

# **FREMONT ENVIRONMENTAL INC.**

January 30, 2023

Mr. Daniel Peterson,  
Noble Energy Inc.  
2115 117<sup>th</sup> Ave,  
Greeley, CO 80634

Subject:     **Excavation Report**  
              Miller 16-29  
              API # 05-123-12830  
              SESE Sec 29, T6N, R64W  
              Weld County, Colorado  
              Fremont Project No. C022-056  
              Facility #481574, Remediation #22488

Dear Mr. Peterson:

Enclosed please find a copy of the above referenced Excavation Report for the Miller 16-29 tank battery location in Weld County, Colorado. The enclosed report describes excavation and sampling efforts to remediate impacted soil at the site.

Please contact me at (303) 956-8714 if you require any additional information.

Fremont appreciates the opportunity to provide this service.

Sincerely,  
**FREMONT ENVIRONMENTAL INC.**



Paul V. Henahan, P.E.  
Senior Consultant

Enclosure

**EXCAVATION REPORT**

**NOBLE ENERGY INC.**

**MILLER 16-29**

**WELD COUNTY, COLORADO**

**FREMONT PROJECT NO. C022-056**

**FACILITY # 481574, REMEDIATION # 22488**

**Prepared by:  
Fremont Environmental Inc.  
1759 Redwing Lane  
Broomfield, CO 80020  
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**January 30, 2023**

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**EXCAVATION REPORT**  
**NOBLE ENERGY INC.**  
**MILLER 16-29**  
**WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C022-056**  
**FACILITY # 481574, REMEDIATION # 22488**

**1.0 INTRODUCTION**

The purpose of this document is to present information collected during the multi-day excavation of soils at the Miller 16-29 (Miller) former tank battery location in Weld County, Colorado. This excavation project was completed on November 2, 2022.

**2.0 BACKGROUND INFORMATION**

**2.1 Site Location**

The Miller facility is located approximately 1.3 miles west of Gill, Colorado in Weld County as shown on Figure 1. The site is located in a rural and agricultural area approximately 0.1 miles west of the intersection of County Road 64 and County Road 53. The location is further described as the SE  $\frac{1}{4}$  of the SE  $\frac{1}{4}$  of Section 29, Township 6N, Range 64W.

**2.2 Site History**

The site consists of the Miller tank battery which serviced the Miller 16-29 natural gas well. The Miller 16-29 well was drilled in 1986 to a depth of 6,999 feet.

A historical release was discovered within the produced water vault (PWV) excavation during decommissioning activities at the Miller facility in May 2022. A site investigation was undertaken on June 23, 2022 to define the magnitude and extent of soil impacts which were subsequently removed via excavation. Groundwater was encountered at that time

and eight monitoring wells were installed following the site investigation. All eight monitoring wells were destroyed during the excavation.

### **3.0 FIELD ACTIVITIES**

#### **3.1 Soil Excavation and Sampling**

Soil remediation efforts consisted of the excavation and removal of petroleum impacted soil at and adjacent to the former Miller PWV location. Generally, the subsurface consists of sandy silt that extends to approximately six feet below ground surface (bgs). The sandy silty is underlain by a moist to wet, black and gray, sandy clay extending to a depth of at least 16 feet bgs. Groundwater flowed into the excavation limiting the depth of the excavation to 13 feet bgs. The excavation extent is illustrated on Figure 2.

The multi-day excavation was completed at the Miller on November 2, 2022. Soil samples were collected as grab samples from the excavation sidewalls at 11 feet bgs and from the excavation floor at 13 feet bgs.

The soil samples were analyzed by Summit Scientific, Inc. in Golden, Colorado for benzene, toluene, ethylbenzene and total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene (TMB), Total Petroleum Hydrocarbons - Gasoline Range Organics (TPH-GRO) by EPA method 8260B, TPH - Diesel Range Organics (TPH-DRO), Extended Range Organics (TPH-ORO) by EPA method 8015, Polycyclic Aromatic Hydrocarbons (PAH): Acenaphthene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Chrysene, Dibenzo (a,h) anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Pyrene, 1-Methylnaphthalene, 2-Methylnaphthalene by EPA method 8270D, Total Metals by EPA method 6020B, and Hexavalent Chromium by EPA method 7196, sodium absorption ratio (SAR) by EPA 6020/USDA60 6(2) saturated paste extraction method, specific conductance by EPA Method 120.1 saturated paste extraction and pH by APHA/ASTM/EPA Methods,

Saturated Paste Extraction. The laboratory reports and chain-of-custody documentation are included in Appendix B.

A summary of the laboratory data for the soil samples is included in Tables 1 through 5. The laboratory analyses indicate that organic petroleum constituents in soil samples collected from the sidewalls and floor of the excavation achieved the Colorado Oil and Gas Conservation Commission's (COGCC) Table 915-1 protection of groundwater soil screening levels (PGSSLs). However, arsenic exceeded the COGCC Table 915-1 residential soil screening levels (RSSLs). A background sample collected at a depth of 11 feet in native soil off site adjacent to the former Miller tank battery also exceeded the COGCC Table 915-1 RSSLs for arsenic. Since elevated levels of arsenic were observed in both the excavation samples and background sample, it is proposed that arsenic concentrations be attributed to native soil conditions. Metals barium, cadmium and lead exceeded the COGCC Table 915-1 PGSSLs for samples collected in the excavation at 11 feet bgs and cannot be attributed to native soil conditions based on the background soil data.

A total of approximately 1,020 cubic yards of petroleum impacted soil were removed via excavation by 4X Industrial from the location. Impacted soil was disposed of at North Weld Landfill in Ault, CO as non-hazardous waste.

### **3.2 Groundwater Sampling**

A groundwater sample (W1) was collected from the floor of the excavation at a depth of 13 feet, and submitted to Summit Scientific, Inc. in Golden, Colorado for the analyses of organic petroleum constituents benzene, toluene, ethylbenzene, xylenes (BTEX), 1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene and naphthalene by EPA Method 8260B.

The laboratory analysis indicated that the groundwater sample exceeded the COGCC Table 915-1 standard for benzene. The groundwater chemistry is shown on Figure 3 and the analytical data are summarized in Table 5. A copy of the laboratory's report is presented in Appendix B.

#### **4.0 DISCUSSION**

As demonstrated by the soil sampling, petroleum impacted soil was removed from the Miller location by excavation. This was confirmed by analysis of soil samples collected from the exterior sidewalls and the floor, which were below the COGCC Table 915-1 PGSSLs for organic petroleum constituents upon completion of the excavation. Approximately 1,020 cubic yards of impacted soil were removed and transported to the landfill. The soil data are illustrated and summarized in the attached tables and figures.

Since groundwater, collected from the floor of the excavation, exceeded the COGCC Table 915-1 standard for benzene monitoring wells will be reinstalled at the Miller location to monitor natural attenuation of groundwater impacts. Analysis of dissolved barium, cadmium, and lead will be added to the groundwater monitoring plan since a potential for communication with groundwater exists between soils exceeding the COGCC Table 915-1 PGSSLs for metals at 11 feet bgs, and groundwater at 13 feet bgs. After four consecutive quarters of COGCC Table 915-1 compliant groundwater concentrations are achieved a no further action designation will be requested from the COGCC.

#### **5.0 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.**



1/30/23

Date\_\_\_\_\_

\_\_\_\_\_  
Ethan D. Black, P.G.

Geologist

Reviewed by:



1/30/23

Date\_\_\_\_\_

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Paul V. Henahan, P.E.

Senior Consultant

## **TABLES**

**TABLE 1**  
**SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**MILLER 16-29, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C022-056**

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 GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
COGCC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500		
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500		
Waste Char.	10/19/2022	11-13	<b>0.36</b>	<0.0050	<b>6.3</b>	8.2	<b>34</b>	<b>0.29</b>	<b>1.5</b>	<b>2600</b>	<b>1600</b>	100
W Wall 11 ft	10/19/2022	11	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	0.85	<50	<50
W-S Wall 11 Ft	10/21/2022	11	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.5	<50	<50
S-W Wall 11 Ft	10/21/2022	11	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.5	81	<50
N Wall 11 Ft	10/24/2022	11	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.5	<50	<50
Floor 13 Ft	10/24/2022	13	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.5	170	<50
S-W Wall 2 11 Ft	10/25/2022	11	<b>0.014</b>	<0.0050	0.042	0.078	<b>0.53</b>	<b>0.066</b>	<b>0.066</b>	30	<50	<50
E-N Wall 11 Ft	10/25/2022	11	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.5	<50	<50
S-W Wall 3 11 Ft	10/26/2022	11	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.5	<50	<50
S-E Wall 11 Ft	10/26/2022	11	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.5	<50	<50
W-N Wall 2 11 Ft	10/27/2022	11	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.5	<50	<50
N-E Wall 11 Ft	10/27/2022	11	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.5	<50	<50
E-S Wall 11 Ft	10/28/2022	11	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.5	<50	<50
Floor E 13 Ft	10/28/2022	13	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.5	<50	<50

Bold faced values exceed the COGCC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

\* Summation of GRO+DRO+ORO must be less than 500 mg/kg

TABLE 2  
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA  
NOBLE ENERGY INC.  
MILLER 16-29, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C022-056

Sample ID	Sample Date	Depth (ft)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3- cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
COGCC Table 915-1 Limits (Residential SSL)			360	1800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
Waste Char.	10/19/2022	11-13	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0767	<0.00500	<0.00500	1.04	1.22
W Wall 11 ft	10/19/2022	11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0132	<0.00500	<0.00500	0.0404	0.0415
W-S Wall 11 Ft	10/21/2022	11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0258	0.0587
S-W Wall 11 Ft	10/21/2022	11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
N Wall 11 Ft	10/24/2022	11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0086	<0.00500	<0.00500	<0.00500	<0.00500
Floor 13 Ft	10/24/2022	13	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
S-W Wall 2 11 Ft	10/25/2022	11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0574	0.124
E-N Wall 11 Ft	10/25/2022	11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
S-W Wall 3 11 Ft	10/26/2022	11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
S-E Wall 11 Ft	10/26/2022	11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
W-N Wall 2 11 Ft	10/27/2022	11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
N-E Wall 11 Ft	10/27/2022	11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
E-S Wall 11 Ft	10/28/2022	11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
Floor E 13 Ft	10/28/2022	13	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Bold faced values exceed the COGCC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

TABLE 4  
SUMMARY OF METALS IN SOIL CHEMISTRY DATA  
NOBLE ENERGY INC.  
MILLER 16-29, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C022-056

Sample ID	Sample Date	Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
COGCC Table 915-1 Limits (Residential SSL)			0.68	15000	71	0.3	3100	400	1500	390	390	23000
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
Waste Char.	10/19/2022	11-13	<b>2.86</b>	<b>192</b>	<b>0.621</b>	<0.30	7.43	9.93	7.52	<b>0.435</b>	<b>1.12</b>	28.7
W Wall 11 ft	10/19/2022	11	<b>1.68</b>	<b>477</b>	<b>0.401</b>	<0.30	6.36	8.03	7.32	<0.303	<b>1.12</b>	29
W-S Wall 11 Ft	10/21/2022	11	<b>5.56</b>	67.1	0.309	<0.30	8.28	10.9	8.31	<0.306	0.15	37
S-W Wall 11 Ft	10/21/2022	11	<b>9.85</b>	<b>117</b>	<b>0.463</b>	<0.30	7.46	9.48	7.22	<0.303	0.141	35.3
N Wall 11 Ft	10/24/2022	11	<b>1.63</b>	44.6	<0.240	<0.30	6.92	7.93	6.61	<0.313	0.026	31.4
Floor 13 Ft	10/24/2022	13	<b>1.95</b>	77.8	0.256	<0.30	7.62	7.73	8	<0.324	0.0275	34.1
S-W Wall 2 11 Ft	10/25/2022	11	<b>1.99</b>	<b>282</b>	<b>0.408</b>	<0.30	8.3	12.9	8.92	<0.312	0.0437	36.1
E-N Wall 11 Ft	10/25/2022	11	<b>1.8</b>	38.3	0.312	<0.30	10.5	<b>15.1</b>	10.2	<0.313	0.0438	40.5
S-W Wall 3 11 Ft	10/26/2022	11	<b>3.67</b>	<b>194</b>	<0.242	<0.30	7.86	8.72	8.00	<0.315	0.0281	33.2
S-E Wall 11 Ft	10/26/2022	11	<b>4.24</b>	52.1	0.258	<0.30	6.63	7.35	7.04	<0.299	0.0271	29.5
W-N Wall 2 11 Ft	10/27/2022	11	<b>2.04</b>	66.6	<0.235	<0.30	8.43	8.77	6.55	<0.305	0.0258	28.1
N-E Wall 11 Ft	10/27/2022	11	<b>1.34</b>	81.9	<b>0.474</b>	<0.30	4.58	7.26	5.27	<0.302	<0.0232	24.1
E-S Wall 11 Ft	10/28/2022	11	<b>1.93</b>	44.8	<b>0.424</b>	<0.30	7.32	8.97	5.84	<0.310	<0.0239	29.7
Floor E 13 Ft	10/28/2022	13	<b>1.21</b>	23.9	0.325	<0.30	5.07	6.31	4.61	<0.317	<0.0244	23.5
Backfill 1	11/02/2022	NA	<b>1.43</b>	<b>85.2</b>	0.248	<0.30	6.06	8.35	5.18	<0.278	0.0333	20.1
BKG 11ft	11/02/2022	11	<b>1.4</b>	67.2	0.234	<0.30	5.02	6.5	4.74	<0.267	0.0267	17.4

