

# **FREMONT ENVIRONMENTAL INC.**

May 5, 2025

Mr. James Hix  
Colorado Energy and Carbon Management Commission - Orphaned Well Program  
1120 Lincoln Street, Suite 801  
Denver, CO 80203

Subject:       **2024 Subsurface Investigation and 2024 Groundwater Monitoring Report**  
Margaret Spaulding Water Treatment Site  
SW ¼ SE ¼ Sec 28, T9N, R81W  
Jackson County, Colorado  
Fremont Project No. C016-119  
Remediation Project No. 17912 & 7058, Location #324634

Dear Mr. Hix:

Enclosed please find a copy of the above referenced Groundwater Monitoring Report for the Margaret Spaulding site in Jackson County, Colorado. The enclosed report describes monitoring and sampling efforts in 2024 to assess groundwater quality at the site. Please contact me at (720) 252-7191 if you require any additional information.

Fremont appreciates the opportunity to provide this service.

Sincerely,  
**FREMONT ENVIRONMENTAL INC.**



Nick Larimer  
Project Manager

Enclosure

**SUBSURFACE INVESTIGATION AND 2024 GROUNDWATER MONITORING**

**REPORT**

**COLORADO ENERGY AND CARBON MANAGEMENT COMMISSION**

**MARGARET SPAULDING WATER TREATMENT SITE**

**JACKSON COUNTY, COLORADO**

**FREMONT PROJECT NO. C016-119**

**REMEDIATION PROJECT NUMBER - 17912 & 7058**

**Prepared by:**

**Fremont Environmental Inc.**

**1759 Redwing Lane**

**Broomfield, CO 80020**

**(720) 252-7191**

**May 5, 2025**

## TABLE OF CONTENTS

1.0 INTRODUCTION .....	1
2.0 BACKGROUND INFORMATION .....	1
2.1 Site Location .....	1
2.2 Site History .....	2
3.0 FIELD ACTIVITIES .....	3
3.1 Soil Borings/Monitoring Well Installation.....	3
3.2 Groundwater Monitoring Activities.....	5
5.0 DISCUSSION .....	7
6.0 REMARKS.....	9

### Tables

Table 1:	Summary of Soil Chemistry Data
Table 2:	Summary of Groundwater Chemistry and Elevation Data
Table 3:	Summary of Inorganics in Groundwater Chemistry Data

### Figures

Figure 1:	Site Location Map
Figure 2:	Site Map
Figure 3 :	Cross-section Map
Figure 4 :	Cross-section A-A'
Figure 5 :	Soil Chemistry Map
Figure 6:	Inferred Groundwater Contour Map – May 15, 2024
Figure 7:	Inferred Groundwater Contour Map – October 4, 2024
Figure 8:	Groundwater Chemistry Map - May 15, 2024
Figure 9:	Groundwater Chemistry Map – October 4, 2024

## Appendices

- Appendix A: Tables and Figures from Cottonwood Consulting 2023 report. Sampl
- Appendix B: Soil Boring/Monitoring Well Logs
- Appendix C: Laboratory Documentation
- Appendix D: Sampling Plan

**SUBSURFACE INVESTIGATION AND 2024 GROUNDWATER MONITORING**  
**REPORT**

**COLORADO ENERGY AND CARBON MANAGEMENT COMMISSION (OWP)**  
**MARGARET SPAULDING WATER TREATMENT SITE**  
**JACKSON COUNTY, COLORADO**  
**FREMONT PROJECT NO. C016-119**  
**REMEDIATION PROJECT NO. 17192 & 7058**

**1.0 INTRODUCTION**

Fremont Environmental Inc. (Fremont) was retained by the Colorado Energy and Carbon Management Commission (ECMC) Orphaned Well Program (OWP) to complete additional site investigation and monitoring at the Margaret Spaulding site in Jackson County in 2024. The purpose of this document is to present the results of that work, which included installing five monitoring wells to address the contaminated soil detected in 2022 by Cottonwood Consulting LLC near the former location of ASTs at the site, along with the results of semi-annual groundwater monitoring of the site. Remediation project numbers (REM #) 17912 and 7058 are associated with the Margaret Spaulding tank battery and the produced water pits, respectively.

**2.0 BACKGROUND INFORMATION**

**2.1 Site Location**

The Margaret Spaulding Water Treatment site is located approximately 11 miles west of Walden, Colorado, in Jackson County, as shown in Figure 1. The site is located in a rural and agricultural area approximately 1.5 miles southwest of the intersection of County Road 12 and County Road 16. The location is further described as the SW  $\frac{1}{4}$  of the SE  $\frac{1}{4}$  of Section 28, Township 9N, Range 81W.

The site is situated on the eastern edge of 55.3 acres of Freshwater Emergent Wetlands and is located between two drainages: the Spring Gulch Ditch, approximately 90 feet northwest, a tributary of Hell Creek, and bordered to the southeast by Wolfer Ditch, a tributary of Roaring Fork. The Delaney Butte Lakes State Wildlife Area is approximately 0.3 miles southeast of the site.

## **2.2 Site History**

The site is a former produced water treatment and disposal facility for the Margaret Spaulding wells. The former site facilities included above-ground storage tanks (AST), water treatment pits, buried and above-ground piping, and various buildings, as shown in Figure 2. The three wells on this pad were drilled in 1972 to a depth of approximately 2,400 feet. The three oil and gas wells at Location #324634: the Margaret Spaulding #4 (OWP), the Margaret Spaulding #4-B (OWP) Class II UIC well, drilled in 1972, and the Margaret Spaulding #14 (OWP), drilled in 1974. The facilities were originally owned and operated by Burton-Hawks Exploration Co., Ltd., and later by Coral Production Corporation, R & G Oil, LLC, Lone Pine Gas, and CM Production LLC.

Prior actions completed at the site by the ECMC OWP included abandoning the field's oil wells and excavating and treating soil from the produced water treatment pits. The open excavation is the former lined "Treater Overflow Pit" Pit #115241. The other five pits were produced water treatment pits (Pit #112265, 112266, 112267, 112268, and 112269). Once emptied, the berms were pushed in to prevent stormwater accumulation.

Fremont has been completing semi-annual groundwater monitoring on behalf of the ECMC OWP since 2015.

Cottonwood Consulting LLC completed an investigation in October 2022 involving advancing 58 soil borings around the tank battery area and 3 borings around the existing

overflow pit for the tank battery (Pit #115241). The tanks and associated equipment had been removed, and the decommissioning sampling was completed in August 2021. Additional investigation was completed in October 2022. The investigation results, which were provided to the ECMC on February 24, 2023, reported significant petroleum-related soil contamination in several of the borings.

Tables and Figures from Cottonwood Consulting's report are included in Appendix A. Their soil borings were advanced with a direct-push rig until refusal was encountered, usually between 15 and 20 feet below grade. Sixty two soil samples were submitted for analyses of total petroleum hydrocarbons (TPH)-Gasoline range organics (GRO) and TPH-Diesel range organics (DRO) while 18 of these samples were also analyzed for benzene, toluene, ethylbenzene, xylenes, naphthalene, 1,2,4- and 1,3,5-trimethylbenzenes, Polycyclic Aromatic hydrocarbons (PAH) and 6 samples were analyzed for sodium absorption ratio (SAR), pH, conductivity (EC) and RCRA metals. TPH was reported above ECMC Table 915-1 soil screening limits (SSLs).

That parameter was exceeded primarily beneath the former tanks and the building north of the tanks. Cottonwood Consulting estimated that approximately 8,496 cubic yards of impacted soil remain in situ in those areas with a TPH concentration exceeding the ECMC's Table 915-1 SSLs. Cottonwood Consulting also stated that approximately 521 cubic yards of soil in the former treater pit is impacted with a TPH concentration above the ECMC's Table 915-1 SSLs.

### **3.0 FIELD ACTIVITIES**

#### **3.1 Soil Borings/Monitoring Well Installation**

To determine if the soil contamination reported beneath the former Margaret Spaulding Central Tank Battery ASTs in 2022 extended to the water table, Fremont contracted

Inberg-Miller Engineers to advance five soil borings on the site with a hollow-stem auger rig and complete each boring as a monitoring well. The locations of these monitoring wells (MW-7 through MW-11) are shown in Figure 2. Figure 2 also shows the locations of soil borings advanced in 2022 by Cottonwood Consulting.

As Fremont/Inberg-Miller Engineers advanced the soil borings, soil sampling was completed at five-foot intervals using a split-spoon sampler. The soil samples were characterized visually and field-screened for hydrocarbon vapor with a photoionization detector (PID). Logs of the borings are included in Appendix B. As shown on those logs and in the cross-section in Figure 4, the site is underlain by a shallow silt, which is underlain by sand and gravel. Groundwater was encountered 20-25 feet below ground surface (bgs) in the new monitoring wells.

Hydrocarbon vapor was detected at each boring except for the boring at MW-7. However, at the borings for MW-8 and MW-9, the contaminated soil did not appear until samples were collected within approximately two feet of the water table. At MW-11, a PID reading of 4 was detected approximately 6 feet above the water table, and at MW-10, field observations indicated the contamination was present in every sample interval. The shallow contamination at MW-10 was expected due to its location and the results of the 2022 investigation.

One soil sample from each boring was submitted to Origins Laboratory Inc. in Denver, Colorado. The samples were properly labeled, placed in a cooler, and hand-delivered to the lab. Soil samples were analyzed for benzene, toluene, ethylbenzene, xylenes, naphthalene (collectively known as BTEXN), 1,2,4 and 1,3,5 trimethylbenzene (collectively TMBs), and total petroleum hydrocarbons (TPH) gasoline range organics (GRO), TPH diesel range organics (DRO) and TPH oil range organics (ORO). The

laboratory's reports are included as separate, secured reports, referenced as Appendix B. Chain of Custody (COC) documentation is also included in Appendix B.

Table 1 summarizes the soil chemistry data, which is also depicted in Figure 5. As shown in Table 1, naphthalene was reported to be present above the ECMC's Table 915-1 SSLs at the MW-9 and MW-10, while TPH was reported to be present above the ECMC's Table 915-1 SSLs at those two borings and at MW-11. However, based on field observations, only MW-10 appears to be located near the source(s) of the contamination.

### **3.2 Groundwater Monitoring Activities**

Groundwater levels were measured in the twelve monitoring wells on May 15, 2024, and again on October 4, 2024, in accordance with the Sampling Plan included in Appendix C. The water table elevation data is summarized in Table 2. While measuring the water table depths, light non-aqueous phase liquid (LNAPL) was encountered at monitoring wells MW-8, MW-9, and MW-11 on May 15, 2024, and in monitoring well MW-11 on October 4, 2024. The LNAPL thickness observed during these two sampling events is shown in Table 2.

Water table contours inferred from May 2024 and October 2024 data are illustrated in Figures 6 and 7, respectively. Based on this data, groundwater is inferred to flow northwest, consistent with data previously collected from the existing monitoring wells at the site. The water table gradient was calculated at approximately 0.008 feet per foot (ft/ft) for the October 2024 data.

Groundwater samples were collected from eleven monitoring wells on May 15, 2024, and from all twelve monitoring wells on October 4, 2024, to assess the magnitude and extent of

groundwater impacts at the site. Monitoring well MW-5 did not contain an adequate volume of groundwater to collect a sample during the May 2024 monitoring event.

Both sets of groundwater samples were properly labeled, placed in a cooler with ice, and hand-delivered to Origins Laboratory Inc. in Denver, Colorado, for analysis of BTEXN, TMBs, and TPH-GRO by EPA Method 8260D. In addition, each sample was analyzed for TPH-DRO by EPA Method 8015D beginning in October 2024. Sulfate and chloride by Method IC 300.0, and total dissolved solids (TDS) by Method 2540C, as indicated in the attached tables. The laboratory's report, quality control data, and chain-of-custody documentation are presented as a separate and secured laboratory report, referred to as Appendix B. The data is summarized along with the historical data in Tables 2 and 3. The groundwater chemistry data for the 2024 samples and the inferred extent of LNAPL at the site are presented in Figures 8 and 9.

The laboratory data reported for the samples collected in 2024 from the initial seven monitoring wells are consistent with the previously reported results. That data indicates that none of the 2024 or earlier samples collected near the former produced water treatment pits contained petroleum hydrocarbon constituent concentrations above the ECOMC's Table 915-1 limits. As shown in Table 2, LNAPL was previously observed at MW-E, which is located near the center of the remaining treater overflow pit on the site. The recent samples from MW-E were not reported to be impacted with significant levels of dissolved hydrocarbons.

The data collected from the new monitoring wells at the former Margaret Spaulding Central Tank Battery, located north of the produced water treatment pits, indicate that the petroleum hydrocarbon releases near the ASTs and associated piping and equipment extend to the groundwater. LNAPL and/or dissolved hydrocarbons were encountered in the groundwater samples from each new well. However, the constituents reported to be

present above the ECMC's Table 915-1 standards are limited to naphthalene, 1,2,4-TMBs, and benzene. Monitoring well MW-7, situated up-gradient of the former ASTs and down-gradient of the treater overflow pit and the produced water treatment pits, was the only recently installed monitoring well from which the groundwater samples were not reported to contain hydrocarbon concentrations above Table 915-1 limits. The October 2024 groundwater sample for MW-7 had GRO and DRO detections, but ECMC Table 915-1 does not list a cleanup goal for TPH in groundwater. Due to the impacts reported in the other wells, the inferred down-gradient extent of hydrocarbon impacts has not been defined.

