-1-042522 L1488511-16 Solid

Collected by Justin Nixon
Collected date/time 04/25/22 15:10
Received date/time 05/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1859723	1	05/06/22 10:29	05/06/22 10:39	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1859000	1	05/04/22 15:19	05/07/22 13:50	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1860050	1	05/06/22 16:21	05/07/22 15:07	JN	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

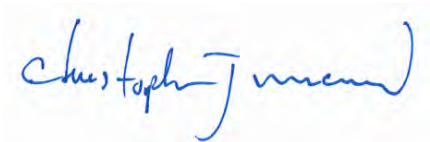
⁶Qc

⁷Gl

⁸Al

⁹Sc

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 McCord
Project Manager

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 04/25/22 13:00

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.8		1	05/06/2022 10:57	WG1859722

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000125	0.000522	1	05/07/2022 07:57	WG1859000
Toluene	0.000982	J	0.000157	0.00522	1	05/07/2022 07:57	WG1859000
Ethylbenzene	U		0.000115	0.000522	1	05/07/2022 07:57	WG1859000
Total Xylene	U		0.000480	0.00157	1	05/07/2022 07:57	WG1859000
TPH (GC/FID) Low Fraction	U		0.0226	0.104	1	05/07/2022 07:57	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120		05/07/2022 07:57	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		05/07/2022 07:57	WG1859000

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.68	4.17	1	05/07/2022 12:59	WG1860050
C28-C36 Motor Oil Range	2.34	J	0.286	4.17	1	05/07/2022 12:59	WG1860050
(S) o-Terphenyl	38.7			18.0-148		05/07/2022 12:59	WG1860050

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

B-23-215-042322
Collected date/time: 04/25/22 13:10

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	98.0		1	05/06/2022 10:57	WG1859722

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000122	0.000510	1	05/07/2022 08:18	WG1859000
Toluene	0.00105	J	0.000153	0.00510	1	05/07/2022 08:18	WG1859000
Ethylbenzene	U		0.000112	0.000510	1	05/07/2022 08:18	WG1859000
Total Xylene	U		0.000469	0.00153	1	05/07/2022 08:18	WG1859000
TPH (GC/FID) Low Fraction	U		0.0221	0.102	1	05/07/2022 08:18	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		05/07/2022 08:18	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		05/07/2022 08:18	WG1859000

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.64	4.08	1	05/07/2022 12:47	WG1860050
C28-C36 Motor Oil Range	1.25	J	0.280	4.08	1	05/07/2022 12:47	WG1860050
(S) o-Terphenyl	42.4			18.0-148		05/07/2022 12:47	WG1860050

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

B-26-215-042522
Collected date/time: 04/25/22 13:15

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.7		1	05/06/2022 10:57	WG1859722

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000127	0.000528	1	05/07/2022 08:40	WG1859000
Toluene	0.000948	J	0.000158	0.00528	1	05/07/2022 08:40	WG1859000
Ethylbenzene	U		0.000116	0.000528	1	05/07/2022 08:40	WG1859000
Total Xylene	U		0.000486	0.00158	1	05/07/2022 08:40	WG1859000
TPH (GC/FID) Low Fraction	U		0.0229	0.106	1	05/07/2022 08:40	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	112			77.0-120		05/07/2022 08:40	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		05/07/2022 08:40	WG1859000

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.70	4.23	1	05/07/2022 13:12	WG1860050
C28-C36 Motor Oil Range	2.10	J	0.289	4.23	1	05/07/2022 13:12	WG1860050
(S) o-Terphenyl	43.1			18.0-148		05/07/2022 13:12	WG1860050

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/25/22 13:20

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.5		1	05/06/2022 10:57	WG1859722

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000123	0.000513	1	05/07/2022 10:36	WG1859000
Toluene	U		0.000154	0.00513	1	05/07/2022 10:36	WG1859000
Ethylbenzene	U		0.000113	0.000513	1	05/07/2022 10:36	WG1859000
Total Xylene	U		0.000472	0.00154	1	05/07/2022 10:36	WG1859000
TPH (GC/FID) Low Fraction	U		0.0223	0.103	1	05/07/2022 10:36	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	113			77.0-120		05/07/2022 10:36	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	103			72.0-128		05/07/2022 10:36	WG1859000

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.65	4.10	1	05/07/2022 15:58	WG1860050
C28-C36 Motor Oil Range	6.01		0.281	4.10	1	05/07/2022 15:58	WG1860050
(S) o-Terphenyl	41.1			18.0-148		05/07/2022 15:58	WG1860050