Bold faced values exceed the COGCC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

NA - Not analyzed

**TABLE 3**  
**SUMMARY OF SOIL SUITABILITY FOR RECLAMATION**  
**NOBLE ENERGY INC.**  
**MILLER 16-29, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C022-056**

Sample ID	Sample Date	Depth (ft)	pH	EC (mmhos/cm)	SAR	Boron (mg/L)
COGCC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
Waste Char.	10/19/2022	11-13	8.13	1.05	4.2	0.303
W Wall 11 ft	10/19/2022	11	<b>8.4</b>	0.775	<b>10.6</b>	0.323
W-S Wall 11 Ft	10/21/2022	11	8.18	0.479	<b>6.92</b>	0.278
S-W Wall 11 Ft	10/21/2022	11	7.83	1.21	<b>8.36</b>	0.244
N Wall 11 Ft	10/24/2022	11	8.03	0.861	3.38	0.264
Floor 13 Ft	10/24/2022	13	7.49	1.27	2.67	0.258
S-W Wall 2 11 Ft	10/25/2022	11	<b>8.87</b>	0.927	<b>15.8</b>	0.795
E-N Wall 11 Ft	10/25/2022	11	8.23	0.585	1.74	0.135
S-W Wall 3 11 Ft	10/26/2022	11	<b>8.57</b>	0.315	2.17	0.235
S-E Wall 11 Ft	10/26/2022	11	<b>8.43</b>	0.508	3.43	0.112
W-N Wall 2 11 Ft	10/27/2022	11	8.15	0.802	2.37	0.169
N-E Wall 11 Ft	10/27/2022	11	<b>8.33</b>	0.398	0.967	0.145
E-S Wall 11 Ft	10/28/2022	11	7.94	0.913	2.93	0.021
Floor E 13 Ft	10/28/2022	13	8.02	1.11	3.81	0.107
Backfill 1	11/02/2022	NA	8.13	0.614	1.13	0.095
BKG 11ft	11/02/2022	11	8.14	0.603	0.975	0.0916

Bold faced values exceed the COGCC Table 915-1 concentrations

Yellow highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

TABLE 5  
SUMMARY OF ORGANIC GROUNDWATER CHEMISTRY DATA  
NOBLE ENERGY INC.  
MILLER 16-29, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C022-056

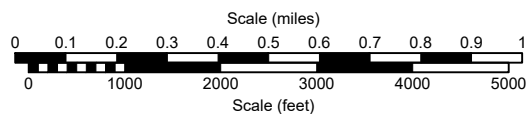
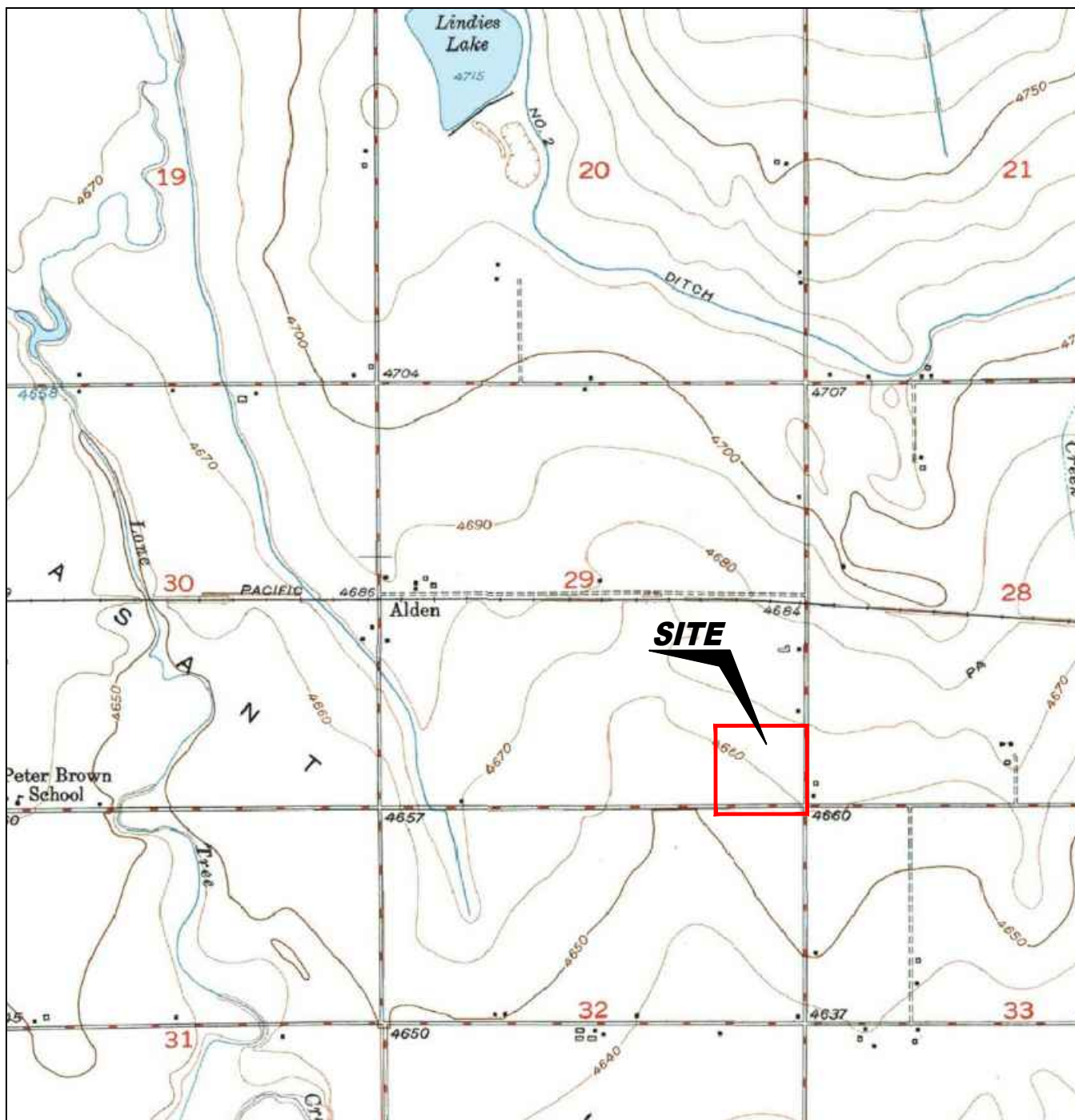
Sample ID	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	Naphthalene (mg/kg)	1,2,4- Trimethyl- Benzene (mg/kg)	1,3,5- Trimethyl- Benzene (mg/kg)	TOC Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	LNAPL Thickness (ft)
COGCC Table 915-1 Limits		5.0	560	700.0	1400	140	67	67				
W1	10/25/2022	<b>27</b>	23	14	56	1.7	4.9	7.2	NA	NA	NA	NA

Bold face values exceed the COGCC limits

NP - No measureable LNAPL

DES - Destroyed

## **FIGURES**



USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

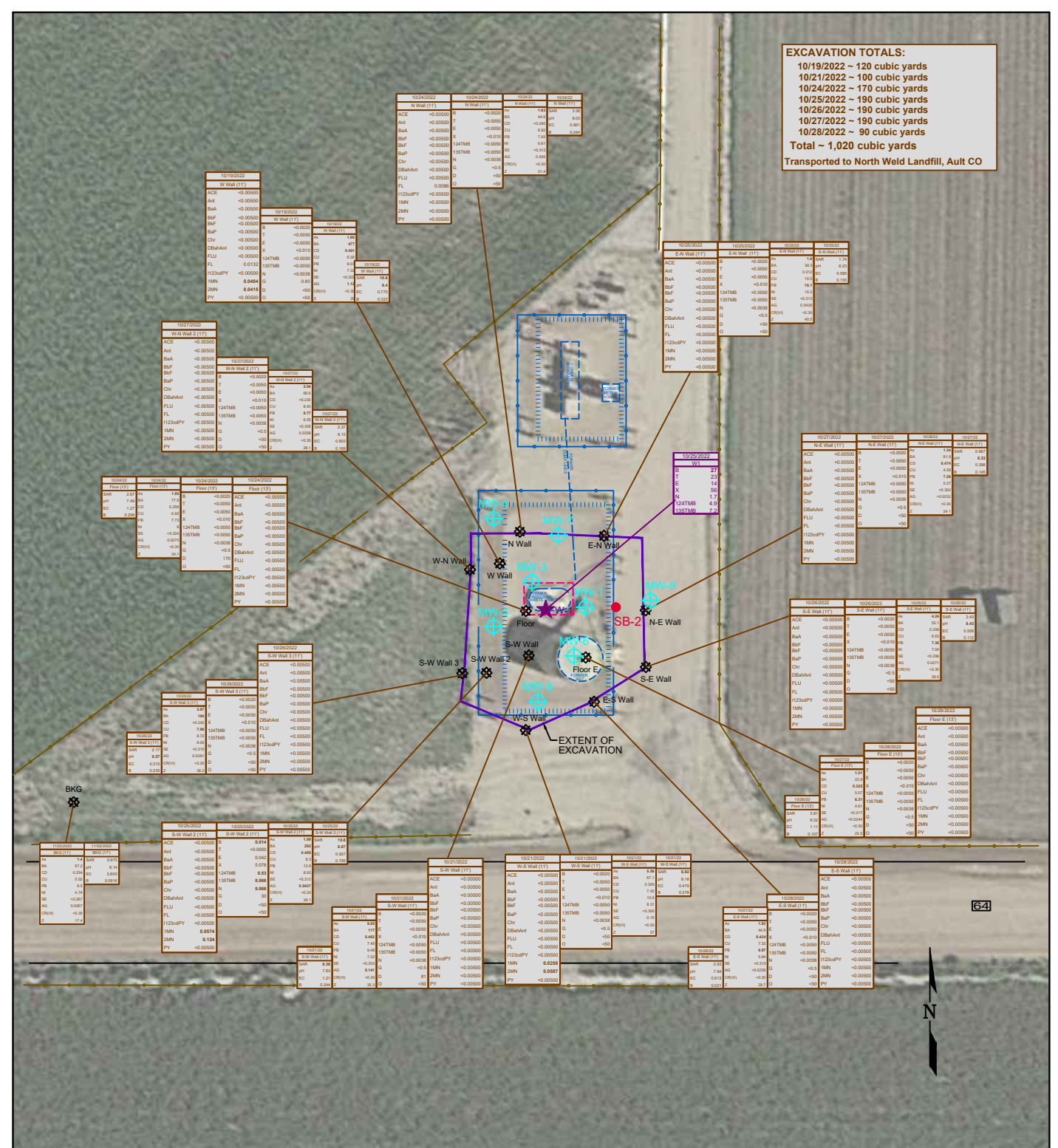
Figure 1  
SITE LOCATION MAP

**NOBLE ENERGY, INC. ~ MILLER 16-29**  
SESE Sec. 29, T6N, R64W, 6th PM  
Weld County, Colorado  
40.451558°, -104.566222°