## **5.0 DISCUSSION**

Petroleum soil contamination was encountered in each soil sample collected while advancing the boring for MW-10, which is consistent with its location near the primary source area identified by Cottonwood Consulting in its February 2023 report. Petroleum soil contamination at the borings farther to the north and west of that area was limited to near the water table.

Determining the source, magnitude, and extent of the soil contamination was not the primary purpose of the 2024 investigation. Significant information was collected on those issues during the 2022 investigation. The primary purpose of this investigation was to determine the potential impacts to groundwater at the former Margaret Spaulding Central Tank Battery location. Cottonwood Consulting calculated that approximately 8,500 cubic yards of unsaturated soil near the former ASTs/source area is impacted with TPH more than the ECMC's Table 915-1 standards. They also estimated that approximately 520 cubic yards of significantly impacted soil were present beneath the only remaining overflow pit.

The results of the groundwater monitoring events completed in 2024 are generally consistent with the earlier data, indicating that a significant area of dissolved contamination is not present near the pits. However, the results of the 2024 investigation indicate that LNAPL and several Table 915-1 dissolved hydrocarbons parameters are present beneath and down-gradient of the former tank battery at concentrations above the ECMC's limits. The thickness of the LNAPL in the monitoring wells is difficult to measure due to its viscosity. At least a film of LNAPL was observed in the three new monitoring wells located either cross-gradient or down-gradient of the former ASTs. The extent of the dissolved contaminants present at concentrations above the ECMC's Table 915-1 limits is not well defined. As a result, Fremont recommends that additional monitoring wells be placed further north and northwest of the former ASTs. The proposed locations of four additional monitoring wells are shown in Figures 8 and 9.

## 6.0 REMARKS

The discussion and conclusions contained in this report represent our professional opinions. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

This report was prepared by **FREMONT ENVIRONMENTAL INC.**

Prepared By:



5/5/25

Date \_\_\_\_\_

\_\_\_\_\_  
Michael R. Gerstner, P.G.

Senior Consultant

Reviewed By:



5/5/25

Date \_\_\_\_\_

\_\_\_\_\_  
Nick Larimer

Project Manager

## TABLES

**TABLE 1**  
**SUMMARY OF GROUNDWATER ELEVATION DATA AND CHEMISTRY DATA**  
**COLORADO ENERGY AND CARBON MANAGEMENT COMMISSION (ECMC) ORPHANED WELL PROGRAM (OWP)**  
**MARGARET SPAULDING WATER TREATMENT SITE - JACKSON COUNTY, COLORADO**  
**FREMONT PROJECT NO. C016-119 REM #17912 & 7058**

SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	1,2,4-Trimethyl-Benzene (µg/L)	1,3,5-Trimethyl-Benzene (µg/L)	Naphth-alene (µg/L)	TPH-GRO (ug/L)	TPH-DRO (mg/L)	TOC ELEVATION (feet)	DEPTH TO GROUND WATER (ft)	GROUND WATER ELEVATION (ft)	FREE PRODUCT THICKNESS (ft)
MW-1	07/07/15	2.1	<0.20	8.8	<0.46	NA	NA	NA	339	16	8227.34	20.13	8207.21	NP
	11/18/15	<1.0	<5.0	<1.0	<3.0	NA	NA	NA	<0.5	1.5		23.84	8203.50	NP
	10/17/16	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		23.63	8203.71	NP
	05/01/17	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		23.86	8203.48	NP
	10/17/17	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		23.60	8203.74	NP
	05/24/18	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		19.79	8207.55	NP
	11/01/18	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		23.42	8203.92	NP
	05/15/19	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		23.52	8203.82	NP
	10/08/19	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		22.67	8204.67	NP
	05/18/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		22.94	8204.40	NP
	10/14/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		23.25	8204.09	NP
	04/22/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		24.49	8202.85	NP
	10/20/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		23.16	8204.18	NP
	05/10/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		23.99	8203.35	NP
	12/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	<5.0		24.42	8202.92	NP
	05/30/23	<1.00	<1.00	<1.00	1.95	1.34	<1.00	9.63	<100	<5.00		22.43	8204.91	NP
	10/13/23	<1.00	<1.00	<1.00	1.14	3.45	<1.00	<4.00	818	<5.00		22.52	8204.82	NP
05/15/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	NA	24.58	8202.76	NP		
10/03/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	232	<5.00	22.69	8204.65	NP		
MW-2	07/07/15	<0.20	<0.20	<0.20	<0.46	NA	NA	NA	<25	1.54	8219.87	11.16	8208.71	NP
	11/18/15	<1.0	<5.0	<1.0	<3.0	NA	NA	NA	<0.5	0.267		15.05	8204.82	NP
	10/17/16	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		14.85	8205.02	NP
	05/01/17	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		14.87	8205.00	NP
	10/17/17	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		14.75	8205.12	NP
	05/24/18	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		10.14	8209.73	NP
	11/01/18	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		14.58	8205.29	NP
	05/15/19	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		14.55	8205.32	NP
	10/08/19	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		13.88	8205.99	NP
	05/18/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		13.50	8206.37	NP
	10/14/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		14.14	8205.73	NP
	04/22/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		15.70	8204.17	NP
	10/20/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		14.42	8205.45	NP
	05/10/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		14.98	8204.89	NP
	12/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	<5.0		15.67	8204.20	NP
	05/30/23	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00		12.98	8206.89	NP
	10/13/23	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	150	<5.00		13.72	8206.15	NP
05/15/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	NA	15.51	8204.36	NP		
10/03/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00	13.95	8205.92	NP		

TABLE 1  
SUMMARY OF GROUNDWATER ELEVATION DATA AND CHEMISTRY DATA  
COLORADO ENERGY AND CARBON MANAGEMENT COMMISSION (ECMC) ORPHANED WELL PROGRAM (OWP)  
MARGARET SPAULDING WATER TREATMENT SITE - JACKSON COUNTY, COLORADO  
FREMONT PROJECT NO. C016-119 REM #17912 & 7058

SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	1,2,4-Trimethyl-Benzene (µg/L)	1,3,5-Trimethyl-Benzene (µg/L)	Naphth-alene (µg/L)	TPH-GRO (ug/L)	TPH-DRO (mg/L)	TOC ELEVATION (feet)	DEPTH TO GROUND WATER (ft)	GROUND WATER ELEVATION (ft)	FREE PRODUCT THICKNESS (ft)
MW-3	07/07/15	<0.20	<0.20	<0.20	<0.46	NA	NA	NA	<25	<0.17	8229.00	18.60	8210.40	NP
	11/18/15	<1.0	<5.0	<1.0	<3.0	NA	NA	NA	<0.5	<0.10		23.80	8205.20	NP
	10/17/16	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		23.63	8205.37	NP
	05/01/17	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		23.60	8205.40	NP
	10/17/17	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		23.57	8205.43	NP
	05/24/18	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		17.59	8211.41	NP
	11/01/18	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		23.27	8205.73	NP
	05/15/19	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		23.34	8205.66	NP
	10/08/19	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		22.45	8206.55	NP
	05/18/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		21.19	8207.81	NP
	10/14/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		23.13	8205.87	NP
	04/22/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		24.52	8204.48	NP
	10/20/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		23.14	8205.86	NP
	05/10/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		23.57	8205.43	NP
	12/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	<5.0		24.55	8204.45	NP
	05/30/23	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00		20.51	8208.49	NP
	10/13/23	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00		22.27	8206.73	NP
05/15/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	NA	24.19	8204.81	NP		
10/03/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00	22.50	8206.50	NP		
MW-4	07/07/15	<0.20	<0.20	<0.20	<0.46	NA	NA	NA	<25	<0.17	8235.71	26.65	8209.06	NP
	11/18/15	<1.0	<5.0	<1.0	<3.0	NA	NA	NA	<0.5	<0.10		31.52	8204.19	NP
	10/17/16	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		31.34	8204.37	NP
	05/01/17	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		31.49	8204.22	NP
	10/17/17	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		31.40	8204.31	NP
	05/24/18	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		25.90	8209.81	NP
	11/01/18	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		31.03	8204.68	NP
	05/15/19	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		31.27	8204.44	NP
	10/08/19	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		30.08	8205.63	NP
	05/18/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		29.32	8206.39	NP
	10/14/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		30.86	8204.85	NP
	04/22/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		32.28	8203.43	NP
	10/20/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		30.81	8204.90	NP
	05/10/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		31.44	8204.27	NP
	12/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	<5.0		32.21	8203.50	NP
	05/30/23	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00		28.72	8206.99	NP
	10/13/23	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	110	<5.00		29.94	8205.77	NP
05/15/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	NA	32.22	8203.49	NP		
10/03/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00	30.19	8205.52	NP		

TABLE 1  
SUMMARY OF GROUNDWATER ELEVATION DATA AND CHEMISTRY DATA  
COLORADO ENERGY AND CARBON MANAGEMENT COMMISSION (ECMC) ORPHANED WELL PROGRAM (OWP)  
MARGARET SPAULDING WATER TREATMENT SITE - JACKSON COUNTY, COLORADO  
FREMONT PROJECT NO. C016-119 REM #17912 & 7058

SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	1,2,4-Trimethyl-Benzene (µg/L)	1,3,5-Trimethyl-Benzene (µg/L)	Naphthalene (µg/L)	TPH-GRO (µg/L)	TPH-DRO (mg/L)	TOC ELEVATION (feet)	DEPTH TO GROUND WATER (ft)	GROUND WATER ELEVATION (ft)	FREE PRODUCT THICKNESS (ft)	
MW-5	07/07/15	<0.20	<0.20	<0.20	<0.46	NA	NA	NA	<25	0.909	8244.96	36.35	8208.61	NP	
	11/18/15	<1.0	<5.0	<1.0	<3.0	NA	NA	NA	<0.5	0.502		41.20	8203.76	NP	
	10/17/16	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		40.97	8203.99	NP	
	05/01/17	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		41.25	8203.71	NP	
	10/17/17	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		41.18	8203.78	NP	
	05/24/18	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		35.90	8209.06	NP	
	11/01/18	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		40.72	8204.24	NP	
	05/15/19	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		41.37	8203.59	NP	
	10/08/19	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		39.75	8205.21	NP	
	05/18/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		39.64	8205.32	NP	
	10/14/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		40.52	8204.44	NP	
	04/22/21	ISW	ISW	ISW	ISW	ISW	ISW	ISW	ISW	ISW		ISW	41.97	8202.99	NP
	10/20/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		40.43	8204.53	NP	
	05/10/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		41.42	8203.54	NP	
	12/09/22	ISW	ISW	ISW	ISW	ISW	ISW	ISW	ISW	ISW		ISW	41.92	8203.04	NP
	05/30/23	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00		38.92	8206.04	NP	
10/13/23	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00	39.60	8205.36	NP			
05/15/24	ISW	ISW	ISW	ISW	ISW	ISW	ISW	ISW	ISW	ISW	41.95	8203.01	NP		
10/03/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00	39.92	8205.04	NP			
MW-6	07/07/15	<0.20	<0.20	<0.20	<0.46	NA	NA	NA	<25	0.521	8242.23	30.76	8211.47	NP	
	11/18/15	<1.0	<5.0	<1.0	<3.0	NA	NA	NA	<0.5	0.146		35.75	8206.48	NP	
	10/17/16	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		35.64	8206.59	NP	
	05/01/17	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		35.30	8206.93	NP	
	10/17/17	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		35.73	8206.50	NP	
	05/24/18	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		28.66	8213.57	NP	
	11/01/18	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		35.16	8207.07	NP	
	05/15/19	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		35.27	8206.96	NP	
	10/08/19	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<0.5	<5.0		34.44	8207.79	NP	
	05/18/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		31.08	8211.15	NP	
	10/14/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		35.11	8207.12	NP	
	04/22/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		36.33	8205.90	NP	
	10/20/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		35.18	8207.05	NP	
	05/10/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		34.77	8207.46	NP	
	12/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	<5.0		36.54	8205.69	NP	
	05/30/23	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00		30.90	8211.33	NP	
10/13/23	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00	34.32	8207.91	NP			
05/15/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	NA	35.60	8206.63	NP			
10/03/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	<100	<5.00	34.58	8207.65	NP			
MW-7	05/15/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	351	NA	8229.77	27.16	8202.61	NP	
	10/03/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<4.00	389	5.06		25.13	8204.64	NP	

TABLE 1  
SUMMARY OF GROUNDWATER ELEVATION DATA AND CHEMISTRY DATA  
COLORADO ENERGY AND CARBON MANAGEMENT COMMISSION (ECMC) ORPHANED WELL PROGRAM (OWP)  
MARGARET SPAULDING WATER TREATMENT SITE - JACKSON COUNTY, COLORADO  
FREMONT PROJECT NO. C016-119 REM #17912 & 7058

SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	1,2,4-Trimethyl-Benzene (µg/L)	1,3,5-Trimethyl-Benzene (µg/L)	Naphth-alene (µg/L)	TPH-GRO (ug/L)	TPH-DRO (mg/L)	TOC ELEVATION (feet)	DEPTH TO GROUND WATER (ft)	GROUND WATER ELEVATION (ft)	FREE PRODUCT THICKNESS (ft)
MW-8	05/15/24	<1.00	<1.00	6.19	<1.00	10.8	<1.00	158	3030	NA	8226.23	25.29	8200.97	0.04
	10/03/24	2.18	34.0	4.18	36.1	65.9	11.6	119	970000	354		23.33	8202.91	0.01
MW-9	05/15/24	1.33	<1.00	138	225	836	35.2	183	<100	NA	8224.42	22.85	8201.59	0.03
	10/03/24	2.10	1.40	115	161	958	101	599	56700	363		20.99	8203.43	0
MW-10	05/15/24	1.09	<1.00	58.6	22.4	1150	46.3	174	2770	NA	8228.61	26.92	8201.69	NP
	10/03/24	5.86	<1.00	31.9	10.5	132	19.4	125	2150	<5.00		24.94	8203.67	NP
MW-11	05/15/24	2.84	<1.00	2.38	<1.00	130	5.28	138	2700	NA	8219.94	21.00	8198.96	0.03
	10/03/24	1.04	2.01	2.10	5.20	89.9	9.79	102	1450	40.2		19.01	8201.40	0.63
MW-E	05/18/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0	8212.54	NM	NM	NP
	10/14/20	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	<.5	<5.0		8.62	8203.92	0
	04/22/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		10.00	8202.54	0
	10/20/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<.5	<5.0		8.58	8203.96	0
	05/10/22	<1.0	<1.0	2.5	<2.0	<1.0	<1.0	5.1	<.5	<5.0		9.34	8203.20	0
	12/09/22	<1.0	<1.0	9.7	<2.0	<1.0	<1.0	34	0.560	7.3		10.22	8202.32	0
	05/30/23	<1.00	<1.00	3.71	2.86	6.49	<1.00	38.4	889	210		7.49	8205.16	0.14
	10/13/23	<1.00	<1.00	5.28	4.27	3.56	<1.00	15.3	27900	57.4		8.40	8204.51	0.49
	05/15/24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	14.0	<100	NA		10.36	8202.19	0.01
	10/03/24	<1.00	<1.00	2.61	<1.00	<1.00	<1.00	11.5	315	33.0		8.68	8203.86	0
Table 915-1 Limits		5	560	700	1,400	67	67	140	None	None				

Bold face values exceed the ECMC limits

NP - No Free Product/LNAPL

NS - Not Sampled

BG - Background

NA - Not Analyzed

ISW- Insufficient groundwater was available to collect a sample

**TABLE 2**  
**SUMMARY OF INORGANIC CHEMISTRY DATA**  
**COLORADO ENERGY AND CARBON MANAGEMENT COMMISSION (ECMC) ORPHANED**  
**WELL PROGRAM (OWP)**  
**MARGARET SPAULDING WATER TREATMENT SITE - JACKSON COUNTY, COLORADO**  
**FREMONT PROJECT NO. C016-119 REM #17912**

<b>SAMPLE LOCATION</b>	<b>DATE</b>	<b>SULFATE (mg/L)</b>	<b>CHLORIDE (mg/L)</b>	<b>TDS (mg/L)</b>
MW-1	07/07/15	1.2	2.3	316
	11/18/15	<5.0	8.29	351
	10/17/16	6.17	2.45	196
	05/01/17	3.3	<1.0	145
	10/17/17	4.71	1.43	199
	05/24/18	34.2	<1.0	175
	11/01/18	2.7	<1.0	102
	05/15/19	1.41	0.424	65.4
	10/08/19	9.28	1.81	170
	05/18/20	3.12	0.703	94.8
	10/14/20	18.9	2.38	142
	04/22/21	8.52	<0.06	140
	10/20/21	5.38	2.17	149
	05/10/22	2.95	1.48	128
	12/09/22	4.56	1.02	101
	05/30/23	<31.2	<31.2	238
	10/13/23	<31.2	<31.2	162
	05/15/24	<31.2	<31.2	114
10/03/24	<31.2	<31.2	158	
MW-2	07/07/15	5.6	1	183
	11/18/15	<5.0	6.37	55
	10/17/16	4.56	<1.0	91.3
	05/01/17	3.68	1.13	126
	10/17/17	3.18	0.24	114
	05/24/18	10.7	<1.0	62.1
	11/01/18	2.05	<1.0	81.2
	05/15/19	2.49	0.519	64.8
	10/08/19	8.1	1.17	83.8
	05/18/20	2.94	0.379	85.2
	10/14/20	17.2	1.96	88.5
	04/22/21	6.8	<0.06	116
	10/20/21	3.37	0.537	88.1
	05/10/22	3.42	0.787	108
	12/09/22	2.47	0.280	79.3
	05/30/23	<31.2	<31.2	480
	10/13/23	<31.2	35.600	146
	05/15/24	<31.2	<31.2	128

**TABLE 2**  
**SUMMARY OF INORGANIC CHEMISTRY DATA**  
**COLORADO ENERGY AND CARBON MANAGEMENT COMMISSION (ECMC) ORPHANED**  
**WELL PROGRAM (OWP)**  
**MARGARET SPAULDING WATER TREATMENT SITE - JACKSON COUNTY, COLORADO**  
**FREMONT PROJECT NO. C016-119 REM #17912**

<b>SAMPLE LOCATION</b>	<b>DATE</b>	<b>SULFATE (mg/L)</b>	<b>CHLORIDE (mg/L)</b>	<b>TDS (mg/L)</b>
MW-2 Cont.	10/03/24	<31.2	<31.2	136
MW-3	07/07/15	3.6	0.61	115
	11/18/15	<5.0	7.08	120
	10/17/16	2.89	<1.0	72.2
	05/01/17	6.24	1.95	152
	10/17/17	1.29	0.47	97.5
	05/24/18	6.07	1.07	95.3
	11/01/18	2.4	2.94	7.3
	05/15/19	4.87	0.819	93.5
	10/08/19	5.65	0.323	64.3
	05/18/20	5.00	1.72	99.9
	10/14/20	16.20	2.44	83.1
	04/22/21	14.3	<0.06	170
	10/20/21	2.65	0.423	67.9
	05/10/22	5.63	1.08	131
	12/09/22	2.24	0.800	83.6
	05/30/23	<31.2	<31.2	230
	10/13/23	<31.2	<31.2	106
05/15/24	<31.2	<31.2	140	
10/03/24	<31.2	<31.2	92.0	
MW-4	07/07/15	5	1.20	112
	11/18/15	<5.0	1.27	88
	10/17/16	4.75	<1.0	97.5
	05/01/17	5.7	2.66	155
	10/17/17	0.11	4.07	201
	05/24/18	7.52	3.97	118
	11/01/18	2.14	<1.0	81.6
	05/15/19	5.02	1.41	112
	10/08/19	7.74	0.834	78.4
	05/18/20	3.62	1.49	132
	10/14/20	17.2	2.14	94.1
	04/22/21	8.68	0.4	158
	10/20/21	3.6	0.57	86.3
	05/10/22	4.87	1.45	133
	12/09/22	1.93	0.460	78.8
05/30/23	<31.2	<31.2	210	
10/13/23	<31.2	<31.2	112	

**TABLE 2**  
**SUMMARY OF INORGANIC CHEMISTRY DATA**  
**COLORADO ENERGY AND CARBON MANAGEMENT COMMISSION (ECMC) ORPHANED**  
**WELL PROGRAM (OWP)**  
**MARGARET SPAULDING WATER TREATMENT SITE - JACKSON COUNTY, COLORADO**  
**FREMONT PROJECT NO. C016-119 REM #17912**

<b>SAMPLE LOCATION</b>	<b>DATE</b>	<b>SULFATE (mg/L)</b>	<b>CHLORIDE (mg/L)</b>	<b>TDS (mg/L)</b>
MW-4	05/15/24	<31.2	<31.2	116
CONT.	10/03/24	<31.2	<31.2	106
MW-5	07/07/15	11.5	1.40	228
	11/18/15	NS	NS	NS
	10/17/16	17.0	1.27	131
	05/01/17	14.1	3.97	204
	10/17/17	16.0	1.16	191
	10/03/24	67	2.76	336
	11/01/18	6.74	<1.0	116
	05/15/19	16.4	5.29	164
	10/08/19	15	1.5	110
	05/18/20	11.0	2.62	173
	10/14/20	21.6	1.9	140
	04/22/21	ISW	ISW	ISW
	10/20/21	4.83	0.361	93.7
	05/10/22	19.8	3.72	199
	12/09/22	ISW	ISW	ISW
	05/30/23	<31.2	<31.2	220
	10/13/23	<31.2	<31.2	104
	05/15/24	ISW	ISW	ISW
	10/03/24	<31.2	<31.2	124
MW-6	07/07/15	8.4	4.70	178
	11/18/15	5.74	8.73	136
	10/17/16	6.06	1.74	110
	05/01/17	7.54	2.09	185
	10/17/17	5.18	1.43	157
	05/24/18	53.8	1.69	118
	11/01/18	5.72	2.65	128
	05/15/19	6.14	1.74	98.4
	10/08/19	11.1	4.86	109
	05/18/20	4.45	0.869	104
	10/14/20	17.4	2.6	121
	04/22/21	11.3	<1.20	153
	10/20/21	7.19	2.6	131
	05/10/22	7.2	2.08	138
	12/09/22	11	2.99	119
	05/30/23	<31.2	<31.2	240

**TABLE 2**  
**SUMMARY OF INORGANIC CHEMISTRY DATA**  
**COLORADO ENERGY AND CARBON MANAGEMENT COMMISSION (ECMC) ORPHANED**  
**WELL PROGRAM (OWP)**  
**MARGARET SPAULDING WATER TREATMENT SITE - JACKSON COUNTY, COLORADO**  
**FREMONT PROJECT NO. C016-119 REM #17912**

<b>SAMPLE LOCATION</b>	<b>DATE</b>	<b>SULFATE (mg/L)</b>	<b>CHLORIDE (mg/L)</b>	<b>TDS (mg/L)</b>
MW-6 Cont.	10/13/23	<31.2	<31.2	140
	05/15/24	<31.2	<31.2	108
	10/03/24	<31.2	<31.2	240
MW-7	05/15/24	<31.2	<31.2	270
	10/03/24	<31.2	<31.2	370
MW-8	05/15/24	<31.2	<31.2	236
	10/03/24	<31.2	<31.2	280
MW-9	05/15/24	36.0	<31.2	392
	10/03/24	<31.2	<31.2	330
MW-10	05/15/24	<31.2	<31.2	200
	10/03/24	<31.2	<31.2	240
MW-11	05/15/24	32.2	<31.2	366
	10/03/24	<31.2	<31.2	240
MW-E	05/18/20	NA	NA	NA
	10/14/20	16.9	1.84	142
	04/22/21	17.2	<0.06	220
	10/20/21	2.34	0.364	92
	05/10/22	5.46	0.512	238
	12/09/22	<0.300	1.43	89.4
	05/30/23	<31.2	<31.2	370
	10/13/23	<31.2	<31.2	116
	05/15/24	<31.2	<31.2	292
	10/03/24	<31.2	<31.2	170
<b>Table 915-1 Limits</b>		<b>250 or 1.25x BG</b>	<b>250 or 1.25x BG</b>	<b>&lt;1.25 x BG</b>

Bold face values exceed the ECMC limits

NP - No Free Product/LNAPL

NS - Not Sampled

BG - Background

ISW - Insufficient groundwater was available to collect a sample

TABLE 2  
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA  
COLORADO ENERGY AND CARBON MANAGEMENT COMMISSION (ECMC) ORPHANED WELL PROGRAM (OWP)  
MARGARET SPAULDING WATER TREATMENT SITE - JACKSON COUNTY, COLORADO  
FREMONT PROJECT NO. C016-119 REM #17912

Sample ID	Sample Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4-Trimethyl-Benzene (mg/kg)	1,3,5-Trimethyl-Benzene (mg/kg)	Naphthalene (mg/kg)	TPH (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500	500**		
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	500**		
B-7-25	5/13/2024	25	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00380	<125.200	<0.200	<25.0	<100
B-8-20	5/14/2024	20	<0.00200	<0.00200	<0.00200	0.00272	<0.00500	<0.00500	<b>0.0287</b>	<b>854</b>	<b>126</b>	<b>379</b>	<b>349</b>
B-9-20	5/14/2024	20	*<0.0500	0.150	0.0770	0.196	<b>6.15</b>	<b>0.286</b>	<b>4.75</b>	<b>7090</b>	<b>1780</b>	<b>2920</b>	<b>2390</b>
B-10-15	5/14/2024	15	*<0.0500	0.127	<b>1.63</b>	0.124	<0.0500	<0.0500	<b>4.43</b>	<b>3490</b>	<b>1500</b>	<b>1060</b>	<b>930</b>
B-11-15	5/15/2024	15	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00380	<b>1143.79</b>	<b>5.79</b>	<b>330</b>	<b>808</b>

1. Bold values exceed the ECMC Table 915-1 limit(s)
  2. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
  3. \* Indicates laboratory minimum detection limit in excess of SSL
  4. \*\* Summation of GRO+DRO+ORO must be less than 500 mg/kg
- NA - Not analyzed