B-28-2.5-042522
Collected date/time: 04/25/22 13:30

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.5		1	05/06/2022 10:57	WG1859722

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000123	0.000513	1	05/07/2022 10:57	WG1859000
Toluene	U		0.000154	0.00513	1	05/07/2022 10:57	WG1859000
Ethylbenzene	U		0.000113	0.000513	1	05/07/2022 10:57	WG1859000
Total Xylene	U		0.000472	0.00154	1	05/07/2022 10:57	WG1859000
TPH (GC/FID) Low Fraction	U		0.0223	0.103	1	05/07/2022 10:57	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		05/07/2022 10:57	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		05/07/2022 10:57	WG1859000

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.65	4.10	1	05/07/2022 14:41	WG1860050
C28-C36 Motor Oil Range	2.97	J	0.281	4.10	1	05/07/2022 14:41	WG1860050
(S) o-Terphenyl	47.1			18.0-148		05/07/2022 14:41	WG1860050

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/25/22 13:40

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.4		1	05/06/2022 10:57	WG1859722

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000126	0.000524	1	05/07/2022 11:19	WG1859000
Toluene	U		0.000157	0.00524	1	05/07/2022 11:19	WG1859000
Ethylbenzene	U		0.000115	0.000524	1	05/07/2022 11:19	WG1859000
Total Xylene	U		0.000482	0.00157	1	05/07/2022 11:19	WG1859000
TPH (GC/FID) Low Fraction	U		0.0227	0.105	1	05/07/2022 11:19	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		05/07/2022 11:19	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		05/07/2022 11:19	WG1859000

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.69	4.19	1	05/07/2022 13:25	WG1860050
C28-C36 Motor Oil Range	2.32	J	0.287	4.19	1	05/07/2022 13:25	WG1860050
(S) o-Terphenyl	43.8			18.0-148		05/07/2022 13:25	WG1860050

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/25/22 13:45

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.9		1	05/06/2022 10:57	WG1859722

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000123	0.000511	1	05/07/2022 11:41	WG1859000
Toluene	U		0.000153	0.00511	1	05/07/2022 11:41	WG1859000
Ethylbenzene	U		0.000112	0.000511	1	05/07/2022 11:41	WG1859000
Total Xylene	U		0.000470	0.00153	1	05/07/2022 11:41	WG1859000
TPH (GC/FID) Low Fraction	U		0.0222	0.102	1	05/07/2022 11:41	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	112			77.0-120		05/07/2022 11:41	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		05/07/2022 11:41	WG1859000

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.64	4.09	1	05/07/2022 14:54	WG1860050
C28-C36 Motor Oil Range	2.52	J	0.280	4.09	1	05/07/2022 14:54	WG1860050
(S) o-Terphenyl	45.5			18.0-148		05/07/2022 14:54	WG1860050

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/25/22 13:50

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.5		1	05/06/2022 10:57	WG1859722

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000123	0.000513	1	05/07/2022 12:02	WG1859000
Toluene	U		0.000154	0.00513	1	05/07/2022 12:02	WG1859000
Ethylbenzene	U		0.000113	0.000513	1	05/07/2022 12:02	WG1859000
Total Xylene	U		0.000472	0.00154	1	05/07/2022 12:02	WG1859000
TPH (GC/FID) Low Fraction	U		0.0223	0.103	1	05/07/2022 12:02	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		05/07/2022 12:02	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		05/07/2022 12:02	WG1859000

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.65	4.10	1	05/07/2022 15:19	WG1860050
C28-C36 Motor Oil Range	2.31	J	0.281	4.10	1	05/07/2022 15:19	WG1860050
(S) o-Terphenyl	44.1			18.0-148		05/07/2022 15:19	WG1860050

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/25/22 14:00

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.9		1	05/06/2022 10:57	WG1859722

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000126	0.000527	1	05/07/2022 12:24	WG1859000
Toluene	U		0.000158	0.00527	1	05/07/2022 12:24	WG1859000
Ethylbenzene	U		0.000116	0.000527	1	05/07/2022 12:24	WG1859000
Total Xylene	U		0.000485	0.00158	1	05/07/2022 12:24	WG1859000
TPH (GC/FID) Low Fraction	U		0.0229	0.105	1	05/07/2022 12:24	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		05/07/2022 12:24	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		05/07/2022 12:24	WG1859000