Project # <b>C022-056</b>	API # <b>05-123-12830</b>	Facility ID <b>323297</b>
Date <b>12/27/22</b>	Remediation # <b>22488</b>	Filename <b>22056T</b>







**EXCAVATION TOTALS:**  
 10/19/2022 ~ 120 cubic yards  
 10/21/2022 ~ 100 cubic yards  
 10/24/2022 ~ 170 cubic yards  
 10/25/2022 ~ 190 cubic yards  
 10/26/2022 ~ 190 cubic yards  
 10/27/2022 ~ 190 cubic yards  
 10/28/2022 ~ 90 cubic yards  
**Total ~ 1,020 cubic yards**  
 Transported to North Weld Landfill, Ault CO

# LEGEND

● SOIL BORING LOCATION	○ ABOVE GROUND STORAGE TANK	FORMER FACILITY	CONTAINMENT BERM	EXTENT OF EXCAVATION	EXTENT OF EXCAVATION	DUMP LINES	FENCE LINE
● MONITORING WELL LOCATION							
● DESTROYED MONITORING WELL LOCATION							
● SOIL SAMPLE LOCATION							
★ GROUNDWATER SAMPLE LOCATION							

10/24/2022	DATE SAMPLED	10/19/2022	DATE SAMPLED	10/25/2022	DATE SAMPLED	10/26/2022	DATE SAMPLED	10/27/2022	DATE SAMPLED	10/28/2022	DATE SAMPLED
10/24/2022	10/24/2022	10/19/2022	10/19/2022	10/25/2022	10/25/2022	10/26/2022	10/26/2022	10/27/2022	10/27/2022	10/28/2022	10/28/2022
W Well (11)	W Well (11)	W Well (11)	W Well (11)	W Well (11)	W Well (11)	W Well (11)	W Well (11)	W Well (11)	W Well (11)	W Well (11)	W Well (11)
ACE	ACE	ACE	ACE	ACE	ACE	ACE	ACE	ACE	ACE	ACE	ACE
Ant	Ant	Ant	Ant	Ant	Ant	Ant	Ant	Ant	Ant	Ant	Ant
BaA	BaA	BaA	BaA	BaA	BaA	BaA	BaA	BaA	BaA	BaA	BaA
BaP	BaP	BaP	BaP	BaP	BaP	BaP	BaP	BaP	BaP	BaP	BaP
BaF	BaF	BaF	BaF	BaF	BaF	BaF	BaF	BaF	BaF	BaF	BaF
BaP	BaP	BaP	BaP	BaP	BaP	BaP	BaP	BaP	BaP	BaP	BaP
Chv	Chv	Chv	Chv	Chv	Chv	Chv	Chv	Chv	Chv	Chv	Chv
DBaAnt	DBaAnt	DBaAnt	DBaAnt	DBaAnt	DBaAnt	DBaAnt	DBaAnt	DBaAnt	DBaAnt	DBaAnt	DBaAnt
FLU	FLU	FLU	FLU	FLU	FLU	FLU	FLU	FLU	FLU	FLU	FLU
1123aPY	1123aPY	1123aPY	1123aPY	1123aPY	1123aPY	1123aPY	1123aPY	1123aPY	1123aPY	1123aPY	1123aPY
1MN	1MN	1MN	1MN	1MN	1MN	1MN	1MN	1MN	1MN	1MN	1MN
2MN	2MN	2MN	2MN	2MN	2MN	2MN	2MN	2MN	2MN	2MN	2MN
PY	PY	PY	PY	PY	PY	PY	PY	PY	PY	PY	PY

Figure 3  
**EXTENT OF EXCAVATION WITH  
 SOIL AND GROUNDWATER CHEMISTRY MAP**

**NOBLE ENERGY, INC. ~ MILLER 16-29**  
 SESE Sec. 29, T6N, R64W, 6th PM  
 Weld County, Colorado  
 40.451558°, -104.566222°

Project No. <b>C022-056</b>	API # <b>05-123-12830</b>	Facility # <b>323297</b>	
Date <b>1/31/23</b>	Remediation # <b>22488</b>	Filename <b>22056Q</b>	

**APPENDIX A**

**PHOTO LOG**

# Photo Log



***Description:***

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# Photo Log



***Description:***

--

# Photo Log



***Description:***

--

# Photo Log



***Description:***

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## **APPENDIX B**

### **LABORATORY DOCUMENTATION**

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 24, 2022

Paul Henehan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Miller  
Work Order #2210317

Enclosed are the results of analyses for samples received by Summit Scientific on 10/19/22 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mikayla Axtell", is written over a light gray rectangular background.

Mikayla Axtell For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]

Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W Wall 11 ft	2210317-01	Soil	10/19/22 00:00	10/19/22 16:30
Waste Char.	2210317-02	Soil	10/19/22 00:00	10/19/22 16:30

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

2210317

# Summit Scientific

S<sub>2</sub>

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: Fremont Env.Project Manager: Hendhan

Address:

E-Mail: Fremont Dist. List

City/State/Zip:

Bill To: Dan

Phone:

Project Name: Noble-MillerSampler Name: ES

Project Number:

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other									
1	W WALL 11FT	10/19/22		2			X			X			X								
2	WASTE CHAR.	I		2			X			X			X								
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <u>John Black</u>	Date/Time: <u>1430 10/19/22</u>	Received by: <u>S<sub>2</sub></u>	Date/Time: <u>1430 10/19/22</u>	Turn Around Time (Check)	Notes:
Relinquished by: <u>S<sub>2</sub></u>	Date/Time: <u>1630 10/19/22</u>	Received by: <u>[Signature]</u>	Date/Time: <u>1630 10/19/22</u>	Same Day <u>X</u> 72 hours <u>   </u>	
Temperature Upon Receipt: <u>7.5</u>	Corrected Temperature <u>   </u>	HNO <sub>3</sub> lot # <u>   </u>	24 hours <u>   </u> Standard <u>   </u>	48 hours <u>   </u>	
IR gun correction: <u>   </u>	IR gun #: <u>1</u>			Sample Integrity: <u>Yes</u> No <u>   </u>	

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2210317

Client: FremontClient Project ID: Noble-MillerShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐

Airbill #: \_\_\_\_\_

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

7.3

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

Custodian Printed Name

Date/Time

10-19-22



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
10/24/22 13:31

**W Wall 11 ft**  
**2210317-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0497	10/19/22	10/19/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.85</b>	<b>0.50</b>	"	"	"	"	"	"	

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		96.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		118 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0498	10/19/22	10/19/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		52.3 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**W Wall 11 ft**  
**2210317-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0502	10/20/22	10/21/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0132</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0404</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0415</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		63.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		104 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.323</b>	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**W Wall 11 ft**  
**2210317-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.68	0.233	mg/kg dry	1	BFJ0518	10/20/22	10/21/22	EPA 6020B
Barium	477	0.467	"	"	"	"	"	"
Cadmium	0.401	0.233	"	"	"	"	"	"
Copper	6.36	0.467	"	"	"	"	"	"
Lead	8.03	0.233	"	"	"	"	"	"
Nickel	7.32	0.467	"	"	"	"	"	"
Selenium	ND	0.303	"	"	"	"	"	"
Silver	1.12	0.0233	"	"	"	"	"	"
Zinc	29.0	0.467	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/19/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0575	10/21/22	10/22/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: 10/19/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	6.97	0.0583	mg/L dry	1	BFJ0537	10/20/22	10/21/22	EPA 6020B	
Magnesium	7.36	0.0583	"	"	"	"	"	"	
Sodium	169	0.0583	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/19/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	10.6	0.00100	units	1	BFJ0643	10/24/22	10/24/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 10/19/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**W Wall 11 ft**  
**2210317-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	85.7	%	1	BFJ0505	10/20/22	10/20/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.775	0.0100	mmhos/cm	1	BFJ0590	10/21/22	10/21/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.40		pH Units	1	BFJ0591	10/21/22	10/21/22	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
10/24/22 13:31

**Waste Char.**  
**2210317-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.36	0.0020	mg/kg	1	BFJ0497	10/19/22	10/20/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	6.3	0.50	"	100	"	"	"	"	
Xylenes (total)	8.2	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	34	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.29	0.0050	"	1	"	"	"	"	
Naphthalene	1.5	0.38	"	100	"	"	"	"	
Gasoline Range Hydrocarbons	2600	50	"	"	"	"	"	"	

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		125 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		82.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		122 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	1600	50	mg/kg	1	BFJ0498	10/19/22	10/19/22	EPA 8015M	
C28-C36 (ORO)	100	50	"	"	"	"	"	"	

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		138 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**Waste Char.**  
**2210317-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0502	10/20/22	10/21/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0767</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>1.04</b>	0.0500	"	10	"	"	10/22/22	"	
<b>2-Methylnaphthalene</b>	<b>1.22</b>	0.0500	"	"	"	"	"	"	

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		47.4 %	40-150		"	"	10/21/22	"	
Surrogate: Fluoranthene-d10		115 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.303</b>	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**Waste Char.**  
**2210317-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.86	0.235	mg/kg dry	1	BFJ0518	10/20/22	10/21/22	EPA 6020B
Barium	192	0.470	"	"	"	"	"	"
Cadmium	0.621	0.235	"	"	"	"	"	"
Copper	7.43	0.470	"	"	"	"	"	"
Lead	9.93	0.235	"	"	"	"	"	"
Nickel	7.52	0.470	"	"	"	"	"	"
Selenium	0.435	0.306	"	"	"	"	"	"
Silver	1.12	0.0235	"	"	"	"	"	"
Zinc	28.7	0.470	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/19/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0575	10/21/22	10/22/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: 10/19/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	7.96	0.0588	mg/L dry	1	BFJ0537	10/20/22	10/21/22	EPA 6020B	
Magnesium	55.3	0.0588	"	"	"	"	"	"	
Sodium	152	0.0588	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/19/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.20	0.00100	units	1	BFJ0643	10/24/22	10/24/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 10/19/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**Waste Char.**  
**2210317-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	85.1	%	1	BFJ0505	10/20/22	10/20/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.05	0.0100	mmhos/cm	1	BFJ0590	10/21/22	10/21/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/19/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.13		pH Units	1	BFJ0591	10/21/22	10/21/22	EPA 9045D	

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Project Number: [none]  
Project Manager: Paul Henchan

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## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0497 - EPA 5030 Soil MS

##### Blank (BFJ0497-BLK1)

Prepared: 10/19/22 Analyzed: 10/20/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0337		"	0.0400		84.3	50-150			
Surrogate: Toluene-d8	0.0421		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0441		"	0.0400		110	50-150			

##### LCS (BFJ0497-BS1)

Prepared: 10/19/22 Analyzed: 10/20/22

Benzene	0.174	0.0020	mg/kg	0.150		116	70-130			
Toluene	0.170	0.0050	"	0.150		113	70-130			
Ethylbenzene	0.146	0.0050	"	0.150		97.5	70-130			
m,p-Xylene	0.287	0.010	"	0.300		95.8	70-130			
o-Xylene	0.144	0.0050	"	0.150		95.8	70-130			
1,2,4-Trimethylbenzene	0.134	0.0050	"	0.150		89.5	70-130			
1,3,5-Trimethylbenzene	0.136	0.0050	"	0.150		90.6	70-130			
Naphthalene	0.124	0.0038	"	0.150		82.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0351		"	0.0400		87.8	50-150			
Surrogate: Toluene-d8	0.0427		"	0.0400		107	50-150			
Surrogate: 4-Bromofluorobenzene	0.0423		"	0.0400		106	50-150			