## FIGURES

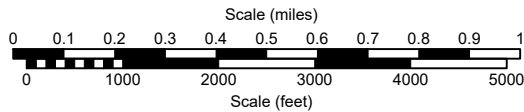
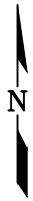
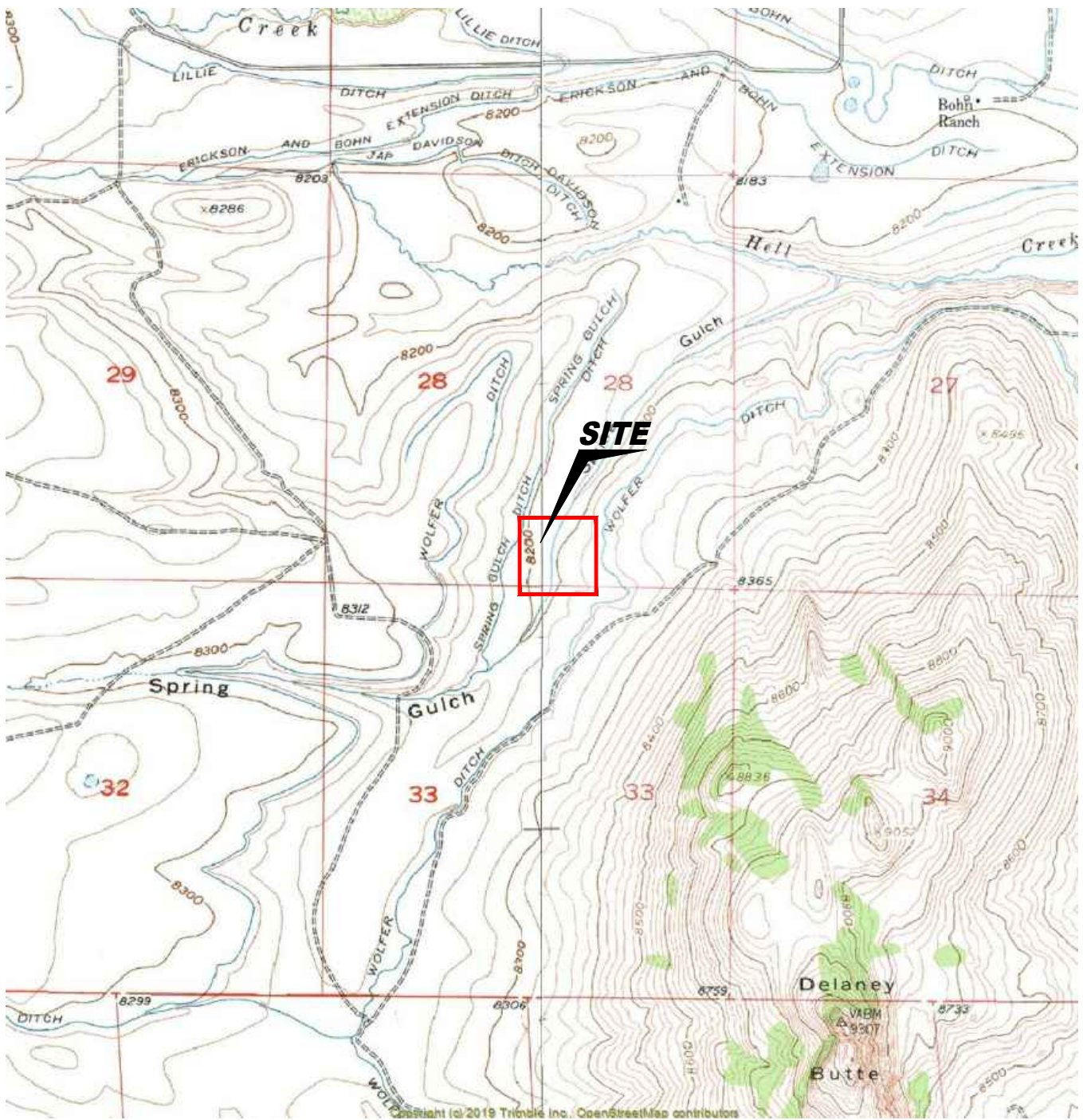


Figure 1  
**SITE LOCATION MAP**

**Colorado Energy and Carbon Management Commission**  
**Margaret Spaulding Treatment Site**  
 SWSE Section 28, T9N, R81W  
 Jackson County, Colorado

Project No. <b>C016-119</b>	Prepared by <b>TA</b>	Drawn by <b>TA</b>
Date <b>4/2/25</b>	Reviewed by <b>NL</b>	Filename <b>16119T</b>

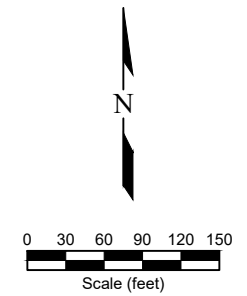




**LEGEND**

- PRODUCTION WELL
- ◆ SOIL BORING
- BORING WITH NO SAMPLES COLLECTED FOR ANALYSES
- ▲ BORINGS WITH SIGNIFICANT PID READINGS (readings were significant the entire length of the boring)
- BORINGS WERE ADVANCED IN 2022 BY COTTONWOOD CONSULTING
- ⊕ MONITORING WELL
- ABOVE GROUND STORAGE TANK
- ▭ BUILDING
- ▭ FORMER FACILITY
- BORINGS WITH SIGNIFICANT PID READINGS IN 2022 ABOVE THE WATER TABLE
- - - EXTENT OF TPH VALUES EXCEEDING ECMC STANDARDS IN 2022
- - - PIT AND/OR FACILITY BERM
- ▤ CONTAINMENT BERM
- FENCE LINE

FORMER PIT	FACILITY ID
PIT # 1	112265
PIT # 2	112266
PIT # 3	112267
PIT # 4	112268
PIT # 5	112269
OVERFLOW TREATOR	115241



**Figure 2  
SITE MAP**

**Colorado Energy and Carbon Management Commission  
Margaret Spaulding Treatment Site  
SWSE Section 28, T9N, R81W  
Jackson County, Colorado**

Project No. <b>C016-119</b>	Prepared by <b>TA</b>	Drawn by <b>TA</b>	
Date <b>4/2/25</b>	Reviewed by <b>NL</b>	Filename <b>16119Q3</b>	



**LEGEND**

- PRODUCTION WELL
- ⊕ MONITORING WELL
- ABOVE GROUND STORAGE TANK
- ▭ BUILDING
- ▭ FORMER FACILITY
- PIT AND/OR FACILITY BERM
- ⋯ CONTAINMENT BERM
- +— FENCE LINE
- A — A' CUT LINE FOR CROSS SECTION

FORMER PIT	FACILITY ID
PIT # 1	112265
PIT # 2	112266
PIT # 3	112267
PIT # 4	112268
PIT # 5	112269
OVERFLOW TREATOR	115241

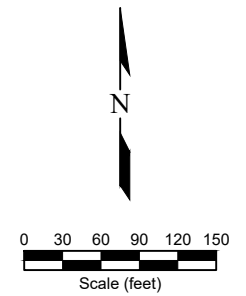
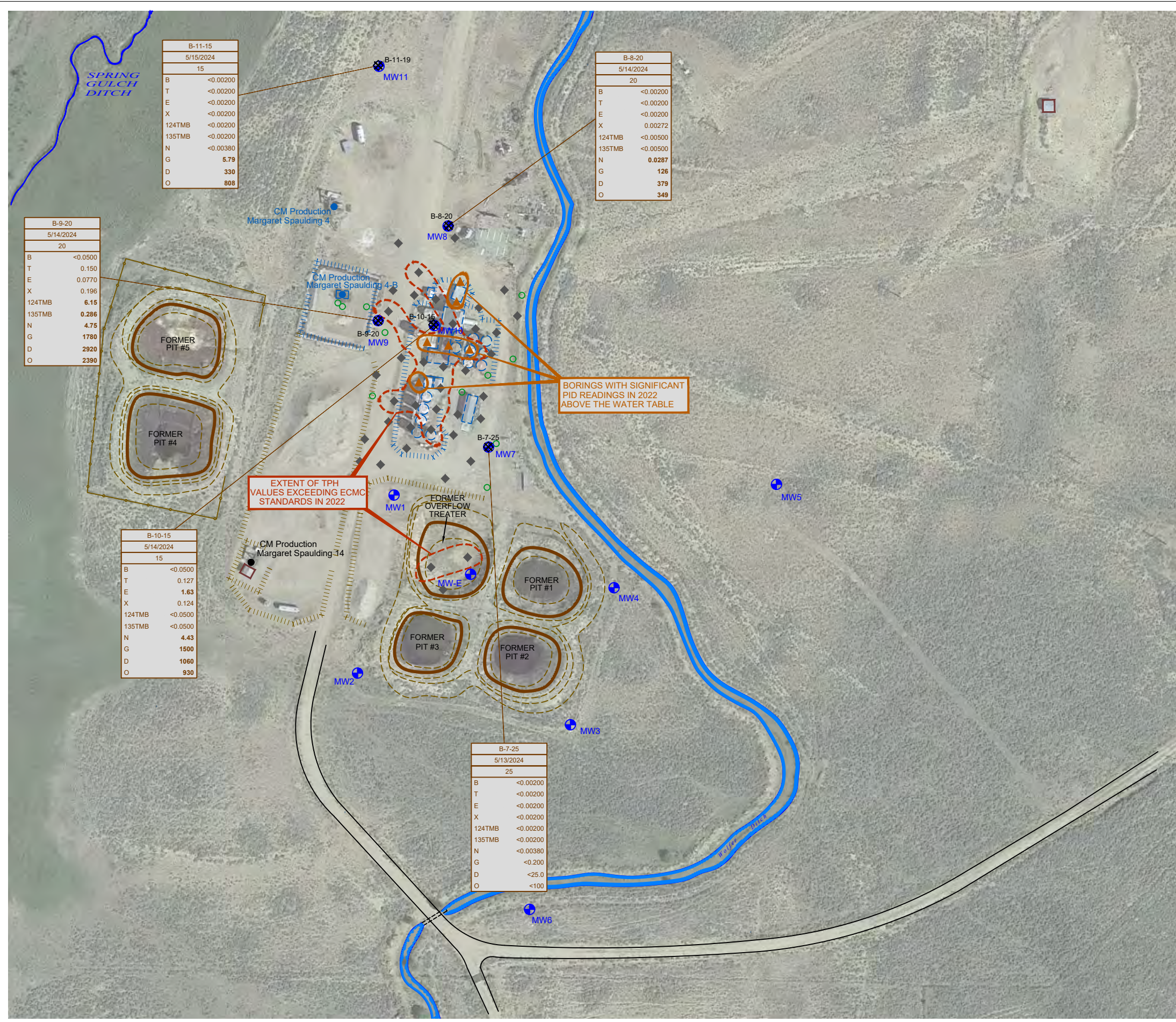


Figure 3  
**CROSS SECTION MAP**

**Colorado Energy and Carbon Management Commission**  
**Margaret Spaulding Treatment Site**  
 SWSE Section 28, T9N, R81W  
 Jackson County, Colorado

Project No. <b>C016-119</b>	Prepared by <b>TA</b>	Drawn by <b>TA</b>	
Date <b>4/2/25</b>	Reviewed by <b>NL</b>	Filename <b>16119Q3</b>	





B-11-15	
5/15/2024	
15	
B	<0.00200
T	<0.00200
E	<0.00200
X	<0.00200
124TMB	<0.00200
135TMB	<0.00200
N	<0.00380
G	5.79
D	330
O	808

B-8-20	
5/14/2024	
20	
B	<0.00200
T	<0.00200
E	<0.00200
X	0.00272
124TMB	<0.00500
135TMB	<0.00500
N	0.0287
G	126
D	379
O	349

B-9-20	
5/14/2024	
20	
B	<0.0500
T	0.150
E	0.0770
X	0.196
124TMB	6.15
135TMB	0.286
N	4.75
G	1780
D	2920
O	2390

B-10-15	
5/14/2024	
15	
B	<0.0500
T	0.127
E	1.63
X	0.124
124TMB	<0.0500
135TMB	<0.0500
N	4.43
G	1500
D	1060
O	930

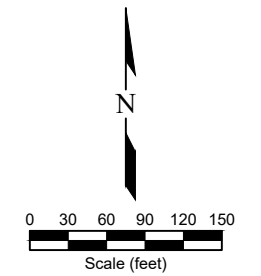
B-7-25	
5/13/2024	
25	
B	<0.00200
T	<0.00200
E	<0.00200
X	<0.00200
124TMB	<0.00200
135TMB	<0.00200
N	<0.00380
G	<0.200
D	<25.0
O	<100