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.70	4.21	1	05/07/2022 14:29	WG1860050
C28-C36 Motor Oil Range	1.45	J	0.289	4.21	1	05/07/2022 14:29	WG1860050
(S) o-Terphenyl	39.3			18.0-148		05/07/2022 14:29	WG1860050

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SW-4441-042522

Collected date/time: 04/25/22 14:20

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.4		1	05/06/2022 10:57	WG1859722

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000126	0.000524	1	05/07/2022 12:45	WG1859000
Toluene	U		0.000157	0.00524	1	05/07/2022 12:45	WG1859000
Ethylbenzene	U		0.000115	0.000524	1	05/07/2022 12:45	WG1859000
Total Xylene	U		0.000482	0.00157	1	05/07/2022 12:45	WG1859000
TPH (GC/FID) Low Fraction	U		0.0228	0.105	1	05/07/2022 12:45	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		05/07/2022 12:45	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		05/07/2022 12:45	WG1859000

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.69	4.19	1	05/07/2022 15:45	WG1860050
C28-C36 Motor Oil Range	3.89	J	0.287	4.19	1	05/07/2022 15:45	WG1860050
(S) o-Terphenyl	45.7			18.0-148		05/07/2022 15:45	WG1860050

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SW-46-1-042522

Collected date/time: 04/25/22 14:30

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.8		1	05/06/2022 10:39	WG1859723

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000131	0.000545	1	05/07/2022 13:07	WG1859000
Toluene	U		0.000163	0.00545	1	05/07/2022 13:07	WG1859000
Ethylbenzene	U		0.000120	0.000545	1	05/07/2022 13:07	WG1859000
Total Xylene	U		0.000501	0.00163	1	05/07/2022 13:07	WG1859000
TPH (GC/FID) Low Fraction	U		0.0236	0.109	1	05/07/2022 13:07	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		05/07/2022 13:07	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		05/07/2022 13:07	WG1859000

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U	J6	1.75	4.36	1	05/07/2022 13:38	WG1860050
C28-C36 Motor Oil Range	1.75	J	0.298	4.36	1	05/07/2022 13:38	WG1860050
(S) o-Terphenyl	38.9			18.0-148		05/07/2022 13:38	WG1860050

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/25/22 15:05

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.9		1	05/06/2022 10:39	WG1859723

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Benzene	U		0.000128	0.000532	1	05/07/2022 13:28	WG1859000
Toluene	U		0.000160	0.00532	1	05/07/2022 13:28	WG1859000
Ethylbenzene	U		0.000117	0.000532	1	05/07/2022 13:28	WG1859000
Total Xylene	U		0.000490	0.00160	1	05/07/2022 13:28	WG1859000
TPH (GC/FID) Low Fraction	U		0.0231	0.106	1	05/07/2022 13:28	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		05/07/2022 13:28	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		05/07/2022 13:28	WG1859000

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
C10-C28 Diesel Range	U		1.71	4.26	1	05/07/2022 15:32	WG1860050
C28-C36 Motor Oil Range	2.86	J	0.292	4.26	1	05/07/2022 15:32	WG1860050
(S) o-Terphenyl	44.8			18.0-148		05/07/2022 15:32	WG1860050

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 04/25/22 15:10

L1488511

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.0		1	05/06/2022 10:39	WG1859723

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000132	0.000549	1	05/07/2022 13:50	WG1859000
Toluene	U		0.000165	0.00549	1	05/07/2022 13:50	WG1859000
Ethylbenzene	U		0.000121	0.000549	1	05/07/2022 13:50	WG1859000
Total Xylene	U		0.000505	0.00165	1	05/07/2022 13:50	WG1859000
TPH (GC/FID) Low Fraction	U		0.0238	0.110	1	05/07/2022 13:50	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120		05/07/2022 13:50	WG1859000
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		05/07/2022 13:50	WG1859000

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.77	4.40	1	05/07/2022 15:07	WG1860050
C28-C36 Motor Oil Range	1.89	J	0.301	4.40	1	05/07/2022 15:07	WG1860050
(S) o-Terphenyl	42.3			18.0-148		05/07/2022 15:07	WG1860050

Total Solids by Method 2540 G-2011 [L1488511-01,02,03,04,05,06,07,08,09,12](#)

Method Blank (MB)

(MB) R3789169-1 05/06/22 10:57

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1488511-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1488511-03 05/06/22 10:57 • (DUP) R3789169-3 05/06/22 10:57