##### Matrix Spike (BFJ0497-MS1)

Source: 2210316-02

Prepared: 10/19/22 Analyzed: 10/20/22

Benzene	0.158	0.0020	mg/kg	0.150	ND	105	70-130			
Toluene	0.184	0.0050	"	0.150	ND	123	70-130			
Ethylbenzene	0.135	0.0050	"	0.150	ND	89.9	70-130			
m,p-Xylene	0.271	0.010	"	0.300	ND	90.4	70-130			
o-Xylene	0.132	0.0050	"	0.150	ND	87.8	70-130			
1,2,4-Trimethylbenzene	0.121	0.0050	"	0.150	ND	80.5	70-130			
1,3,5-Trimethylbenzene	0.124	0.0050	"	0.150	ND	82.6	70-130			
Naphthalene	0.126	0.0038	"	0.150	ND	83.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0343		"	0.0400		85.6	50-150			
Surrogate: Toluene-d8	0.0432		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	0.0432		"	0.0400		108	50-150			

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Project Manager: Paul Henchan

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10/24/22 13:31

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0497 - EPA 5030 Soil MS

##### Matrix Spike Dup (BFJ0497-MSD1)

Source: 2210316-02

Prepared: 10/19/22 Analyzed: 10/20/22

Benzene	0.158	0.0020	mg/kg	0.150	ND	105	70-130	0.133	30	
Toluene	0.152	0.0050	"	0.150	ND	101	70-130	19.1	30	
Ethylbenzene	0.134	0.0050	"	0.150	ND	89.5	70-130	0.535	30	
m,p-Xylene	0.266	0.010	"	0.300	ND	88.5	70-130	2.10	30	
o-Xylene	0.130	0.0050	"	0.150	ND	86.8	70-130	1.08	30	
1,2,4-Trimethylbenzene	0.119	0.0050	"	0.150	ND	79.6	70-130	1.10	30	
1,3,5-Trimethylbenzene	0.124	0.0050	"	0.150	ND	82.5	70-130	0.170	30	
Naphthalene	0.122	0.0038	"	0.150	ND	81.2	70-130	3.01	30	
Surrogate: 1,2-Dichloroethane-d4	0.0343		"	0.0400		85.6	50-150			
Surrogate: Toluene-d8	0.0433		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	0.0429		"	0.0400		107	50-150			

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Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0498 - EPA 3550A**

**Blank (BFJ0498-BLK1)**

Prepared: 10/19/22 Analyzed: 10/20/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	13.2		"	12.5		105	30-150			

**LCS (BFJ0498-BS1)**

Prepared: 10/19/22 Analyzed: 10/20/22

C10-C28 (DRO)	514	50	mg/kg	500		103	70-130			
Surrogate: o-Terphenyl	17.4		"	12.5		139	30-150			

**Matrix Spike (BFJ0498-MS1)**

Source: 2210316-02

Prepared: 10/19/22 Analyzed: 10/20/22

C10-C28 (DRO)	527	50	mg/kg	500	16.6	102	70-130			
Surrogate: o-Terphenyl	18.5		"	12.5		148	30-150			

**Matrix Spike Dup (BFJ0498-MSD1)**

Source: 2210316-02

Prepared: 10/19/22 Analyzed: 10/20/22

C10-C28 (DRO)	545	50	mg/kg	500	16.6	106	70-130	3.52	20	
Surrogate: o-Terphenyl	14.1		"	12.5		113	30-150			

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Project Manager: Paul Henchan

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10/24/22 13:31

**PAH by EPA Method 8270D SIM - Quality Control**

**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0502 - EPA 5030 Soil MS**

**Blank (BFJ0502-BLK1)**

Prepared & Analyzed: 10/20/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0217		"	0.0333		65.2	40-150			
Surrogate: Fluoranthene-d10	0.0370		"	0.0333		111	40-150			

**LCS (BFJ0502-BS1)**

Prepared & Analyzed: 10/20/22

Acenaphthene	0.0356	0.00500	mg/kg	0.0333	107	31-137
Anthracene	0.0280	0.00500	"	0.0333	83.9	30-120
Benzo (a) anthracene	0.0307	0.00500	"	0.0333	92.1	30-120
Benzo (a) pyrene	0.0196	0.00500	"	0.0333	58.9	30-120
Benzo (b) fluoranthene	0.0159	0.00500	"	0.0333	47.7	30-120
Benzo (k) fluoranthene	0.0149	0.00500	"	0.0333	44.7	30-120
Chrysene	0.0374	0.00500	"	0.0333	112	30-120
Dibenz (a,h) anthracene	0.0168	0.00500	"	0.0333	50.4	30-120
Fluoranthene	0.0304	0.00500	"	0.0333	91.3	30-120
Fluorene	0.0312	0.00500	"	0.0333	93.6	30-120
Indeno (1,2,3-cd) pyrene	0.0229	0.00500	"	0.0333	68.6	30-120
Pyrene	0.0372	0.00500	"	0.0333	111	35-142
1-Methylnaphthalene	0.0323	0.00500	"	0.0333	96.9	35-142
2-Methylnaphthalene	0.0198	0.00500	"	0.0333	59.5	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0373		"	0.0333	112	40-150
Surrogate: Fluoranthene-d10	0.0233		"	0.0333	69.8	40-150

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Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

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10/24/22 13:31

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0502 - EPA 5030 Soil MS

##### Matrix Spike (BFJ0502-MS1)

Source: 2210248-01

Prepared & Analyzed: 10/20/22

Acenaphthene	0.0229	0.00500	mg/kg	0.0333	ND	68.8	31-137			
Anthracene	0.0191	0.00500	"	0.0333	ND	57.3	30-120			
Benzo (a) anthracene	0.0260	0.00500	"	0.0333	ND	78.0	30-120			
Benzo (a) pyrene	0.0160	0.00500	"	0.0333	ND	47.9	30-120			
Benzo (b) fluoranthene	0.0139	0.00500	"	0.0333	ND	41.7	30-120			
Benzo (k) fluoranthene	0.0138	0.00500	"	0.0333	ND	41.3	30-120			
Chrysene	0.0214	0.00500	"	0.0333	ND	64.3	30-120			
Dibenz (a,h) anthracene	0.0140	0.00500	"	0.0333	ND	42.0	30-120			
Fluoranthene	0.0301	0.00500	"	0.0333	ND	90.4	30-120			
Fluorene	0.0195	0.00500	"	0.0333	ND	58.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0188	0.00500	"	0.0333	ND	56.5	30-120			
Pyrene	0.0172	0.00500	"	0.0333	ND	51.7	35-142			
1-Methylnaphthalene	0.0224	0.00500	"	0.0333	ND	67.3	15-130			
2-Methylnaphthalene	0.0169	0.00500	"	0.0333	ND	50.8	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0260		"	0.0333		78.1	40-150			
Surrogate: Fluoranthene-d10	0.0345		"	0.0333		103	40-150			

##### Matrix Spike Dup (BFJ0502-MSD1)

Source: 2210248-01

Prepared & Analyzed: 10/20/22

Acenaphthene	0.0236	0.00500	mg/kg	0.0333	ND	70.7	31-137	2.74	30	
Anthracene	0.0261	0.00500	"	0.0333	ND	78.2	30-120	30.9	30	QR-02
Benzo (a) anthracene	0.0301	0.00500	"	0.0333	ND	90.2	30-120	14.4	30	
Benzo (a) pyrene	0.0162	0.00500	"	0.0333	ND	48.7	30-120	1.76	30	
Benzo (b) fluoranthene	0.0148	0.00500	"	0.0333	ND	44.3	30-120	6.13	30	
Benzo (k) fluoranthene	0.0140	0.00500	"	0.0333	ND	42.1	30-120	2.00	30	
Chrysene	0.0235	0.00500	"	0.0333	ND	70.6	30-120	9.32	30	
Dibenz (a,h) anthracene	0.0143	0.00500	"	0.0333	ND	43.0	30-120	2.28	30	
Fluoranthene	0.0299	0.00500	"	0.0333	ND	89.6	30-120	0.894	30	
Fluorene	0.0217	0.00500	"	0.0333	ND	65.0	30-120	10.4	30	
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	8.52	30	
Pyrene	0.0219	0.00500	"	0.0333	ND	65.8	35-142	24.1	30	
1-Methylnaphthalene	0.0253	0.00500	"	0.0333	ND	75.9	15-130	12.0	50	
2-Methylnaphthalene	0.0180	0.00500	"	0.0333	ND	54.1	15-130	6.25	50	
Surrogate: 2-Methylnaphthalene-d10	0.0296		"	0.0333		88.8	40-150			
Surrogate: Fluoranthene-d10	0.0359		"	0.0333		108	40-150			

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Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0561 - EPA 3050B**

**Blank (BFJ0561-BLK1)**

Prepared & Analyzed: 10/21/22

Boron ND 0.0100 mg/L

**LCS (BFJ0561-BS1)**

Prepared & Analyzed: 10/21/22

Boron 5.58 0.0100 mg/L 5.00 112 80-120

**Duplicate (BFJ0561-DUP1)**

**Source: 2210314-01**

Prepared & Analyzed: 10/21/22

Boron 0.661 0.0100 mg/L 0.642 2.94 20

**Matrix Spike (BFJ0561-MS1)**

**Source: 2210314-01**

Prepared & Analyzed: 10/21/22

Boron 6.03 0.0100 mg/L 5.00 0.642 108 75-125

**Matrix Spike Dup (BFJ0561-MSD1)**

**Source: 2210314-01**

Prepared & Analyzed: 10/21/22

Boron 6.07 0.0100 mg/L 5.00 0.642 108 75-125 0.548 25

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Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

## Total Metals by EPA 6020B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0518 - EPA 3050B

##### Blank (BFJ0518-BLK1)

Prepared: 10/20/22 Analyzed: 10/21/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

##### LCS (BFJ0518-BS1)

Prepared: 10/20/22 Analyzed: 10/21/22

Arsenic	40.7	0.200	mg/kg wet	40.0	102	80-120
Barium	33.0	0.400	"	40.0	82.5	80-120
Cadmium	1.73	0.200	"	2.00	86.6	80-120
Copper	45.9	0.400	"	40.0	115	80-120
Lead	16.2	0.200	"	20.0	80.9	80-120
Nickel	43.5	0.400	"	40.0	109	80-120
Selenium	4.17	0.260	"	4.00	104	80-120
Silver	2.18	0.0200	"	2.00	109	80-120
Zinc	44.5	0.400	"	40.0	111	80-120

##### Duplicate (BFJ0518-DUP1)

Source: 2210316-01

Prepared: 10/20/22 Analyzed: 10/21/22

Arsenic	1.66	0.210	mg/kg dry	1.57	5.67	20
Barium	59.5	0.421	"	54.5	8.63	20
Cadmium	0.155	0.210	"	0.131	16.5	20
Copper	5.67	0.421	"	5.14	9.78	20
Lead	6.99	0.210	"	6.27	10.9	20
Nickel	6.10	0.421	"	5.50	10.4	20
Selenium	ND	0.273	"	ND		20
Silver	0.917	0.0210	"	0.916	0.138	20
Zinc	25.5	0.421	"	23.2	9.33	20

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Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0518 - EPA 3050B**

Matrix Spike (BFJ0518-MS1)		Source: 2210316-01			Prepared: 10/20/22		Analyzed: 10/21/22			
Arsenic	15.0	0.210	mg/kg dry	42.1	1.57	32.0	75-125			QM-05
Barium	105	0.421	"	42.1	54.5	119	75-125			
Cadmium	2.12	0.210	"	2.10	0.131	94.4	75-125			
Copper	38.5	0.421	"	42.1	5.14	79.2	75-125			
Lead	26.8	0.210	"	21.0	6.27	97.7	75-125			
Nickel	37.6	0.421	"	42.1	5.50	76.2	75-125			
Selenium	4.23	0.273	"	4.21	ND	101	75-125			
Silver	2.88	0.0210	"	2.10	0.916	93.4	75-125			
Zinc	58.9	0.421	"	42.1	23.2	84.9	75-125			