### LEGEND

- SOIL SAMPLE LOCATION
- PRODUCTION WELL
- SOIL BORING
- BORING WITH NO SAMPLES COLLECTED FOR ANALYSES
- BORINGS WITH SIGNIFICANT PID READINGS (readings were significant the entire length of the boring)
- BORINGS WERE ADVANCED IN 2022 BY COTTONWOOD CONSULTING
- MONITORING WELL
- ABOVE GROUND STORAGE TANK
- BUILDING FACILITY BUILDING
- FORMER FACILITY
- BORINGS WITH SIGNIFICANT PID READINGS IN 2022 ABOVE THE WATER TABLE
- EXTENT OF TPH VALUES EXCEEDING ECMC STANDARDS IN 2022
- PIT AND/OR FACILITY BERM
- CONTAINMENT BERM
- FENCE LINE

SAMPLE	SAMPLE ID
DATE	DATE SAMPLED
DEPTH	DEPTH (ft)
B	<0.0020
T	<0.0050
E	<0.0050
X	<0.010
124TMB	<0.0050
135TMB	<0.0050
N	<0.0038
G	<0.50
D	<50
O	<50

FORMER PIT	FACILITY ID
PIT # 1	112265
PIT # 2	112266
PIT # 3	112267
PIT # 4	112268
PIT # 5	112269
OVERFLOW TREATOR	115241



**Figure 5  
SOIL CHEMISTRY MAP**

**Colorado Energy and Carbon Management Commission  
Margaret Spaulding Treatment Site  
SWSE Section 28, T9N, R81W  
Jackson County, Colorado**

Project No. <b>C016-119</b>	Prepared by	Drawn by <b>TA</b>	
Date <b>4/2/25</b>	Reviewed by <b>NL</b>	Filename <b>16119Q3</b>	



**LEGEND**

- PRODUCTION WELL
- ⊕ MONITORING WELL
- ABOVE GROUND STORAGE TANK
- ▭ BUILDING FACILITY BUILDING
- ▭ FORMER FACILITY
- PIT AND/OR FACILITY BERM
- ⋯ CONTAINMENT BERM
- +— FENCE LINE

FORMER PIT	FACILITY ID
PIT # 1	112265
PIT # 2	112266
PIT # 3	112267
PIT # 4	112268
PIT # 5	112269
OVERFLOW TREATOR	115241

- (8204.37) GROUND WATER ELEVATION
- ↻ 8204.50 WATER TABLE CONTOUR
- ➔ GROUND WATER FLOW DIRECTION

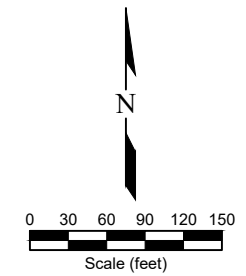


Figure 6  
**INFERRED GROUNDWATER CONTOUR MAP**  
 May 15, 2024  
 Colorado Energy and Carbon Management Commission  
 Margaret Spaulding Treatment Site  
 SWSE Section 28, T9N, R81W  
 Jackson County, Colorado

Project No. <b>C016-119</b>	Prepared by <b>TA</b>	Drawn by <b>TA</b>	
Date <b>4/2/25</b>	Reviewed by <b>NL</b>	Filename <b>16119Q3</b>	



**LEGEND**

- PRODUCTION WELL
- ⊕ MONITORING WELL
- ABOVE GROUND STORAGE TANK
- ▭ BUILDING FACILITY BUILDING
- ▭ FORMER FACILITY
- - - PIT AND/OR FACILITY BERM
- ⋯ CONTAINMENT BERM
- +— FENCE LINE

FORMER PIT	FACILITY ID
PIT # 1	112265
PIT # 2	112266
PIT # 3	112267
PIT # 4	112268
PIT # 5	112269
OVERFLOW TREATOR	115241

- (8204.37) GROUND WATER ELEVATION
- ↻ WATER TABLE CONTOUR
- ← GROUND WATER FLOW DIRECTION

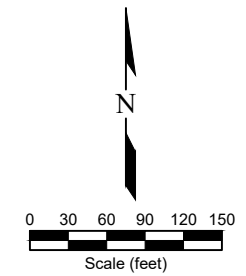


Figure 7  
**INFERRED GROUNDWATER CONTOUR MAP**  
 October 3, 2024  
 Colorado Energy and Carbon Management Commission  
 Margaret Spaulding Treatment Site  
 SWSE Section 28, T9N, R81W  
 Jackson County, Colorado

Project No. <b>C016-119</b>	Prepared by <b>TA</b>	Drawn by <b>TA</b>
Date <b>4/2/25</b>	Reviewed by <b>NL</b>	Filename <b>16119Q3</b>



**LEGEND**

- PRODUCTION WELL
- ⊕ MONITORING WELL
- ⊕ PROPOSED MONITORING WELL LOCATION
- ABOVE GROUND STORAGE TANK
- ▭ BUILDING
- PIT AND/OR FACILITY BERM
- ▭ CONTAINMENT BERM
- FENCE LINE

FORMER PIT	FACILITY ID
PIT # 1	112265
PIT # 2	112266
PIT # 3	112267
PIT # 4	112268
PIT # 5	112269
OVERFLOW TREATOR	115241

**[0.14]** THICKNESS OF FREE PRODUCT (ft)  
 EXTENT OF FREE PRODUCT

05/15/2024	DATE SAMPLED
MW-E	SAMPLE IDENTIFICATION
B	BENZENE (ug/L)
T	TOLUENE (ug/L)
E	ETHYLBENZENE (ug/L)
X	TOTAL XYLENES (ug/L)
124TMB	1,2,4-TRIMETHYLBENZENE (ug/L)
135TMB	1,3,5-TRIMETHYLBENZENE (ug/L)
N	NAPHTHALENE (ug/L)
G	TPH-GRO as gasoline (ug/L)
D	TPH-DRO as diesel (mg/L)

05/15/2024	DATE SAMPLED
MW-E	SAMPLE ID
TDS	SULFATE (mg/L)
CL <sup>-</sup>	CHLORIDE (mg/L)
S04	TOTAL DISSOLVED SOLIDS (mg/L)

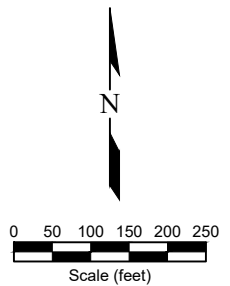


Figure 8  
**GROUNDWATER CHEMISTRY MAP**  
 May 15, 2024  
 Colorado Energy and Carbon Management Commission  
 Margaret Spaulding Treatment Site  
 SWSE Section 28, T9N, R81W  
 Jackson County, Colorado

Project No. <b>C016-119</b>	Prepared by	Drawn by <b>TA</b>	
Date <b>4/2/25</b>	Reviewed by <b>NL</b>	Filename <b>16119Q2</b>	



### LEGEND

- PRODUCTION WELL
- ⊕ MONITORING WELL
- ⊕ PROPOSED MONITORING WELL LOCATION
- ABOVE GROUND STORAGE TANK
- ▭ BUILDING
- PIT AND/OR FACILITY BERM
- ⋯ CONTAINMENT BERM
- +— FENCE LINE

FORMER PIT	FACILITY ID
PIT # 1	112265
PIT # 2	112266
PIT # 3	112267
PIT # 4	112268
PIT # 5	112269
OVERFLOW TREATOR	115241

[0.14] THICKNESS OF FREE PRODUCT (ft)

EXTENT OF FREE PRODUCT

10/03/2024	DATE SAMPLED
MW-E	SAMPLE IDENTIFICATION
B	<1.00 BENZENE (ug/L)
T	<1.00 TOLUENE (ug/L)
E	2.61 ETHYLBENZENE (ug/L)
X	<1 TOTAL XYLENES (ug/L)
124TMB	<1.00 1,2,4-TRIMETHYLBENZENE (ug/L)
135TMB	<1.00 1,3,5-TRIMETHYLBENZENE (ug/L)
N	11.5 NAPHTHALENE (ug/L)
G	315 TPH-GRO as gasoline (ug/L)
D	33 TPH-DRO as diesel (mg/L)

10/03/2024	DATE SAMPLED
MW-E	SAMPLE ID
TDS	170 SULFATE (mg/L)
CL <sup>-</sup>	<31.2 CHLORIDE (mg/L)
S04	<31.2 TOTAL DISSOLVED SOLIDS (mg/L)

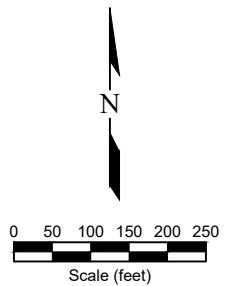


Figure 9  
**GROUNDWATER CHEMISTRY MAP**  
 October 3, 2024  
 Colorado Energy and Carbon Management Commission  
 Margaret Spaulding Treatment Site  
 SWSE Section 28, T9N, R81W  
 Jackson County, Colorado

Project No. <b>C016-119</b>	Prepared by	Drawn by <b>TA</b>	
Date <b>4/2/25</b>	Reviewed by <b>NL</b>	Filename <b>16119Q2</b>	

**APPENDIX A**

**TABLES AND FIGURES FROM COTTONWOOD CONSULTING 2023 REPORT**

**Table 1**  
**Soil Sampling Results**  
**M. Spaulding Centralized Tank Battery**  
**Lone Pine Well Plugging Project**  
**Colorado Oil & Gas Conservation Commission**

Parameter	SS01	SS02	SS03	SS04	SS05	COGCC Table 915-1 Standard	Units
	08/19/2021	08/19/2021	08/19/2021	08/19/2021	08/19/2021		
Sample Location	Flowline	Flowline	Flowline	Flowline	Flowline Manifold	NA	NA
Latitude/Longitude	40.71823, -106.4981	40.7185, -106.4979	40.7181, -106.4984	40.71804, -106.4984	40.71829, -106.4983	NA	NA
Laboratory ID	2108209-01	2108209-02	2108209-03	2108209-04	2108209-05	NA	NA
Depth	9	7	7	5	9	NA	feet bgs
PID	353	1.8	1600	1534	954	NA	ppm
Conductivity	1.060	0.430	0.550	0.575	0.990	<4	mmhos/cm
pH	7.63	7.47	6.72	6.79	6.88	6-8.3	pH units
SAR	1.99	0.28	0.18	1.06	1.22	<6	no units
Calcium	112	67.0	77.8	60.0	141	NA	mg/L
Magnesium	11.9	9.61	10.5	12.1	12.0	NA	mg/L
Sodium	82.7	9.39	6.25	34.5	56.4	NA	mg/L
Arsenic	<b>4.23</b>	<b>6.55</b>	<b>3.78</b>	<b>1.71</b>	<b>3.13</b>	0.68	mg/kg
Barium	178	211	177	79.9	178	15000	mg/kg
Cadmium	<5.00	<5.00	<5.00	<5.00	<5.00	71	mg/kg
Chromium (VI)***	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.3	mg/kg
Total Chromium	25.7	24.2	20.1	8.09	25.1	NA	mg/kg
Copper	28.7	27.4	27.1	11.2	22.0	3100	mg/kg
Lead	<10.0	<10.0	<10.0	<10.0	<10.0	400	mg/kg
Nickel	16.3	19.1	12.6	6.38	15.0	1500	mg/kg
Selenium	<20.0	<20.0	<20.0	<20.0	<20.0	390	mg/kg
Silver	<1.00	<1.00	<1.00	<1.00	<1.00	390	mg/kg
Zinc	69.1	71.6	120	21.9	73.5	23000	mg/kg
Boron	<1.20	<1.20	<1.20	<1.20	<1.20	2	mg/L
TPH (GRO)	17.9	<10.0	1130	2250	242	NA	mg/kg
TPH (DRO)	41.9	<10.0	3660	10300	1660	NA	mg/kg
TPH (EXT DRO)	<10.0	<10.0	496	2040	400	NA	mg/kg
Total TPH	59.8	<30.0	<b>5286</b>	<b>14590</b>	<b>2302</b>	500	mg/kg
Benzene	<0.0250	<0.0250	<0.250	0.227	<0.0250	1.2	mg/kg
Toluene	0.0329	<0.0250	<0.250	0.0323	<0.0250	490	mg/kg
Ethylbenzene	0.0804	<0.0250	4.12	5.81	0.629	5.8	mg/kg
Total Xylenes	0.578	<0.0750	<0.750	0.787	0.164	58	mg/kg
1,3,5-trimethylbenzene	0.177	<0.0250	<0.250	0.810	<0.0250	27	mg/kg
1,2,4-trimethylbenzene	0.822	<0.0250	0.278	25.8	0.0543	30	mg/kg
Naphthalene	0.279	<0.0250	<b>10.9</b>	<b>8.46</b>	<b>2.33</b>	2	mg/kg
2-methylnaphthalene	0.905	<0.023	34.7	29.4	9.81	24	mg/kg
1-methylnaphthalene	0.715	<0.016	29.4	25.7	8.68	18	mg/kg
Acenaphthene	<0.024	<0.024	<2.35	<2.35	0.370	360	mg/kg
Fluorene	0.144	<0.014	5.40	5.08	1.75	240	mg/kg
Anthracene	<0.017	<0.017	<1.72	<1.72	<0.172	1800	mg/kg
Fluoranthene	<0.019	<0.019	<1.85	<1.85	0.202	240	mg/kg
Pyrene	0.047	<0.013	1.80	<1.32	0.441	180	mg/kg
Benzo(a)anthracene	<0.023	<0.023	<2.30*	<2.30*	<0.230	1.1	mg/kg
Chrysene	0.061	<0.017	<1.72	<1.72	0.729	110	mg/kg
Benzo(b)fluoranthene	<0.019	<0.019	<1.92*	<1.92*	<0.192	1.1	mg/kg
Benzo(k)fluoranthene	<0.016	<0.016	<1.57	<1.57	<0.157	11	mg/kg
Benzo(a)pyrene	<0.018	<0.018	<1.82*	<1.82*	<0.182*	0.11	mg/kg
Indeno(1,2,3-cd)pyrene	<0.017	<0.017	<1.68*	<1.68*	<0.168	1.1	mg/kg
Dibenz(a,h)anthracene	<0.019	<0.019	<1.86*	<1.86*	<0.186*	0.11	mg/kg

**Notes:**

PID - Photoionization Detector  
SAR - Sodium Adsorption Ratio  
BTEX - Benzene, Toluene, Ethylbenzene, & Total Xylenes  
TPH - Total Petroleum Hydrocarbons  
GRO - Gasoline Range Organics  
DRO - Diesel Range Organics  
EXT - Extended  
NA - Not Applicable  
ppm - parts per million  
bgs - below ground surface  
mmhos/cm - millihos per centimeter

mg/L - milligrams per liter  
mg/kg - milligrams per kilogram  
COGCC - Colorado Oil & Gas Conservation Commission  
\* - Laboratory detection limit exceeds COGCC Standard  
\*\* - Value detected below the reporting limit; result is an estimate.  
**Bold** values exceed COGCC Standard  
Values reported below the laboratory detection limit are considered zero in Total TPH calculations.  
\*\*\*Laboratory could only analyze for Total Chromium (not Chromium (IV)) prior to September 2021.