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	94.7	94.8	1	0.142		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3789169-2 05/06/22 10:57

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Total Solids by Method 2540 G-2011 [L1488511-13,14,16](#)

Method Blank (MB)

(MB) R3789168-1 05/06/22 10:39

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00200			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1488511-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1488511-16 05/06/22 10:39 • (DUP) R3789168-3 05/06/22 10:39

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	91.0	92.3	1	1.38		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3789168-2 05/06/22 10:39

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Volatile Organic Compounds (GC) by Method 8015/8021

[L1488511-01,02,03,04,05,06,07,08,09,12,13,14,16](#)

Method Blank (MB)

(MB) R3789394-2 05/07/22 05:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	112			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3789394-1 05/07/22 04:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.91	89.3	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			101	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			103	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3789394-3 05/07/22 09:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0461	92.2	76.0-121	
Toluene	0.0500	0.0469	93.8	80.0-120	
Ethylbenzene	0.0500	0.0457	91.4	80.0-124	
Total Xylene	0.150	0.138	92.0	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			111	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			101	72.0-128	

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

[L1488511-01,02,03,04,05,06,07,08,09,12,13,14,16](#)

Method Blank (MB)

(MB) R3789458-1 05/07/22 12:09

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	41.4			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3789458-4 05/07/22 14:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	25.8	51.6	50.0-150	
(S) o-Terphenyl			53.0	18.0-148	

L1488511-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1488511-13 05/07/22 13:38 • (MS) R3789458-2 05/07/22 13:50 • (MSD) R3789458-3 05/07/22 14:03

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	54.5	U	20.3	21.0	37.2	38.6	1	50.0-150	J6	J6	3.69	20
(S) o-Terphenyl					37.1	39.8		18.0-148				

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Guide to Reading and Understanding Your Laboratory Report

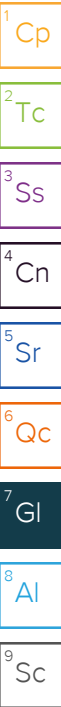
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	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.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.



Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122


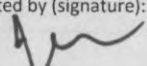
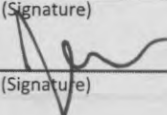
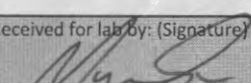
Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	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		


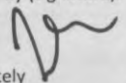
¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* 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.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Company Name/Address: Arcadis_ConocoPhillips		Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129		Pres Chk		Analysis / Container / Preservative										Chain of Custody Page <u>1</u> of <u>2</u>			
1004 N. Big Spring St. Suite 121 Midland, TX 79701		Report to: Justin Nixon		Email To: justin.nixon@arcadis.com;william.foord@arcadi												 MT JULIET, TN 12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubs/pas-standard-terms.pdf			
Project Description: Copperhead CTB		City/State Collected: Eddy Louisiana		Please Circle: PT MT CT ET															
Phone: 432-214-2972		Client Project # 30130426		Lab Project # COPARCA-30130426															
Collected by (print): Justin Nixon		Site/Facility ID #		P.O. #															
Collected by (signature): 		Rush? (Lab MUST Be Notified) ___ Same Day ___ Five Day ___ Next Day ___ 5 Day (Rad Only) ___ Two Day ___ 10 Day (Rad Only) ___ Three Day		Quote #															
Immediately Packed on Ice N ___ Y X		Date Results Needed Starling		No. of Cntrs															
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time													
B-24-2.5'-042522		Comp	SS	2.5'	09/25/22	1300	2											01	
B-25-2.5'-042522			SS	2.5'		1310	1											02	
B-26-2.5'-042522			SS	2.5'		1315	1											03	
B-27-2.5'-042522			SS	2.5'		1320	1											04	
B-28-2.5'-042522			SS	2.5'		1330	1											05	
B-42-2'-042522			SS	2'		1340	1											06	
B-44-2'-042522			SS	2'		1345	1											07	
B-46-2'-042522			SS	2'		1350	1											08	
B-50-38-1'-042522			SS	1'		1400	1											09	
SW-40-1'-042522		✓	SS	1'		1405	1											10	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks:		pH _____ Temp _____															
Samples returned via: ___ UPS X FedEx ___ Courier _____		Tracking #		Flow _____ Other _____															
Relinquished by : (Signature) 		Date: 9/25/22	Time: 1815	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: 5/2/22 Time: 0900												Hold: Condition: NCF / OK	