Matrix Spike Dup (BFJ0518-MSD1)		Source: 2210316-01			Prepared: 10/20/22		Analyzed: 10/21/22			
Arsenic	14.5	0.210	mg/kg dry	42.1	1.57	30.6	75-125	3.95	25	QM-05
Barium	101	0.421	"	42.1	54.5	111	75-125	3.55	25	
Cadmium	2.04	0.210	"	2.10	0.131	90.9	75-125	3.50	25	
Copper	37.5	0.421	"	42.1	5.14	76.8	75-125	2.62	25	
Lead	25.6	0.210	"	21.0	6.27	92.0	75-125	4.55	25	
Nickel	37.7	0.421	"	42.1	5.50	76.6	75-125	0.396	25	
Selenium	3.90	0.273	"	4.21	ND	92.8	75-125	8.09	25	
Silver	2.79	0.0210	"	2.10	0.916	89.1	75-125	3.18	25	
Zinc	55.6	0.421	"	42.1	23.2	77.0	75-125	5.75	25	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0575 - 3060A Mod**

**Blank (BFJ0575-BLK1)**

Prepared: 10/21/22 Analyzed: 10/22/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFJ0575-BS1)**

Prepared: 10/21/22 Analyzed: 10/22/22

Chromium, Hexavalent 21.3 0.30 mg/kg wet 25.0 85.2 80-120

**Duplicate (BFJ0575-DUP1)**

**Source: 2210301-01**

Prepared: 10/21/22 Analyzed: 10/22/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFJ0575-MS1)**

**Source: 2210301-01**

Prepared: 10/21/22 Analyzed: 10/22/22

Chromium, Hexavalent 26.9 0.30 mg/kg dry 29.2 ND 92.0 75-125

**Matrix Spike Dup (BFJ0575-MSD1)**

**Source: 2210301-01**

Prepared: 10/21/22 Analyzed: 10/22/22

Chromium, Hexavalent 28.0 0.30 mg/kg dry 29.2 ND 95.8 75-125 4.05 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0537 - General Preparation**

**Blank (BFJ0537-BLK1)**

Prepared: 10/20/22 Analyzed: 10/21/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

**LCS (BFJ0537-BS1)**

Prepared: 10/20/22 Analyzed: 10/21/22

Calcium	5.18	0.0500	mg/L wet	5.00	104	70-130
Magnesium	4.83	0.0500	"	5.00	96.6	70-130
Sodium	4.76	0.0500	"	5.00	95.2	70-130

Summit Scientific

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Fremont Environmental	Project: Noble - Miller	
PO Box 1289	Project Number: [none]	Reported:
Wellington CO, 80549	Project Manager: Paul Henchan	10/24/22 13:31

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFJ0505 - General Preparation

Duplicate (BFJ0505-DUP1)	Source: 2210283-01			Prepared & Analyzed: 10/20/22						
% Solids	98.9		%		99.0			0.101	20	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0590 - General Preparation**

**Blank (BFJ0590-BLK1)**

Prepared & Analyzed: 10/21/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFJ0590-BS1)**

Prepared & Analyzed: 10/21/22

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.8 95-105

**Duplicate (BFJ0590-DUP1)**

**Source: 2210296-01**

Prepared & Analyzed: 10/21/22

Specific Conductance (EC) 0.293 0.0100 mmhos/cm 0.298 1.66 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0591 - General Preparation**

**LCS (BFJ0591-BS1)**

Prepared & Analyzed: 10/21/22

pH	9.00	pH Units	9.18	98.0	95-105
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**Duplicate (BFJ0591-DUP1)**

Source: 2210296-01

Prepared & Analyzed: 10/21/22

pH	7.57	pH Units	7.51	0.796	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/24/22 13:31

### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 26, 2022

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Miller  
Work Order #2210382

Enclosed are the results of analyses for samples received by Summit Scientific on 10/21/22 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mikayla Axtell", is written over a light gray rectangular background.

Mikayla Axtell For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]

Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W-S Wall 11ft	2210382-01	Soil	10/21/22 00:00	10/21/22 16:00
S-W Wall 11ft	2210382-02	Soil	10/21/22 00:00	10/21/22 16:00

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

2210382

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310

Page 1 of 1

Client: Fremont Environmental

Project Manager: Henehan

Address:

E-Mail: fremont env dist list (jeffg, paulh, ethanb), chrisl

City/State/Zip:

Bill To: Noble - Dan

Phone:

Project Name: Noble - Miller

Sampler Name: EB

Project Number:

					Preservative				Matrix				Analysis Requested						Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOCs (q15)	TPH (q15)	PAHs (q15)	TDS/Cl/SO4	SAR/EC/pH	Boron	METALS (q15)	
1	W-S WALL 11FT	10/21/22		2			X			X			X	X	X		X	X	X	
2	S-W WALL 11FT	1		2			X			X			X	X	X		X	X	X	
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: <u>Ethan D</u>	Date/Time: <u>10/21/22</u>	Received by: <u>SZ</u>	Date/Time: <u>10/21/22</u>	Turn Around Time (Check)	Notes:
				Same Day <u>X</u>	
				24 hours <u>—</u>	
				48 hours <u>—</u>	
Relinquished by: <u>SZ</u>	Date/Time: <u>10/21/22</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/21/22</u>	Sample Integrity:	
				Samples Intact: <u>Yes</u>	
Temperature Upon Receipt: <u>9.0</u>	Corrected Temperature: <u>—</u>	HNO3 lot #			
IR gun correction: <u>0</u>	IR gun #: <u>1</u>				

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2210382Client: FremontClient Project ID: Noble-millerShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐

Airbill #: \_\_\_\_\_

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

9.0

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ICE</u>
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>same day</u>
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation <b>(excluding cooling)</b> ? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

Custodian Printed Name

Date/Time

10-21-22



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**W-S Wall 11ft**  
**2210382-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0608	10/21/22	10/23/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		119 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0609	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		120 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**W-S Wall 11ft  
2210382-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0636	10/24/22	10/25/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		70.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		67.8 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.244</b>	0.0100	mg/L	1	BFJ0617	10/23/22	10/25/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**W-S Wall 11ft  
2210382-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	9.85	0.233	mg/kg dry	1	BFJ0614	10/23/22	10/24/22	EPA 6020B
Barium	117	0.466	"	"	"	"	"	"
Cadmium	0.463	0.233	"	"	"	"	"	"
Copper	7.46	0.466	"	"	"	"	"	"
Lead	9.48	0.233	"	"	"	"	"	"
Nickel	7.22	0.466	"	"	"	"	"	"
Selenium	ND	0.303	"	"	"	"	"	"
Silver	0.141	0.0233	"	"	"	"	"	"
Zinc	35.3	0.466	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/21/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0632	10/23/22	10/24/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: 10/21/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.5	0.0582	mg/L dry	1	BFJ0640	10/24/22	10/25/22	EPA 6020B	
Magnesium	22.1	0.0582	"	"	"	"	"	"	
Sodium	227	0.0582	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/21/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.36	0.00100	units	1	BFJ0725	10/26/22	10/26/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 10/21/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**W-S Wall 11ft  
2210382-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	85.9	%	1	BFJ0625	10/23/22	10/25/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.21	0.0100	mmhos/cm	1	BFJ0688	10/25/22	10/25/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.83		pH Units	1	BFJ0689	10/25/22	10/25/22	EPA 9045D	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**S-W Wall 11ft  
2210382-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0608	10/21/22	10/23/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		118 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		114 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		126 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	81	50	mg/kg	1	BFJ0609	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		116 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**S-W Wall 11ft  
2210382-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0636	10/24/22	10/25/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0258</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0587</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		73.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		76.2 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.278</b>	0.0100	mg/L	1	BFJ0617	10/23/22	10/25/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**S-W Wall 11ft  
2210382-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	5.56	0.235	mg/kg dry	1	BFJ0614	10/23/22	10/24/22	EPA 6020B
Barium	67.1	0.470	"	"	"	"	"	"
Cadmium	0.309	0.235	"	"	"	"	"	"
Copper	8.28	0.470	"	"	"	"	"	"
Lead	10.9	0.235	"	"	"	"	"	"
Nickel	8.31	0.470	"	"	"	"	"	"
Selenium	ND	0.306	"	"	"	"	"	"
Silver	0.150	0.0235	"	"	"	"	"	"
Zinc	37.0	0.470	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/21/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0632	10/23/22	10/24/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: 10/21/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.2	0.0588	mg/L dry	1	BFJ0640	10/24/22	10/25/22	EPA 6020B	
Magnesium	20.9	0.0588	"	"	"	"	"	"	
Sodium	184	0.0588	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/21/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.92	0.00100	units	1	BFJ0725	10/26/22	10/26/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 10/21/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**S-W Wall 11ft  
2210382-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	85.1	%	1	BFJ0625	10/23/22	10/25/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.479	0.0100	mmhos/cm	1	BFJ0688	10/25/22	10/25/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.18		pH Units	1	BFJ0689	10/25/22	10/25/22	EPA 9045D	

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Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0608 - EPA 5030 Soil MS

##### Blank (BFJ0608-BLK1)

Prepared: 10/21/22 Analyzed: 10/22/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0442		"	0.0400		111	50-150			
Surrogate: Toluene-d8	0.0437		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0427		"	0.0400		107	50-150			

##### LCS (BFJ0608-BS1)

Prepared: 10/21/22 Analyzed: 10/22/22

Benzene	0.0732	0.0020	mg/kg	0.100		73.2	70-130			
Toluene	0.0758	0.0050	"	0.100		75.8	70-130			
Ethylbenzene	0.0760	0.0050	"	0.100		76.0	70-130			
m,p-Xylene	0.153	0.010	"	0.200		76.5	70-130			
o-Xylene	0.0807	0.0050	"	0.100		80.7	70-130			
1,2,4-Trimethylbenzene	0.0881	0.0050	"	0.100		88.1	70-130			
1,3,5-Trimethylbenzene	0.0868	0.0050	"	0.100		86.8	70-130			
Naphthalene	0.122	0.0038	"	0.100		122	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0402		"	0.0400		100	50-150			
Surrogate: Toluene-d8	0.0441		"	0.0400		110	50-150			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	50-150			

##### Matrix Spike (BFJ0608-MS1)

Source: 2210384-01

Prepared: 10/21/22 Analyzed: 10/22/22

Benzene	0.0786	0.0020	mg/kg	0.100	ND	78.6	70-130			
Toluene	0.0800	0.0050	"	0.100	ND	80.0	70-130			
Ethylbenzene	0.0754	0.0050	"	0.100	ND	75.4	70-130			
m,p-Xylene	0.152	0.010	"	0.200	ND	75.9	70-130			
o-Xylene	0.0813	0.0050	"	0.100	ND	81.3	70-130			
1,2,4-Trimethylbenzene	0.0912	0.0050	"	0.100	ND	91.2	70-130			
1,3,5-Trimethylbenzene	0.0881	0.0050	"	0.100	ND	88.1	70-130			
Naphthalene	0.109	0.0038	"	0.100	ND	109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0457		"	0.0400		114	50-150			
Surrogate: Toluene-d8	0.0438		"	0.0400		110	50-150			
Surrogate: 4-Bromofluorobenzene	0.0443		"	0.0400		111	50-150			

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Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0608 - EPA 5030 Soil MS**

Matrix Spike Dup (BFJ0608-MSD1)		Source: 2210384-01			Prepared: 10/21/22 Analyzed: 10/22/22					
Benzene	0.0763	0.0020	mg/kg	0.100	ND	76.3	70-130	3.02	30	
Toluene	0.0760	0.0050	"	0.100	ND	76.0	70-130	5.23	30	
Ethylbenzene	0.0710	0.0050	"	0.100	ND	71.0	70-130	5.99	30	
m,p-Xylene	0.142	0.010	"	0.200	ND	70.9	70-130	6.80	30	
o-Xylene	0.0773	0.0050	"	0.100	ND	77.3	70-130	5.11	30	
1,2,4-Trimethylbenzene	0.0863	0.0050	"	0.100	ND	86.3	70-130	5.51	30	
1,3,5-Trimethylbenzene	0.0823	0.0050	"	0.100	ND	82.3	70-130	6.76	30	
Naphthalene	0.112	0.0038	"	0.100	ND	112	70-130	2.98	30	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0451		"	0.0400		113	50-150			
Surrogate: Toluene-d8	0.0445		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0429		"	0.0400		107	50-150			