**Table 1 (continued)**  
**Soil Sampling Results**  
**M. Spaulding Centralized Tank Battery**  
**Lone Pine Well Plugging Project**  
**Colorado Oil & Gas Conservation Commission**

Parameter	SS06	SS07	SS08	SS09	SS10	COGCC Table 915-1 Standard	Units
	08/19/2021	08/19/2021	08/19/2021	08/19/2021	08/19/2021		
Sample Location	Tank Battery	Tank Battery	Tank Battery	Tank Battery	Tank Battery	NA	NA
Latitude/Longitude	40.71811, -106.4982	40.71806, -106.4983	40.71804, -106.4982	40.71793, -106.4984	40.71785, -106.4984	NA	NA
Laboratory ID	2108209-06	2108209-07	2108209-08	2108209-09	2108209-10	NA	NA
Depth	0-1	1-2	0-1	0-0.33	0-0.33	NA	feet bgs
PID	23.3	0.3	0.4	23.4	11.3	NA	ppm
Conductivity	0.604	0.450	0.530	1.150	1.52	<4	mmhos/cm
pH	7.45	7.39	7.56	6.74	6.47	6-8.3	pH units
SAR	0.54	0.64	0.49	0.65	1.69	<6	no units
Calcium	91.2	65.6	75.1	173	201	NA	mg/L
Magnesium	11.7	7.37	9.97	24.2	18.3	NA	mg/L
Sodium	20.7	20.6	17.1	34.4	93.2	NA	mg/L
Arsenic	<b>2.95</b>	<b>1.54</b>	<b>5.09</b>	<b>4.72</b>	<b>10.3</b>	0.68	mg/kg
Barium	182	73.1	719	121	158	15000	mg/kg
Cadmium	<5.00	<5.00	<5.00	<5.00	<5.00	71	mg/kg
Chromium (VI)***	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.3	mg/kg
Total Chromium	94.9	88.4	50.2	30.8	98.5	NA	mg/kg
Copper	38.7	25.5	64.3	28.6	111	3100	mg/kg
Lead	<10.0	<10.0	10.2	<10.0	23	400	mg/kg
Nickel	46.3	39.7	25.5	15.8	47	1500	mg/kg
Selenium	<20.0	<20.0	<20.0	<20.0	<20.0	390	mg/kg
Silver	<1.00	<1.00	<1.00	<1.00	<1.00	390	mg/kg
Zinc	79.3	32.2	104	46.5	240	23000	mg/kg
Boron	<1.20	<1.20	<1.20	<1.20	<1.20	2	mg/L
TPH (GRO)	<50.0	<50.0	<10.0	65.1	<50.0	NA	mg/kg
TPH (DRO)	143	832	15.5	6960	9460	NA	mg/kg
TPH (EXT DRO)	235	755	<10.0	3090	5140	NA	mg/kg
Total TPH	378	<b>1587</b>	15.5	<b>10115.1</b>	<b>14600</b>	500	mg/kg
Benzene	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	1.2	mg/kg
Toluene	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	490	mg/kg
Ethylbenzene	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	5.8	mg/kg
Total Xylenes	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	58	mg/kg
1,3,5-trimethylbenzene	<0.0250	<0.0250	<0.0250	0.186	<0.0250	27	mg/kg
1,2,4-trimethylbenzene	<0.0250	<0.0250	<0.0250	0.0341	<0.0250	30	mg/kg
Naphthalene	0.0411	<0.0250	<0.0250	0.0835	0.0395	2	mg/kg
2-methylnaphthalene	<0.226	<0.226	0.066	<0.226	<0.226	24	mg/kg
1-methylnaphthalene	<0.161	<0.161	0.068	0.239	0.415	18	mg/kg
Acenaphthene	<0.235	<0.235	<0.024	<0.235	<0.235	360	mg/kg
Fluorene	<0.142	<0.142	0.014	<0.142	<0.142	240	mg/kg
Anthracene	<0.172	<0.172	<0.017	<0.172	<0.172	1800	mg/kg
Fluoranthene	<0.185	<0.185	<0.019	<0.185	<0.185	240	mg/kg
Pyrene	<0.132	<0.132	<0.013	1.17	1.99	180	mg/kg
Benzo(a)anthracene	<0.230	<0.230	<0.023	<0.230	<0.230	1.1	mg/kg
Chrysene	<0.172	<0.172	<0.017	1.96	2.98	110	mg/kg
Benzo(b)fluoranthene	<0.192	<0.192	<0.019	0.693	<0.192	1.1	mg/kg
Benzo(k)fluoranthene	<0.157	<0.157	<0.016	<0.157	<0.157	11	mg/kg
Benzo(a)pyrene	<0.182*	<0.182*	<0.018	<0.182*	<0.182*	0.11	mg/kg
Indeno(1,2,3-cd)pyrene	<0.168	<0.168	<0.017	<0.168	<0.168	1.1	mg/kg
Dibenz(a,h)anthracene	<0.186*	<0.186*	<0.019	<0.186*	<0.186*	0.11	mg/kg

**Notes:**

PID - Photoionization Detector  
SAR - Sodium Adsorption Ratio  
BTEX - Benzene, Toluene, Ethylbenzene, & Total Xylenes  
TPH - Total Petroleum Hydrocarbons  
GRO - Gasoline Range Organics  
DRO - Diesel Range Organics  
EXT - Extended  
NA - Not Applicable  
ppm - parts per million  
bgs - below ground surface  
mmhos/cm - millihos per centimeter

mg/L - milligrams per liter  
mg/kg - milligrams per kilogram  
COGCC - Colorado Oil & Gas Conservation Commission  
\* - Laboratory detection limit exceeds COGCC Standard  
\*\* - Value detected below the reporting limit; result is an estimate.  
**Bold** values exceed COGCC Standard  
Values reported below the laboratory detection limit are considered zero in Total TPH calculations.  
\*\*\*Laboratory could only analyze for Total Chromium (not Chromium (IV)) prior to September 2021.

**Table 1 (continued)**  
**Soil Sampling Results**  
**M. Spaulding Centralized Tank Battery**  
**Lone Pine Well Plugging Project**  
**Colorado Oil & Gas Conservation Commission**

Parameter	SS11	SS12	SS13	SS14	SS15	COGCC Table 915-1 Standard	Units
	08/19/2021	08/19/2021	08/31/2021	09/01/2021	09/01/2021		
Sample Location	Tank Battery	Surface Discharge	Flowline	Flowline	Flowline	NA	NA
Latitude/Longitude	40.71781, -106.4984	40.7183, -106.4992	40.71754, -106.4979	40.71755, -106.4994	40.71769, -106.4992	NA	NA
Laboratory ID	2108209-11	2108209-12	2109048-01	2109048-02	2109048-03	NA	NA
Depth	0-0.33	0-0.25	6.5	5	8	NA	feet bgs
PID	43	0.3	12.0	0.0	0.0	NA	ppm
Conductivity	0.455	0.860	0.519	0.462	0.269	<4	mmhos/cm
pH	6.85	7.46	7.13	6.90	7.71	6-8.3	pH units
SAR	0.26	0.21	1.58	0.30	0.57	<6	no units
Calcium	115	127	50.6	72.3	33.6	NA	mg/L
Magnesium	9.68	16.6	10.9	13.4	7.30	NA	mg/L
Sodium	11.0	9.57	47.5	10.5	14.1	NA	mg/L
Arsenic	<b>9.32</b>	<b>8.15</b>	<b>6.15</b>	<b>4.36</b>	<b>3.56</b>	0.68	mg/kg
Barium	103	954	150	157	224	15000	mg/kg
Cadmium	<5.00	<5.00	<5.00	<5.00	<5.00	71	mg/kg
Chromium (VI)***	Not Analyzed	Not Analyzed	<0.250	<0.250	<0.250	0.3	mg/kg
Total Chromium	45.9	32.4	22.3	24.0	23.1	NA	mg/kg
Copper	292	13.9	19.8	20.5	23.8	3100	mg/kg
Lead	30.5	<10.0	<10.0	<10.0	<10.0	400	mg/kg
Nickel	22.5	18.1	14.8	13.9	12.5	1500	mg/kg
Selenium	<20.0	<20.0	<20.0	<20.0	<20.0	390	mg/kg
Silver	<1.00	<1.00	<1.00	<1.00	<1.00	390	mg/kg
Zinc	288	54.8	44.8	53.5	53.4	23000	mg/kg
Boron	<1.20	<1.20	<1.20	<1.20	<1.20	2	mg/L
TPH (GRO)	83.9	<10.0	<50.0	<10.0	<10.0	NA	mg/kg
TPH (DRO)	8240	<10.0	9790	48.4	<10.0	NA	mg/kg
TPH (EXT DRO)	3380	<10.0	3100	89.0	<10.0	NA	mg/kg
Total TPH	<b>11703.9</b>	<30.0	<b>12890</b>	137.4	<30.0	500	mg/kg
Benzene	<0.0250	<0.0250	<0.250	<0.0250	<0.0250	1.2	mg/kg
Toluene	<0.0250	<0.0250	<0.250	<0.0250	<0.0250	490	mg/kg
Ethylbenzene	<0.0250	<0.0250	<0.250	<0.0250	<0.0250	5.8	mg/kg
Total Xylenes	<0.0750	<0.0750	<0.750	<0.0750	<0.0750	58	mg/kg
1,3,5-trimethylbenzene	0.187	<0.0250	<0.250	<0.0250	<0.0250	27	mg/kg
1,2,4-trimethylbenzene	<0.0250	<0.0250	<0.250	<0.0250	<0.0250	30	mg/kg
Naphthalene	0.215	<0.0250	1.79	<0.0250	<0.0250	2	mg/kg
2-methylnaphthalene	<0.226	<0.023	4.85	<0.023	<0.023	24	mg/kg
1-methylnaphthalene	1.26	<0.016	10.3	<0.016	<0.016	18	mg/kg
Acenaphthene	<0.235	<0.024	<0.235	<0.024	<0.024	360	mg/kg
Fluorene	1.37	<0.014	4.48	<0.014	<0.014	240	mg/kg
Anthracene	<0.172	<0.017	<0.172	<0.017	<0.017	1800	mg/kg
Fluoranthene	0.917	<0.019	0.463	<0.019	<0.019	240	mg/kg
Pyrene	2.69	<0.013	1.49	<0.013	<0.013	180	mg/kg
Benzo(a)anthracene	<0.230	<0.023	<0.230	<0.023	<0.023	1.1	mg/kg
Chrysene	4.05	0.048	2.04	<0.017	<0.017	110	mg/kg
Benzo(b)fluoranthene	0.988	<0.019	<0.192	<0.019	<0.019	1.1	mg/kg
Benzo(k)fluoranthene	<0.157	<0.016	<0.157	<0.016	<0.016	11	mg/kg
Benzo(a)pyrene	<0.182*	<0.018	<0.182*	<0.018	<0.018	0.11	mg/kg
Indeno(1,2,3-cd)pyrene	<0.168	<0.017	<0.168	<0.017	<0.017	1.1	mg/kg
Dibenz(a,h)anthracene	<0.186*	<0.019	<0.186*	<0.019	<0.019	0.11	mg/kg

**Notes:**

PID - Photoionization Detector  
SAR - Sodium Adsorption Ratio  
BTEX - Benzene, Toluene, Ethylbenzene, & Total Xylenes  
TPH - Total Petroleum Hydrocarbons  
GRO - Gasoline Range Organics  
DRO - Diesel Range Organics  
EXT - Extended  
NA - Not Applicable  
ppm - parts per million  
bgs - below ground surface  
mmhos/cm - millihos per centimeter

mg/L - milligrams per liter  
mg/kg - milligrams per kilogram  
COGCC - Colorado Oil & Gas Conservation Commission

\* - Laboratory detection limit exceeds COGCC Standard  
\*\* - Value detected below the reporting limit; result is an estimate.  
**Bold** values exceed COGCC Standard  
Values reported below the laboratory detection limit are considered zero in Total TPH calculations.  
\*\*\*Laboratory could only analyze for Total Chromium (not Chromium (IV)) prior to September 2021.