Company Name/Address: Arcadis_ConocoPhillips 1004 N. Big Spring St. Suite 121 Midland, TX 79701 Report to: Justin Nixon Project Description: Copperhead CTB				Billing Information: Attn: Accounts Payable 630 Plaza Drive, Suite 600 Highlands Ranch, CO 80129 Email To: justin.nixon@arcadis.com;william.foord@arcadi				Pres Chk		Analysis / Container / Preservative										Chain of Custody Page 2 of 2  MT JULIET, TN <small>12065 Lebanon Rd Mount Juliet, TN 37122 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</small>	
Phone: 432-214-2972		Client Project # 30130426		Lab Project # COPARCA-30130426		BTEXGRO, DRONM 4ozClr-NoPres CHLORIDE 300 4ozClr-NoPres												SDG # L1438511			
Collected by (print): Justin Nixon		Site/Facility ID #		P.O. #														Table #			
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #														Acctnum: COPARCA Template: T206699 Prelogin: P915946 PM: 526 - Chris McCord PB:			
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Date Results Needed Standard		No. of Cntrs														Shipped Via:			
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time													Remarks	Sample # (lab only)	
SW-42-1'-042522		Comp	SS	1'	04/25/22	1410	2													11	
SW-44-1'-042522			SS	1'		1420	1	X												12	
SW-46-1'-042522			SS	1'		1430	1	X												13	
B-47-1'-042522			SS	1'		1505	1	X												14	
SW-52-1'-042522			SS	1'		1500	1	X												15	
SW-48-1'-042522			SS	1'		1510	1	X												16	
SW-50-1'-042522			SS	1'		1520	1	X												17	
			SS																		
			SS																		
			SS																		

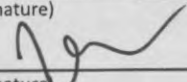
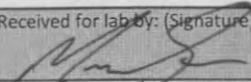
* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other _____

Remarks:

pH _____ Temp _____
 Flow _____ Other _____

Samples returned via:
☐ UPS ☒ FedEx ☐ Courier _____

Tracking # _____

Relinquished by: (Signature) 		Date: 4/25/22	Time: 1815	Received by: (Signature)		Trip Blank Received: Yes / No HCL / MeOH TBR		Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N			
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: _____ °C 23.1 4/25/22				Bottles Received: 34 If preservation required by Login: Date/Time	
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature) 		Date: 5/2/22 Time: 0900				Hold: _____ Condition: NCP / OK	



5/2/22 - NCF L1488507 / L1488511 COPARCA

R1/R2

Time estimate: oh

Time spent: oh

Members

 Matthew Shacklock (responsible)  Christopher McCord

- ☐ Parameter(s) past holding time
- ☒ Temperature not in range
- ☐ Improper container type
- ☐ pH not in range
- ☐ Insufficient sample volume
- ☐ Sample is biphasic
- ☐ Vials received with headspace
- ☐ Broken container
- ☐ Sufficient sample remains
- ☐ If broken container: Insufficient packing material around container
- ☐ If broken container: Insufficient packing material inside cooler
- ☐ If broken container: Improper handling by carrier: _____
- ☐ If broken container: Sample was frozen
- ☐ If broken container: Container lid not intact
- ☐ Client informed by Call
- ☒ Client informed by Email
- ☐ Client informed by Voicemail
- ☒ Date/Time: 5/3/22 11:33
- ☒ PM initials: CM
- ☒ Client Contact: Justin Nixon

Comments

- Matthew Shacklock 2 May 2022 4:05 PM

Received @ 23.1 degrees. All ice melted.
L1488507 is marked as rush
- Christopher McCord 3 May 2022 2:40 PM

Run as received. Leave L1488507-10, -11, -15, -17 and L1488511-10, -11, -15, -17 on hold.
Log CHLORIDE-300, TS on L1488507 as R2 due 5/4.
- Matthew Shacklock 3 May 2022 2:51 PM

Done

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Fax: 713 977 4620
www.arcadis.com

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Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 150020

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 150020
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved. Please note that the dtw boring was installed 1.10 miles away from the site, and not within 0.5 miles as was discussed and agreed upon. You installed the dtw boring within 0.5 miles from the site called Copperhead Fee A 003H, but this current release associated with nAPP2127034861 is the Copperhead Fee 31 E CTB, which was over a mile away from the dtw boring. OCD never received a work plan detailing the proposed dtw boring.	10/27/2022