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0609 - EPA 3550A**

**Blank (BFJ0609-BLK1)**

Prepared & Analyzed: 10/21/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.6		"	12.5	101	30-150				

**LCS (BFJ0609-BS1)**

Prepared & Analyzed: 10/21/22

C10-C28 (DRO)	573	50	mg/kg	500	115	70-130				
Surrogate: o-Terphenyl	14.2		"	12.5	114	30-150				

**Matrix Spike (BFJ0609-MS1)**

Source: 2210384-01

Prepared: 10/21/22 Analyzed: 10/22/22

C10-C28 (DRO)	400	50	mg/kg	500	27.0	74.6	70-130			
Surrogate: o-Terphenyl	12.4		"	12.5	99.6	30-150				

**Matrix Spike Dup (BFJ0609-MSD1)**

Source: 2210384-01

Prepared: 10/21/22 Analyzed: 10/22/22

C10-C28 (DRO)	465	50	mg/kg	500	27.0	87.6	70-130	15.0	20	
Surrogate: o-Terphenyl	13.3		"	12.5	106	30-150				

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Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0636 - EPA 5030 Soil MS

##### Blank (BFJ0636-BLK1)

Prepared & Analyzed: 10/24/22

Acenaphthene	ND	0.00500	mg/kg								
Anthracene	ND	0.00500	"								
Benzo (a) anthracene	ND	0.00500	"								
Benzo (a) pyrene	ND	0.00500	"								
Benzo (b) fluoranthene	ND	0.00500	"								
Benzo (k) fluoranthene	ND	0.00500	"								
Chrysene	ND	0.00500	"								
Dibenz (a,h) anthracene	ND	0.00500	"								
Fluoranthene	ND	0.00500	"								
Fluorene	ND	0.00500	"								
Indeno (1,2,3-cd) pyrene	ND	0.00500	"								
Pyrene	ND	0.00500	"								
1-Methylnaphthalene	ND	0.00500	"								
2-Methylnaphthalene	ND	0.00500	"								
Surrogate: 2-Methylnaphthalene-d10	0.0334		"	0.0333		100		40-150			
Surrogate: Fluoranthene-d10	0.0316		"	0.0333		94.9		40-150			

##### LCS (BFJ0636-BS1)

Prepared & Analyzed: 10/24/22

Acenaphthene	0.0365	0.00500	mg/kg	0.0333		109		31-137			
Anthracene	0.0383	0.00500	"	0.0333		115		30-120			
Benzo (a) anthracene	0.0336	0.00500	"	0.0333		101		30-120			
Benzo (a) pyrene	0.0393	0.00500	"	0.0333		118		30-120			
Benzo (b) fluoranthene	0.0393	0.00500	"	0.0333		118		30-120			
Benzo (k) fluoranthene	0.0347	0.00500	"	0.0333		104		30-120			
Chrysene	0.0329	0.00500	"	0.0333		98.6		30-120			
Dibenz (a,h) anthracene	0.0368	0.00500	"	0.0333		111		30-120			
Fluoranthene	0.0354	0.00500	"	0.0333		106		30-120			
Fluorene	0.0395	0.00500	"	0.0333		119		30-120			
Indeno (1,2,3-cd) pyrene	0.0351	0.00500	"	0.0333		105		30-120			
Pyrene	0.0337	0.00500	"	0.0333		101		35-142			
1-Methylnaphthalene	0.0386	0.00500	"	0.0333		116		35-142			
2-Methylnaphthalene	0.0353	0.00500	"	0.0333		106		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0388		"	0.0333		116		40-150			
Surrogate: Fluoranthene-d10	0.0348		"	0.0333		104		40-150			

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0636 - EPA 5030 Soil MS

##### Matrix Spike (BFJ0636-MS1)

Source: 2210303-01

Prepared & Analyzed: 10/24/22

Acenaphthene	0.0216	0.00500	mg/kg	0.0333	ND	64.9	31-137		
Anthracene	0.0187	0.00500	"	0.0333	ND	56.0	30-120		
Benzo (a) anthracene	0.0190	0.00500	"	0.0333	ND	57.1	30-120		
Benzo (a) pyrene	0.0209	0.00500	"	0.0333	ND	62.7	30-120		
Benzo (b) fluoranthene	0.0232	0.00500	"	0.0333	ND	69.7	30-120		
Benzo (k) fluoranthene	0.0232	0.00500	"	0.0333	ND	69.6	30-120		
Chrysene	0.0177	0.00500	"	0.0333	ND	53.1	30-120		
Dibenz (a,h) anthracene	0.0221	0.00500	"	0.0333	ND	66.3	30-120		
Fluoranthene	0.0217	0.00500	"	0.0333	ND	65.2	30-120		
Fluorene	0.0179	0.00500	"	0.0333	ND	53.8	30-120		
Indeno (1,2,3-cd) pyrene	0.0274	0.00500	"	0.0333	ND	82.1	30-120		
Pyrene	0.0189	0.00500	"	0.0333	ND	56.7	35-142		
1-Methylnaphthalene	0.0190	0.00500	"	0.0333	ND	56.9	15-130		
2-Methylnaphthalene	0.0207	0.00500	"	0.0333	ND	62.0	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0206		"	0.0333		61.7	40-150		
Surrogate: Fluoranthene-d10	0.0224		"	0.0333		67.3	40-150		

##### Matrix Spike Dup (BFJ0636-MSD1)

Source: 2210303-01

Prepared & Analyzed: 10/24/22

Acenaphthene	0.0211	0.00500	mg/kg	0.0333	ND	63.4	31-137	2.35	30
Anthracene	0.0203	0.00500	"	0.0333	ND	61.0	30-120	8.42	30
Benzo (a) anthracene	0.0196	0.00500	"	0.0333	ND	58.8	30-120	2.91	30
Benzo (a) pyrene	0.0219	0.00500	"	0.0333	ND	65.6	30-120	4.56	30
Benzo (b) fluoranthene	0.0240	0.00500	"	0.0333	ND	71.9	30-120	3.04	30
Benzo (k) fluoranthene	0.0238	0.00500	"	0.0333	ND	71.4	30-120	2.51	30
Chrysene	0.0182	0.00500	"	0.0333	ND	54.7	30-120	2.99	30
Dibenz (a,h) anthracene	0.0235	0.00500	"	0.0333	ND	70.4	30-120	6.00	30
Fluoranthene	0.0232	0.00500	"	0.0333	ND	69.7	30-120	6.73	30
Fluorene	0.0199	0.00500	"	0.0333	ND	59.7	30-120	10.3	30
Indeno (1,2,3-cd) pyrene	0.0290	0.00500	"	0.0333	ND	87.1	30-120	5.82	30
Pyrene	0.0196	0.00500	"	0.0333	ND	58.9	35-142	3.69	30
1-Methylnaphthalene	0.0209	0.00500	"	0.0333	ND	62.6	15-130	9.61	50
2-Methylnaphthalene	0.0220	0.00500	"	0.0333	ND	66.0	15-130	6.35	50
Surrogate: 2-Methylnaphthalene-d10	0.0211		"	0.0333		63.3	40-150		
Surrogate: Fluoranthene-d10	0.0240		"	0.0333		72.0	40-150		

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0617 - EPA 3050B**

**Blank (BFJ0617-BLK1)**

Prepared: 10/23/22 Analyzed: 10/24/22

Boron ND 0.0100 mg/L

**LCS (BFJ0617-BS1)**

Prepared: 10/23/22 Analyzed: 10/24/22

Boron 4.83 0.0100 mg/L 5.00 96.6 80-120

**Duplicate (BFJ0617-DUP1)**

**Source: 2210382-01**

Prepared: 10/23/22 Analyzed: 10/25/22

Boron 0.241 0.0100 mg/L 0.244 1.43 20

**Matrix Spike (BFJ0617-MS1)**

**Source: 2210382-01**

Prepared: 10/23/22 Analyzed: 10/25/22

Boron 5.12 0.0100 mg/L 5.00 0.244 97.5 75-125

**Matrix Spike Dup (BFJ0617-MSD1)**

**Source: 2210382-01**

Prepared: 10/23/22 Analyzed: 10/25/22

Boron 5.16 0.0100 mg/L 5.00 0.244 98.3 75-125 0.787 25

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0614 - EPA 3050B

##### Blank (BFJ0614-BLK1)

Prepared: 10/23/22 Analyzed: 10/24/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

##### LCS (BFJ0614-BS1)

Prepared: 10/23/22 Analyzed: 10/24/22

Arsenic	43.3	0.200	mg/kg wet	40.0	108	80-120
Barium	38.9	0.400	"	40.0	97.4	80-120
Cadmium	1.89	0.200	"	2.00	94.6	80-120
Copper	47.8	0.400	"	40.0	119	80-120
Lead	18.2	0.200	"	20.0	91.0	80-120
Nickel	46.5	0.400	"	40.0	116	80-120
Selenium	4.23	0.260	"	4.00	106	80-120
Silver	2.08	0.0200	"	2.00	104	80-120
Zinc	46.3	0.400	"	40.0	116	80-120

##### Duplicate (BFJ0614-DUP1)

Source: 2210381-01

Prepared: 10/23/22 Analyzed: 10/24/22

Arsenic	2.66	0.214	mg/kg dry	2.89	8.27	20
Barium	55.2	0.428	"	53.6	2.84	20
Cadmium	0.147	0.214	"	0.142	3.55	20
Copper	4.37	0.428	"	4.85	10.5	20
Lead	4.00	0.214	"	3.77	5.81	20
Nickel	5.00	0.428	"	4.93	1.43	20
Selenium	ND	0.278	"	ND		20
Silver	0.116	0.0214	"	0.125	8.17	20
Zinc	17.5	0.428	"	18.1	3.28	20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0614 - EPA 3050B**

Matrix Spike (BFJ0614-MS1)		Source: 2210381-01			Prepared: 10/23/22 Analyzed: 10/24/22					
Arsenic	52.6	0.214	mg/kg dry	42.8	2.89	116	75-125			
Barium	93.1	0.428	"	42.8	53.6	92.2	75-125			
Cadmium	2.12	0.214	"	2.14	0.142	92.7	75-125			
Copper	42.2	0.428	"	42.8	4.85	87.3	75-125			
Lead	23.0	0.214	"	21.4	3.77	89.9	75-125			
Nickel	42.9	0.428	"	42.8	4.93	88.6	75-125			
Selenium	5.56	0.278	"	4.28	ND	130	75-125			QM-05
Silver	2.12	0.0214	"	2.14	0.125	93.0	75-125			
Zinc	56.4	0.428	"	42.8	18.1	89.5	75-125			

Matrix Spike Dup (BFJ0614-MSD1)		Source: 2210381-01			Prepared: 10/23/22 Analyzed: 10/24/22					
Arsenic	50.9	0.214	mg/kg dry	42.8	2.89	112	75-125	3.27	25	
Barium	101	0.428	"	42.8	53.6	111	75-125	8.16	25	
Cadmium	2.25	0.214	"	2.14	0.142	98.5	75-125	5.68	25	
Copper	41.0	0.428	"	42.8	4.85	84.5	75-125	2.86	25	
Lead	24.5	0.214	"	21.4	3.77	96.8	75-125	6.24	25	
Nickel	42.0	0.428	"	42.8	4.93	86.7	75-125	1.91	25	
Selenium	6.17	0.278	"	4.28	ND	144	75-125	10.3	25	QM-05
Silver	2.21	0.0214	"	2.14	0.125	97.4	75-125	4.34	25	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0632 - 3060A Mod**

**Blank (BFJ0632-BLK1)**

Prepared: 10/23/22 Analyzed: 10/24/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFJ0632-BS1)**

Prepared: 10/23/22 Analyzed: 10/24/22

Chromium, Hexavalent 24.2 0.30 mg/kg wet 25.0 97.0 80-120

**Duplicate (BFJ0632-DUP1)**

**Source: 2210320-01**

Prepared: 10/23/22 Analyzed: 10/24/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFJ0632-MS1)**