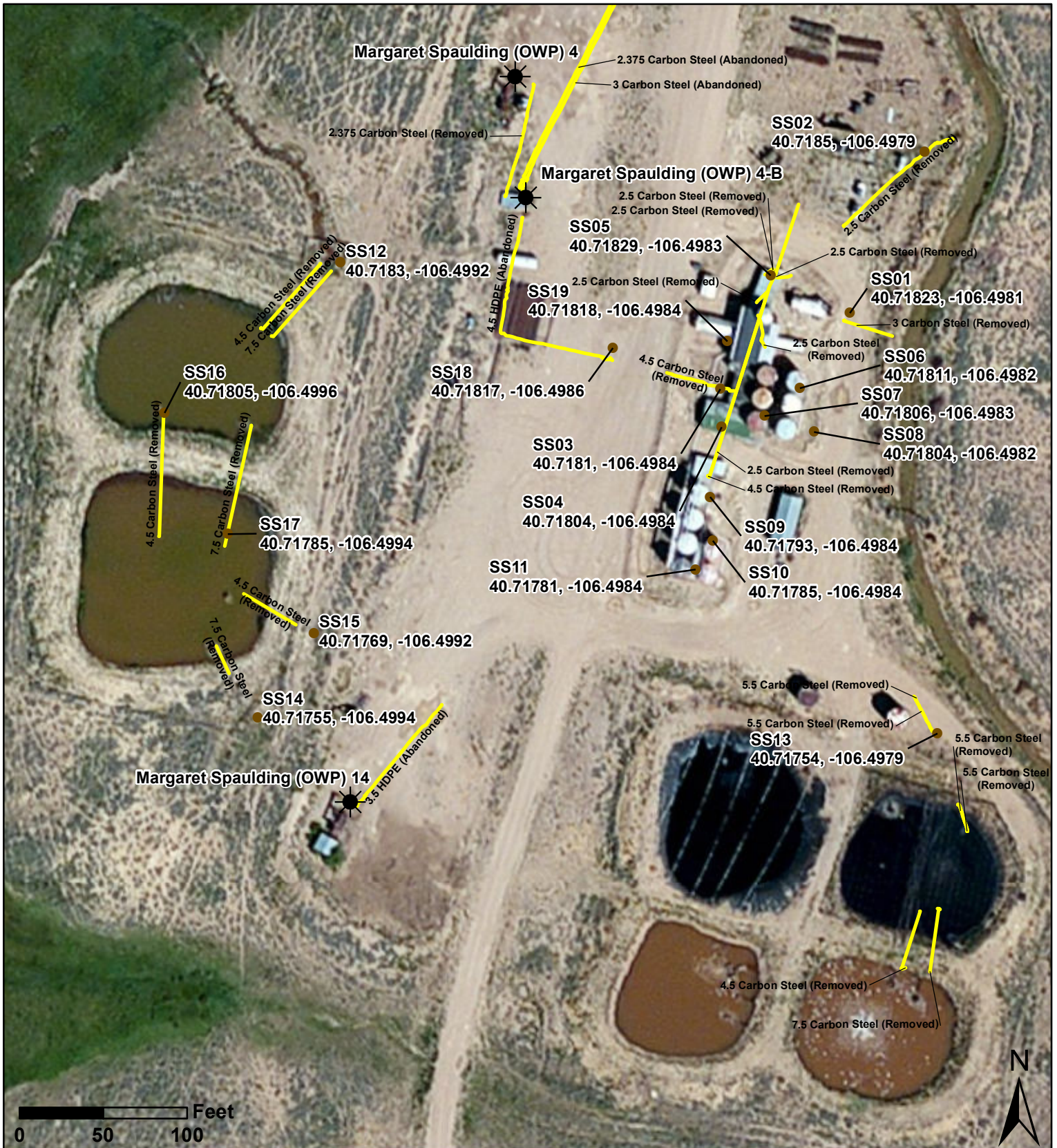
**Table 1 (continued)**  
**Soil Sampling Results**  
**M. Spaulding Centralized Tank Battery**  
**Lone Pine Well Plugging Project**  
**Colorado Oil & Gas Conservation Commission**

Parameter	SS16	SS17	SS18	SS19	SS01	COGCC Table 915-1 Standard	Units
	09/01/2021	09/01/2021	09/01/2021	09/01/2021	Background 07/28/2021		
Sample Location	Flowline	Flowline	Flowline	Horizontal Separator	Background	NA	NA
Latitude/Longitude	40.71805, -106.4996	40.71785, -106.4994	40.71817, -106.4986	40.71818, -106.4984	40.71514, -106.4963	NA	NA
Laboratory ID	2109048-04	2109048-05	2109048-06	2109048-07	2107315-01	NA	NA
Depth	0-0.33	0-0.33	7	0-0.25	0-0.66	NA	feet bgs
PID	-	-	0.4	1.4	0.0	NA	ppm
Conductivity	1.030	1.480	1.050	0.667	0.286	<4	mmhos/cm
pH	7.37	7.34	7.63	7.49	<b>5.60</b>	6-8.3	pH units
SAR	1.51	0.64	1.28	0.79	0.16	<6	no units
Calcium	138	311	111	100	36.4	NA	mg/L
Magnesium	7.08	18.7	17.2	15.0	10.3	NA	mg/L
Sodium	67.0	42.9	55.0	31.9	4.22	NA	mg/L
Arsenic	<b>2.28</b>	<b>1.63</b>	<b>3.86</b>	<b>4.67</b>	<b>2.04</b>	0.68	mg/kg
Barium	4930	3750	291	233	146	15000	mg/kg
Cadmium	<5.00	<5.00	<5.00	<5.00	<5.00	71	mg/kg
Chromium (VI)***	<0.250	<0.250	<0.250	<0.250	Not Analyzed	0.3	mg/kg
Total Chromium	30.1	23.6	30.3	30.1	25.0	NA	mg/kg
Copper	47.5	31.6	32.4	30.1	27.5	3100	mg/kg
Lead	<10.0	<10.0	<10.0	11.5	<10.0	400	mg/kg
Nickel	13.0	11.4	16.8	17.5	13.0	1500	mg/kg
Selenium	<20.0	<20.0	<20.0	<20.0	<20.0	390	mg/kg
Silver	1.33	<1.00	<1.00	<1.00	<1.00	390	mg/kg
Zinc	400	598	63.1	137	64.8	23000	mg/kg
Boron	<1.20	<1.20	<1.20	<1.20	<1.20	2	mg/L
TPH (GRO)	<100	<100	<10.0	<100	<10.0	NA	mg/kg
TPH (DRO)	20300	20100	<10.0	3290	<10.0	NA	mg/kg
TPH (EXT DRO)	11700	12000	<10.0	2960	<10.0	NA	mg/kg
Total TPH	<b>32000</b>	<b>32100</b>	<30.0	<b>6250</b>	<30.0	500	mg/kg
Benzene	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	1.2	mg/kg
Toluene	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	490	mg/kg
Ethylbenzene	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	5.8	mg/kg
Total Xylenes	<0.0750	<0.0750	<0.0750	<0.0750	<0.0250	58	mg/kg
1,3,5-trimethylbenzene	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	27	mg/kg
1,2,4-trimethylbenzene	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	30	mg/kg
Naphthalene	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	2	mg/kg
2-methylnaphthalene	<1.13	<0.565	<0.023	<0.226	<0.023	24	mg/kg
1-methylnaphthalene	<0.804	<0.402	<0.016	<0.161	<0.016	18	mg/kg
Acenaphthene	<1.18	<0.588	<0.024	<0.235	<0.024	360	mg/kg
Fluorene	<0.712	<0.356	<0.014	<0.142	<0.014	240	mg/kg
Anthracene	<0.858	<0.429	<0.017	<0.172	<0.017	1800	mg/kg
Fluoranthene	<0.926	<0.463	<0.019	<0.185	<0.019	240	mg/kg
Pyrene	4.97	4.96	<0.013	0.555	<0.013	180	mg/kg
Benzo(a)anthracene	<1.15	<0.576	<0.023	<0.230	<0.023	1.1	mg/kg
Chrysene	12.1	10.8	<0.017	0.908	<0.017	110	mg/kg
Benzo(b)fluoranthene	<0.958	<0.479	<0.019	<0.192	<0.019	1.1	mg/kg
Benzo(k)fluoranthene	<0.786	<0.393	<0.016	<0.157	<0.016	11	mg/kg
Benzo(a)pyrene	<0.908*	<0.454*	<0.018	<0.182*	<0.018	0.11	mg/kg
Indeno(1,2,3-cd)pyrene	<0.840	0.499	<0.017	<0.168	<0.017	1.1	mg/kg
Dibenz(a,h)anthracene	<0.928*	<0.464*	<0.019	<0.186*	<0.019	0.11	mg/kg




**Notes:**


PID - Photoionization Detector  
SAR - Sodium Adsorption Ratio  
BTEX - Benzene, Toluene, Ethylbenzene, & Total Xylenes  
TPH - Total Petroleum Hydrocarbons  
GRO - Gasoline Range Organics  
DRO - Diesel Range Organics  
EXT - Extended  
NA - Not Applicable  
ppm - parts per million  
bgs - below ground surface  
mmhos/cm - millihos per centimeter

mg/L - milligrams per liter  
mg/kg - milligrams per kilogram  
COGCC - Colorado Oil & Gas Conservation Commission  
\* - Laboratory detection limit exceeds COGCC Standard  
\*\* - Value detected below the reporting limit; result is an estimate.  
**Bold** values exceed COGCC Standard  
Values reported below the laboratory detection limit are considered zero in Total TPH calculations.  
\*\*\*Laboratory could only analyze for Total Chromium (not Chromium (IV)) prior to September 2021.



**Legend**

-  Abandoned Well
-  Soil Sample Location
-  Flowline

**Cottonwood**  
CONSULTING 

Mapping by: E. Millar, 12/16/2021  
 Coordinate System:  
 NAD 1983 UTM Zone 13 N  
 Location: Jackson County, CO

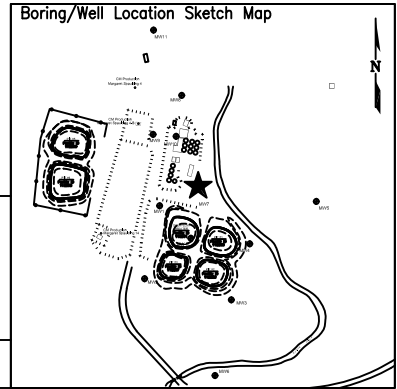
**Figure 1**  
**M. Spaulding**  
**Centralized Tank Battery**  
**Project Map**  
**Colorado Oil & Gas**  
**Conservation Commission**

**APPENDIX B**

**SOIL BORING/MONITORING WELL LOGS**



# BORING/WELL CONSTRUCTION LOG



Page 1 of 2

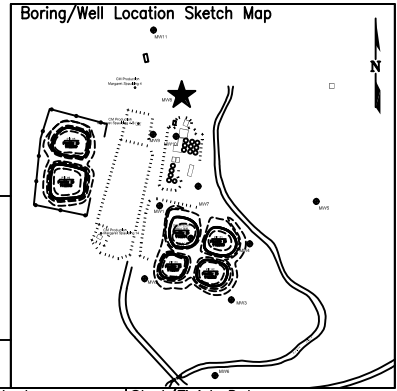
Boring/Well No. <b>MW-7</b>		Total Depth <b>36'</b>	Location <b>Colorado Energy and Carbon Management Commission Margaret Spaulding Treatment Site SWSE Section 28, T9N, R81W Jackson County, Colorado</b>			
Project No./Name <b>C016-119 / ECMC Margaret Spaulding Treatment Site</b>			Approved By			
Drilling Contractor/Driller <b>Inberg Miller / Tim</b>			Geologist/Office <b>Mike Gerstner / Fremont Environmental, Inc.</b>			
Drilling Equipment/Method <b>CME 55</b>		Size/Type of Bit <b>2.5" direct push</b>	Sampling Method <b>direct push</b>	Start/Finish Date <b>5/13/24</b>		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. <b>PVC/2"</b>	Screen: Type <b>Slotted</b>   Mtrl. <b>PVC</b>   Length <b>10'</b>   Dia. <b>2"</b>   Slot Size <b>20 slot</b>				
Elevation of: (ft. above datum)	Ground Surface <b>8230</b>	Top of Well Casing <b>8229.77</b>	Top of Screen <b>.</b>	Bottom of Screen <b>.</b>	Ground Water Surface/Date Measured <b>27.16 5/15/24</b>	

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
5	Bentonite	1" Blank	SM	Silt with sand and minor gravel, fill, brown, dry	6 - 5 - 6		0	
10			ML	Silt, sandy, minor clay, brown, moist	3 - 4 - 5		0	
15					2 - 6 - 7		0	
20			GP	Gravelly sand, fine to coarse, gray, dry	14 - 41 - 1 1/2		0	





# BORING/WELL CONSTRUCTION LOG



Page 1 of 2

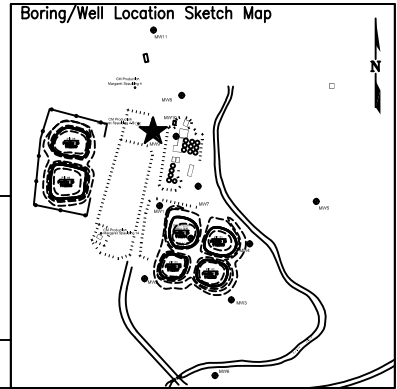
Boring/Well No. <b>MW-8</b>		Total Depth <b>32'</b>	Location <b>Colorado Energy and Carbon Management Commission Margaret Spaulding Treatment Site SWSE Section 28, T9N, R81W Jackson County, Colorado</b>			
Project No./Name <b>C016-119 / ECMC Margaret Spaulding Treatment Site</b>			Geologist/Office <b>Mike Gerstner / Fremont Environmental, Inc.</b>			
Drilling Contractor/Driller <b>Inberg Miller / Tim</b>			Approved By		Start/Finish Date <b>5/14/24</b>	
Drilling Equipment/Method <b>CME 55</b>			Size/Type of Bit <b>2.5" direct push</b>	Sampling Method <b>direct push</b>	Start/Finish Date <b>5/14/24</b>	
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Casing Mtrl./Dia. <b>PVC/2"</b>	Screen: Type <b>Slotted</b>   Mtrl. <b>PVC</b>   Length <b>10'</b>   Dia. <b>2"</b>   Slot Size <b>20 slot</b>			
Elevation of: (ft. above datum)		Ground Surface <b>8226.6</b>	Top of Well Casing <b>8226.23</b>	Top of Screen <b>.</b>	Bottom of Screen <b>.</b>	Ground Water Surface/Date Measured <b>25.29 5/15/24</b>

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
5	Bentonite	1" Blank	ML	Silt, clayey with sand, stiff, moist, brown	5 - 6 - 8		0	
10			SM	Silt, very sandy, dry, silty, moist, brown	3 - 7 - 8		0	
15			GW	Sand, gravelly, dry, light brown, gray	15 - 29 - 1 2/3		0	
20					19 - 34 - 2 1/2		730	





# BORING/WELL CONSTRUCTION LOG



Page 1 of 2

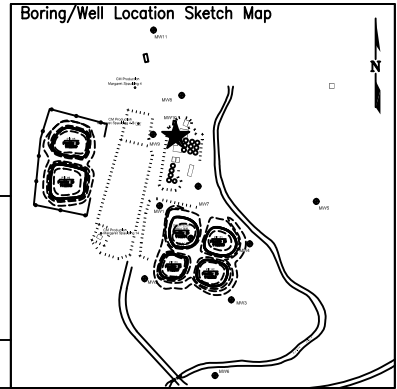
Boring/Well No. <b>MW-9</b>		Total Depth <b>29'</b>	Location <b>Colorado Energy and Carbon Management Commission Margaret Spaulding Treatment Site SWSE Section 28, T9N, R81W Jackson County, Colorado</b>			
Project No./Name <b>C016-119 / ECMC Margaret Spaulding Treatment Site</b>		Drilling Contractor/Driller <b>Inberg Miller / Tim</b>				
Geologist/Office <b>Mike Gerstner / Fremont Environmental, Inc.</b>		Approved By				
Drilling Equipment/Method <b>CME 55</b>		Size/Type of Bit <b>2.5" direct push</b>	Sampling Method <b>direct push</b>	Start/Finish Date <b>5/13/24</b>		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. <b>PVC/2"</b>	Screen: Type <b>Slotted</b>   Mtrl. <b>PVC</b>   Length <b>10'</b>   Dia. <b>2"</b>   Slot Size <b>20 slot</b>				
Elevation of: (ft. above datum)	Ground Surface <b>8224.9</b>	Top of Well Casing <b>8224.42</b>	Top of Screen -	Bottom of Screen -	Ground Water Surface/Date Measured <b>22.85 5/15/24</b>	

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
5	Bentonite	1" Blank	ML	Silt, clayey, minor gravel, stiff, moist	3 - 4 - 6		0	
10			SM	Sand, very silty, fine to medium grained, brown, slightly moist	3 - 5 - 11		0	
15	#10-20 Silica Sand		SP	Sand, gravelly, gray, dry	14 - 24 - 18 1/2		0	
20		1" Screen		- gray petroleum odor	24 - 25 - 23		2700	





# BORING/WELL CONSTRUCTION LOG



Page 1 of 2

Boring/Well No. <b>MW-10</b>		Total Depth <b>34'</b>	Location <b>Colorado Energy and Carbon Management Commission Margaret Spaulding Treatment Site SWSE Section 28, T9N, R81W Jackson County, Colorado</b>			
Project No./Name <b>C016-119 / ECMC Margaret Spaulding Treatment Site</b>			Drilling Contractor/Driller <b>Inberg Miller / Tim</b>			
Geologist/Office <b>Mike Gerstner / Fremont Environmental, Inc.</b>			Approved By			
Drilling Equipment/Method <b>CME 55</b>		Size/Type of Bit <b>2.5" direct push</b>	Sampling Method <b>direct push</b>		Start/Finish Date <b>5/14/24</b>	
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Casing Mtrl./Dia. <b>PVC/2"</b>	Screen: Type <b>Slotted</b>   Mtrl. <b>PVC</b>   Length <b>10'</b>   Dia. <b>2"</b>   Slot Size <b>20 slot</b>			
Elevation of: (ft. above datum)		Ground Surface <b>8229.1</b>	Top of Well Casing <b>8228.61</b>	Top of Screen <b>.</b>	Bottom of Screen <b>.</b>	Ground Water Surface/Date Measured <b>26.92 5/15/24</b>

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
5	Bentonite	1" Blank	ML	Silt, clayey, soft, moist, olive gray, petroleum odor	2 - 3 - 4		4	
10					2 - 4 - 5		11	
15			SM	Silt, sandy, with clay, olive gray, moist, soft	4 - 5 - 7		1350	
20			SP	Sand, gravelly, fine to coarse grained, brown, brown-gray, moist	15 - 19 - 26		370	

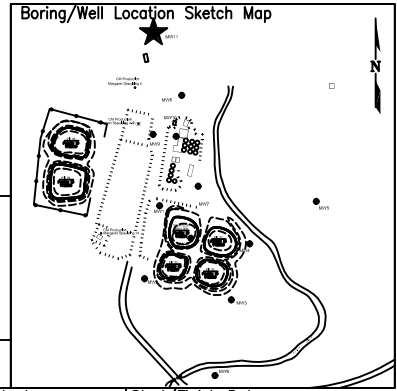
# BORING/WELL CONSTRUCTION LOG

Boring/Well No. <b>MW-10</b>	Location <b>Colorado Energy and Carbon Management Commission</b> <b>Margaret Spaulding Treatment Site</b> <b>SWSE Section 28, T9N, R81W</b> <b>Jackson County, Colorado</b>
Project No./Name <b>C016-119 / ECMC Margaret Spaulding Treatment Site</b>	

DEPTH (feet)	WELL CONSTRUCTION	LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
		GRAPHIC LOG	VISUAL DESCRIPTION				
25			Sand, gravelly, fine to coarse grained, brown, brown-gray, moist, continued  - slightly moist	15 - 19 - 26			370
30			- wet, oil., apparent petroleum odor	24 - 36			740
35			TD 34'	19 - 31			795
40							
45							



# BORING/WELL CONSTRUCTION LOG



Page 1 of 2

Boring/Well No. <b>MW-11</b>		Total Depth <b>28'</b>	Location <b>Colorado Energy and Carbon Management Commission Margaret Spaulding Treatment Site SWSE Section 28, T9N, R81W Jackson County, Colorado</b>			
Project No./Name <b>C016-119 / ECMC Margaret Spaulding Treatment Site</b>		Drilling Contractor/Driller <b>Inberg Miller / Tim</b>				
Geologist/Office <b>Mike Gerstner / Fremont Environmental, Inc.</b>		Approved By				
Drilling Equipment/Method <b>CME 55</b>		Size/Type of Bit <b>2.5" direct push</b>	Sampling Method <b>direct push</b>	Start/Finish Date <b>5/15/24</b>		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. <b>PVC/2"</b>	Screen: Type <b>Slotted</b>   Mtrl. <b>PVC</b>   Length <b>10'</b>   Dia. <b>2"</b>   Slot Size <b>20 slot</b>				
Elevation of: (ft. above datum)	Ground Surface <b>8220.4</b>	Top of Well Casing <b>8219.94</b>	Top of Screen <b>.</b>	Bottom of Screen <b>.</b>	Ground Water Surface/Date Measured <b>21.00 5/15/24</b>	

DEPTH (feet)	WELL CONSTRUCTION	LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
		GRAPHIC LOG	VISUAL DESCRIPTION				
5	<div style="display: flex; justify-content: space-around;"> <div style="border-left: 1px dashed black; border-right: 1px dashed black; width: 100%; height: 100%; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="border-left: 1px dashed black; border-right: 1px dashed black; width: 100%; height: 100%; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px);"></div> </div>	<div style="border-left: 1px dashed black; border-right: 1px dashed black; width: 100%; height: 100%; background: repeating-linear-gradient(90deg, transparent, transparent 2px, black 2px, black 4px);"></div> <p style="text-align: center; font-weight: bold; font-size: 1.2em;">ML</p>	<p>Silt with clay and sand, brown, stiff, dry</p>	6 - 7 - 7		0	
10			<p>- moist</p>	3 - 3 - 4		0	
15		<div style="border-left: 1px dashed black; border-right: 1px dashed black; width: 100%; height: 100%; background: radial-gradient(circle, black 1px, transparent 1px); background-size: 10px 10px;"></div> <p style="text-align: center; font-weight: bold; font-size: 1.2em;">SP</p>	<p>Sand, gravelly, dry, gray</p>	13 - 16 - 15		4	
20	<div style="display: flex; justify-content: space-around;"> <div style="border-left: 1px dashed black; border-right: 1px dashed black; width: 100%; height: 100%; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="border-left: 1px dashed black; border-right: 1px dashed black; width: 100%; height: 100%; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px);"></div> </div>		<p>- wet at 20'</p>	9 - 11 - 15		1035	



# BORING/WELL CONSTRUCTION LOG

Page 2 of 2

Boring/Well No. <b>MW-11</b>	Location <b>Colorado Energy and Carbon Management Commission</b> <b>Margaret Spaulding Treatment Site</b> <b>SWSE Section 28, T9N, R81W</b> <b>Jackson County, Colorado</b>
Project No./Name <b>C016-119 / ECMC Margaret Spaulding Treatment Site</b>	

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
25	<div style="display: flex; justify-content: space-between; font-size: 8px;"> <span>#10-20 Silica Sand</span> <span>1" Screen</span> </div>	<p style="text-align: center; font-weight: bold; font-size: 12px;">SP</p>	Sand, gravely, dry, gray, continued	9 - 11 - 15			1035	
30			TD 28'	17 - 29			78	
35								
40								
45								

APPENDIX C

**LABORATORY DOCUMENTATION**

**(Separate secured Laboratory Reports)**

Y405556

Y405557

E410194

**APPENDIX D**

**SAMPLING PLAN**

## SAMPLING METHODS AND PROCEDURES

### Water Level Measurements

All groundwater level measurements will be obtained using an electric measuring device, which indicates when a probe is in contact with groundwater. Measurements will be obtained by lowering the device into the well until the water surface had been encountered, and by measuring the distance from the top of the inside riser pipe to the probe. All of the measurements will be recorded to the nearest 0.01 ft. To minimize cross-contamination, the water level indicator will be decontaminated with isopropyl alcohol and/or distilled water between each well.

### Monitoring Well Sampling

All monitoring wells were sampled from the “cleanest” to the “most contaminated” according to the protocols listed below.

#### Field Protocol

- Step 1            Measure water level in each well.
- Step 2            Purge each monitoring well by evacuating a minimum of three well bore volumes using a disposable polyethylene bailer.
- Step 3            Collect water samples using a disposable polyethylene bailer.
- Step 4            Cool samples to approximately 4°C for transportation.
- Step 5            Store water samples and transport to a specific laboratory, following all documentation and chain-of-custody procedures.

Upon completion of groundwater sampling, a chain-of-custody log will be completed. Chain-of-custody records include the following information: project, project number, shipped by, shipped to, suspected hazard, sampling point, location, field identification number, date collected, sample type, number of containers, analysis required, and sampler's signature.

The chain-of-custody records will be shipped with the samples to the laboratory. Upon arrival at the laboratory the samples will be checked in and signed by the appropriate laboratory personnel. Laboratory identification numbers will be noted on the chain-of-custody record. Upon completion of the laboratory analysis, the completed chain-of-custody record will be returned to the project manager.

### **Analytical Methods**

The following list identifies the various chemical constituents and analytical methods which will be used for their quantification.

<u>Chemical Parameter</u>	<u>Method</u>
Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX)	EPA Method – 8260D