**Source: 2210320-01**

Prepared: 10/23/22 Analyzed: 10/24/22

Chromium, Hexavalent 29.5 0.30 mg/kg dry 26.9 ND 110 75-125

**Matrix Spike Dup (BFJ0632-MSD1)**

**Source: 2210320-01**

Prepared: 10/23/22 Analyzed: 10/24/22

Chromium, Hexavalent 28.1 0.30 mg/kg dry 26.9 ND 104 75-125 5.05 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0640 - General Preparation**

**Blank (BFJ0640-BLK1)**

Prepared: 10/24/22 Analyzed: 10/25/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

**LCS (BFJ0640-BS1)**

Prepared: 10/24/22 Analyzed: 10/25/22

Calcium	5.35	0.0500	mg/L wet	5.00	107	70-130
Magnesium	5.24	0.0500	"	5.00	105	70-130
Sodium	5.11	0.0500	"	5.00	102	70-130

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0625 - General Preparation**

**Duplicate (BFJ0625-DUP1)**

Source: 2210381-01

Prepared: 10/23/22 Analyzed: 10/25/22

% Solids	93.4	%	93.5	0.0209	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0688 - General Preparation**

**Blank (BFJ0688-BLK1)**

Prepared & Analyzed: 10/25/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFJ0688-BS1)**

Prepared & Analyzed: 10/25/22

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

**Duplicate (BFJ0688-DUP1)**

**Source: 2210273-01**

Prepared & Analyzed: 10/25/22

Specific Conductance (EC) 0.600 0.0100 mmhos/cm 0.603 0.582 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0689 - General Preparation**

**LCS (BFJ0689-BS1)**

Prepared & Analyzed: 10/25/22

pH	9.20	pH Units	9.18	100	95-105
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**Duplicate (BFJ0689-DUP1)**

Source: 2210273-01

Prepared & Analyzed: 10/25/22

pH	7.90	pH Units	7.81	1.15	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/26/22 14:26

### Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 27, 2022

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Miller  
Work Order #2210410

Enclosed are the results of analyses for samples received by Summit Scientific on 10/24/22 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mikayla Axtell", is written over a light gray rectangular background.

Mikayla Axtell For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]

Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N Wall 11 ft	2210410-01	Soil	10/24/22 00:00	10/24/22 16:00
Floor 13 ft	2210410-02	Soil	10/24/22 00:00	10/24/22 16:00

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

2210410

# Summit Scientific

S<sub>2</sub>

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page

of

Client:

Fremont Env.

Project Manager:

Hendrich

Address:

E-Mail:

Fremont Dist. List

City/State/Zip:

Bill To: Dan

Phone:

Project Name:

Noble - Miller

Sampler Name:

ER

Project Number:

					Preservative				Matrix				Analysis Requested						Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	VOCs (915)	TPH	PAHs	Metals (915)	SAR, EC, PH	Boron	
1	N WALL 11FT	10/24/22		2			X			X			X	X	X	X	X	X	
2	FLOOR 13FT	1		2			X			X			X	X	X	X	X	X	
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by: <u>John Black</u>	Date/Time: <u>10/24/22</u>	Received by: <u>S2</u>	Date/Time: <u>10/24/22 1354</u>	Turn Around Time (Check)	Notes:
				Same Day <u>X</u> 72 hours <u>   </u>	
				24 hours <u>   </u> Standard <u>   </u>	
				48 hours <u>   </u>	
Relinquished by: <u>S2</u>	Date/Time: <u>10/24/22 1000</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/24/22 1000</u>	Sample Integrity:	
Temperature Upon Receipt: <u>8.3</u>	Corrected Temperature: <u>8</u>	HNO <sub>3</sub> lot # <u>   </u>		Samples Intact: <u>Yes</u> No <u>   </u>	
IR gun correction: <u>0</u>	IR gun #: <u>1</u>				

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2210410Client: Fremont Client Project ID: Noble-millerShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐
☐ ☐ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☐ Water ☐ Other ☐Temp (°C) 8.3Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

Custodian Printed Name

Date/Time

10-24-22



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**N Wall 11 ft**  
**2210410-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0658	10/24/22	10/24/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		88.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		120 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		125 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0659	10/24/22	10/24/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		108 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**N Wall 11 ft**  
**2210410-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0660	10/25/22	10/26/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		68.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.5 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.258</b>	0.0100	mg/L	1	BFJ0664	10/25/22	10/25/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**N Wall 11 ft**  
**2210410-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.95	0.250	mg/kg dry	1	BFJ0662	10/25/22	10/25/22	EPA 6020B
Barium	77.8	0.499	"	"	"	"	"	"
Cadmium	0.256	0.250	"	"	"	"	"	"
Copper	7.62	0.499	"	"	"	"	"	"
Lead	7.73	0.250	"	"	"	"	"	"
Nickel	8.00	0.499	"	"	"	"	"	"
Selenium	ND	0.324	"	"	"	"	"	"
Silver	0.0275	0.0250	"	"	"	"	"	"
Zinc	34.1	0.499	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0686	10/25/22	10/26/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	71.7	0.0624	mg/L dry	1	BFJ0673	10/25/22	10/26/22	EPA 6020B	
Magnesium	70.3	0.0624	"	"	"	"	"	"	
Sodium	133	0.0624	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.67	0.00100	units	1	BFJ0773	10/27/22	10/27/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**N Wall 11 ft**  
**2210410-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	80.1	%	1	BFJ0668	10/25/22	10/25/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.27	0.0100	mmhos/cm	1	BFJ0699	10/26/22	10/26/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.49		pH Units	1	BFJ0700	10/26/22	10/26/22	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Floor 13 ft**  
**2210410-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0658	10/24/22	10/24/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		88.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		142 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		116 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	170	50	mg/kg	1	BFJ0659	10/24/22	10/24/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		93.1 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Floor 13 ft**  
**2210410-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0660	10/25/22	10/26/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.00860</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		46.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		65.4 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.264</b>	0.0100	mg/L	1	BFJ0664	10/25/22	10/25/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Floor 13 ft**  
**2210410-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.63	0.240	mg/kg dry	1	BFJ0662	10/25/22	10/25/22	EPA 6020B
Barium	44.6	0.481	"	"	"	"	"	"
Cadmium	ND	0.240	"	"	"	"	"	"
Copper	6.92	0.481	"	"	"	"	"	"
Lead	7.93	0.240	"	"	"	"	"	"
Nickel	6.61	0.481	"	"	"	"	"	"
Selenium	ND	0.313	"	"	"	"	"	"
Silver	0.0260	0.0240	"	"	"	"	"	"
Zinc	31.4	0.481	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0686	10/25/22	10/26/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	22.0	0.0601	mg/L dry	1	BFJ0673	10/25/22	10/26/22	EPA 6020B	
Magnesium	41.9	0.0601	"	"	"	"	"	"	
Sodium	117	0.0601	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.38	0.00100	units	1	BFJ0773	10/27/22	10/27/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Floor 13 ft**  
**2210410-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.2		%	1	BFJ0668	10/25/22	10/25/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.861	0.0100	mmhos/cm	1	BFJ0699	10/26/22	10/26/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/24/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.03		pH Units	1	BFJ0700	10/26/22	10/26/22	EPA 9045D	

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Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0658 - EPA 5030 Soil MS

##### Blank (BFJ0658-BLK1)

Prepared & Analyzed: 10/24/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0319		"	0.0400		79.7	50-150			
Surrogate: Toluene-d8	0.0481		"	0.0400		120	50-150			
Surrogate: 4-Bromofluorobenzene	0.0522		"	0.0400		130	50-150			

##### LCS (BFJ0658-BS1)

Prepared & Analyzed: 10/24/22

Benzene	0.0885	0.0020	mg/kg	0.100		88.5	70-130			
Toluene	0.0941	0.0050	"	0.100		94.1	70-130			
Ethylbenzene	0.106	0.0050	"	0.100		106	70-130			
m,p-Xylene	0.234	0.010	"	0.200		117	70-130			
o-Xylene	0.0892	0.0050	"	0.100		89.2	70-130			
1,2,4-Trimethylbenzene	0.0945	0.0050	"	0.100		94.5	70-130			
1,3,5-Trimethylbenzene	0.102	0.0050	"	0.100		102	70-130			
Naphthalene	0.106	0.0038	"	0.100		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0345		"	0.0400		86.2	50-150			
Surrogate: Toluene-d8	0.0487		"	0.0400		122	50-150			
Surrogate: 4-Bromofluorobenzene	0.0518		"	0.0400		129	50-150			

##### Matrix Spike (BFJ0658-MS1)

Source: 2210410-01

Prepared & Analyzed: 10/24/22

Benzene	0.100	0.0020	mg/kg	0.100	ND	100	70-130			
Toluene	0.0867	0.0050	"	0.100	ND	86.7	70-130			
Ethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130			
m,p-Xylene	0.234	0.010	"	0.200	ND	117	70-130			
o-Xylene	0.0865	0.0050	"	0.100	ND	86.5	70-130			
1,2,4-Trimethylbenzene	0.0939	0.0050	"	0.100	ND	93.9	70-130			
1,3,5-Trimethylbenzene	0.0999	0.0050	"	0.100	ND	99.9	70-130			
Naphthalene	0.106	0.0038	"	0.100	ND	106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0345		"	0.0400		86.3	50-150			
Surrogate: Toluene-d8	0.0479		"	0.0400		120	50-150			
Surrogate: 4-Bromofluorobenzene	0.0510		"	0.0400		128	50-150			

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Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0658 - EPA 5030 Soil MS**

Matrix Spike Dup (BFJ0658-MSD1)		Source: 2210410-01			Prepared & Analyzed: 10/24/22					
Benzene	0.0997	0.0020	mg/kg	0.100	ND	99.7	70-130	0.420	30	
Toluene	0.0940	0.0050	"	0.100	ND	94.0	70-130	8.17	30	
Ethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130	3.38	30	
m,p-Xylene	0.241	0.010	"	0.200	ND	121	70-130	3.10	30	
o-Xylene	0.0896	0.0050	"	0.100	ND	89.6	70-130	3.58	30	
1,2,4-Trimethylbenzene	0.0956	0.0050	"	0.100	ND	95.6	70-130	1.74	30	
1,3,5-Trimethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130	3.13	30	
Naphthalene	0.108	0.0038	"	0.100	ND	108	70-130	1.51	30	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0358		"	0.0400		89.4	50-150			
Surrogate: Toluene-d8	0.0484		"	0.0400		121	50-150			
Surrogate: 4-Bromofluorobenzene	0.0505		"	0.0400		126	50-150			

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0659 - EPA 3550A**

**Blank (BFJ0659-BLK1)**

Prepared & Analyzed: 10/24/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	5.76		"	12.5		46.0	30-150			

**LCS (BFJ0659-BS1)**

Prepared & Analyzed: 10/24/22

C10-C28 (DRO)	590	50	mg/kg	500		118	70-130			
Surrogate: o-Terphenyl	14.6		"	12.5		117	30-150			

**Matrix Spike (BFJ0659-MS1)**

Source: 2210410-01

Prepared & Analyzed: 10/24/22

C10-C28 (DRO)	472	50	mg/kg	500	32.3	88.0	70-130			
Surrogate: o-Terphenyl	11.9		"	12.5		95.1	30-150			

**Matrix Spike Dup (BFJ0659-MSD1)**

Source: 2210410-01

Prepared & Analyzed: 10/24/22

C10-C28 (DRO)	487	50	mg/kg	500	32.3	90.9	70-130	3.08	20	
Surrogate: o-Terphenyl	12.2		"	12.5		97.9	30-150			

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Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0660 - EPA 5030 Soil MS

##### Blank (BFJ0660-BLK1)

Prepared & Analyzed: 10/25/22

Acenaphthene	ND	0.00500	mg/kg								
Anthracene	ND	0.00500	"								
Benzo (a) anthracene	ND	0.00500	"								
Benzo (a) pyrene	ND	0.00500	"								
Benzo (b) fluoranthene	ND	0.00500	"								
Benzo (k) fluoranthene	ND	0.00500	"								
Chrysene	ND	0.00500	"								
Dibenz (a,h) anthracene	ND	0.00500	"								
Fluoranthene	ND	0.00500	"								
Fluorene	ND	0.00500	"								
Indeno (1,2,3-cd) pyrene	ND	0.00500	"								
Pyrene	ND	0.00500	"								
1-Methylnaphthalene	ND	0.00500	"								
2-Methylnaphthalene	ND	0.00500	"								
Surrogate: 2-Methylnaphthalene-d10	0.0364		"	0.0333		109		40-150			
Surrogate: Fluoranthene-d10	0.0299		"	0.0333		89.7		40-150			

##### LCS (BFJ0660-BS1)

Prepared & Analyzed: 10/25/22

Acenaphthene	0.0382	0.00500	mg/kg	0.0333		115		31-137			
Anthracene	0.0387	0.00500	"	0.0333		116		30-120			
Benzo (a) anthracene	0.0340	0.00500	"	0.0333		102		30-120			
Benzo (a) pyrene	0.0399	0.00500	"	0.0333		120		30-120			
Benzo (b) fluoranthene	0.0376	0.00500	"	0.0333		113		30-120			
Benzo (k) fluoranthene	0.0359	0.00500	"	0.0333		108		30-120			
Chrysene	0.0329	0.00500	"	0.0333		98.8		30-120			
Dibenz (a,h) anthracene	0.0330	0.00500	"	0.0333		99.1		30-120			
Fluoranthene	0.0366	0.00500	"	0.0333		110		30-120			
Fluorene	0.0384	0.00500	"	0.0333		115		30-120			
Indeno (1,2,3-cd) pyrene	0.0393	0.00500	"	0.0333		118		30-120			
Pyrene	0.0346	0.00500	"	0.0333		104		35-142			
1-Methylnaphthalene	0.0372	0.00500	"	0.0333		112		35-142			
2-Methylnaphthalene	0.0392	0.00500	"	0.0333		118		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0385		"	0.0333		115		40-150			
Surrogate: Fluoranthene-d10	0.0368		"	0.0333		111		40-150			

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0660 - EPA 5030 Soil MS

##### Matrix Spike (BFJ0660-MS1)

Source: 2210374-02

Prepared & Analyzed: 10/25/22

Acenaphthene	0.0282	0.00500	mg/kg	0.0333	ND	84.5	31-137				
Anthracene	0.0244	0.00500	"	0.0333	ND	73.2	30-120				
Benzo (a) anthracene	0.0232	0.00500	"	0.0333	ND	69.5	30-120				
Benzo (a) pyrene	0.0254	0.00500	"	0.0333	ND	76.1	30-120				
Benzo (b) fluoranthene	0.0285	0.00500	"	0.0333	ND	85.4	30-120				
Benzo (k) fluoranthene	0.0293	0.00500	"	0.0333	ND	87.9	30-120				
Chrysene	0.0218	0.00500	"	0.0333	ND	65.4	30-120				
Dibenz (a,h) anthracene	0.0261	0.00500	"	0.0333	ND	78.2	30-120				
Fluoranthene	0.0275	0.00500	"	0.0333	ND	82.4	30-120				
Fluorene	0.0280	0.00500	"	0.0333	ND	83.9	30-120				
Indeno (1,2,3-cd) pyrene	0.0320	0.00500	"	0.0333	ND	96.1	30-120				
Pyrene	0.0240	0.00500	"	0.0333	ND	72.0	35-142				
1-Methylnaphthalene	0.0235	0.00500	"	0.0333	ND	70.6	15-130				
2-Methylnaphthalene	0.0256	0.00500	"	0.0333	ND	76.7	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0241		"	0.0333		72.2	40-150				
Surrogate: Fluoranthene-d10	0.0278		"	0.0333		83.4	40-150				

##### Matrix Spike Dup (BFJ0660-MSD1)

Source: 2210374-02

Prepared & Analyzed: 10/25/22

Acenaphthene	0.0293	0.00500	mg/kg	0.0333	ND	87.9	31-137	3.93	30
Anthracene	0.0261	0.00500	"	0.0333	ND	78.4	30-120	6.78	30
Benzo (a) anthracene	0.0249	0.00500	"	0.0333	ND	74.8	30-120	7.37	30
Benzo (a) pyrene	0.0280	0.00500	"	0.0333	ND	84.0	30-120	9.91	30
Benzo (b) fluoranthene	0.0307	0.00500	"	0.0333	ND	92.0	30-120	7.43	30
Benzo (k) fluoranthene	0.0300	0.00500	"	0.0333	ND	90.0	30-120	2.37	30
Chrysene	0.0230	0.00500	"	0.0333	ND	69.1	30-120	5.49	30
Dibenz (a,h) anthracene	0.0287	0.00500	"	0.0333	ND	86.0	30-120	9.52	30
Fluoranthene	0.0288	0.00500	"	0.0333	ND	86.4	30-120	4.73	30
Fluorene	0.0309	0.00500	"	0.0333	ND	92.7	30-120	9.99	30
Indeno (1,2,3-cd) pyrene	0.0360	0.00500	"	0.0333	ND	108	30-120	11.6	30
Pyrene	0.0250	0.00500	"	0.0333	ND	75.1	35-142	4.12	30
1-Methylnaphthalene	0.0240	0.00500	"	0.0333	ND	72.0	15-130	2.01	50
2-Methylnaphthalene	0.0249	0.00500	"	0.0333	ND	74.7	15-130	2.59	50
Surrogate: 2-Methylnaphthalene-d10	0.0234		"	0.0333		70.3	40-150		
Surrogate: Fluoranthene-d10	0.0299		"	0.0333		89.6	40-150		

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0664 - EPA 3050B**

**Blank (BFJ0664-BLK1)**

Prepared & Analyzed: 10/25/22

Boron ND 0.0100 mg/L

**LCS (BFJ0664-BS1)**

Prepared & Analyzed: 10/25/22

Boron 4.90 0.0100 mg/L 5.00 98.1 80-120

**Duplicate (BFJ0664-DUP1)**

**Source: 2210391-01**

Prepared & Analyzed: 10/25/22

Boron 0.156 0.0100 mg/L 0.165 5.99 20

**Matrix Spike (BFJ0664-MS1)**

**Source: 2210391-01**

Prepared & Analyzed: 10/25/22

Boron 4.86 0.0100 mg/L 5.00 0.165 94.0 75-125

**Matrix Spike Dup (BFJ0664-MSD1)**

**Source: 2210391-01**

Prepared & Analyzed: 10/25/22

Boron 4.83 0.0100 mg/L 5.00 0.165 93.4 75-125 0.631 25

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0662 - EPA 3050B**

**Blank (BFJ0662-BLK1)**

Prepared & Analyzed: 10/25/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

**LCS (BFJ0662-BS1)**

Prepared & Analyzed: 10/25/22

Arsenic	36.2	0.200	mg/kg wet	40.0	90.6	80-120
Barium	37.3	0.400	"	40.0	93.2	80-120
Cadmium	2.32	0.200	"	2.00	116	80-120
Copper	39.8	0.400	"	40.0	99.5	80-120
Lead	22.3	0.200	"	20.0	112	80-120
Nickel	38.2	0.400	"	40.0	95.5	80-120
Selenium	4.34	0.260	"	4.00	108	80-120
Silver	1.60	0.0200	"	2.00	80.0	80-120
Zinc	38.3	0.400	"	40.0	95.9	80-120

**Duplicate (BFJ0662-DUP1)**

Source: 2210219-04

Prepared & Analyzed: 10/25/22

Arsenic	0.894	0.219	mg/kg dry	0.896	0.196	20
Barium	40.5	0.437	"	39.9	1.35	20
Cadmium	0.154	0.219	"	0.157	1.97	20
Copper	4.14	0.437	"	3.97	4.17	20
Lead	3.40	0.219	"	3.32	2.32	20
Nickel	3.46	0.437	"	3.32	4.02	20
Selenium	ND	0.284	"	ND		20
Silver	0.0241	0.0219	"	0.0219	9.52	20
Zinc	15.5	0.437	"	14.8	4.79	20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0662 - EPA 3050B**

Matrix Spike (BFJ0662-MS1)			Source: 2210219-04		Prepared & Analyzed: 10/25/22						
Arsenic	21.4	0.219	mg/kg dry	43.7	0.896	47.0	75-125				QM-05
Barium	64.5	0.437	"	43.7	39.9	56.1	75-125				QM-05
Cadmium	1.82	0.219	"	2.19	0.157	76.2	75-125				
Copper	38.5	0.437	"	43.7	3.97	79.0	75-125				
Lead	23.6	0.219	"	21.9	3.32	92.5	75-125				
Nickel	37.8	0.437	"	43.7	3.32	78.9	75-125				
Selenium	4.83	0.284	"	4.37	ND	111	75-125				
Silver	1.69	0.0219	"	2.19	0.0219	76.1	75-125				
Zinc	49.4	0.437	"	43.7	14.8	79.2	75-125				

Matrix Spike Dup (BFJ0662-MSD1)			Source: 2210219-04		Prepared & Analyzed: 10/25/22						
Arsenic	21.6	0.219	mg/kg dry	43.7	0.896	47.3	75-125	0.661	25		QM-05
Barium	64.1	0.437	"	43.7	39.9	55.3	75-125	0.548	25		QM-05
Cadmium	1.83	0.219	"	2.19	0.157	76.6	75-125	0.502	25		
Copper	39.7	0.437	"	43.7	3.97	81.6	75-125	2.91	25		
Lead	23.5	0.219	"	21.9	3.32	92.4	75-125	0.165	25		
Nickel	41.0	0.437	"	43.7	3.32	86.2	75-125	8.05	25		
Selenium	4.82	0.284	"	4.37	ND	110	75-125	0.381	25		
Silver	1.71	0.0219	"	2.19	0.0219	77.4	75-125	1.62	25		
Zinc	50.5	0.437	"	43.7	14.8	81.7	75-125	2.20	25		

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
10/27/22 12:50

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0686 - 3060A Mod**

**Blank (BFJ0686-BLK1)**

Prepared: 10/25/22 Analyzed: 10/26/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFJ0686-BS1)**

Prepared: 10/25/22 Analyzed: 10/26/22

Chromium, Hexavalent 21.1 0.30 mg/kg wet 25.0 84.4 80-120

**Duplicate (BFJ0686-DUP1)**

**Source: 2210392-07**

Prepared: 10/25/22 Analyzed: 10/26/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFJ0686-MS1)**

**Source: 2210392-07**

Prepared: 10/25/22 Analyzed: 10/26/22

Chromium, Hexavalent 24.3 0.30 mg/kg dry 25.5 ND 95.4 75-125

**Matrix Spike Dup (BFJ0686-MSD1)**

**Source: 2210392-07**

Prepared: 10/25/22 Analyzed: 10/26/22

Chromium, Hexavalent 26.2 0.30 mg/kg dry 25.5 ND 103 75-125 7.47 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0673 - General Preparation**

**Blank (BFJ0673-BLK1)**

Prepared: 10/25/22 Analyzed: 10/26/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

**LCS (BFJ0673-BS1)**

Prepared: 10/25/22 Analyzed: 10/26/22

Calcium	6.06	0.0500	mg/L wet	5.00	121	70-130
Magnesium	5.53	0.0500	"	5.00	111	70-130
Sodium	5.82	0.0500	"	5.00	116	70-130

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0668 - General Preparation**

**Duplicate (BFJ0668-DUP1)**

**Source: 2210391-01**

**Prepared & Analyzed: 10/25/22**

% Solids	79.6	%	81.1	1.86	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0699 - General Preparation**

**Blank (BFJ0699-BLK1)**

Prepared & Analyzed: 10/26/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFJ0699-BS1)**

Prepared & Analyzed: 10/26/22

Specific Conductance (EC) 0.154 0.0100 mmhos/cm 0.150 103 95-105

**Duplicate (BFJ0699-DUP1)**

**Source: 2210316-01**

Prepared & Analyzed: 10/26/22

Specific Conductance (EC) 0.413 0.0100 mmhos/cm 0.424 2.61 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BFJ0700 - General Preparation**

**LCS (BFJ0700-BS1)**

Prepared & Analyzed: 10/26/22

pH	9.20	pH Units	9.18	100	95-105
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**Duplicate (BFJ0700-DUP1)**

**Source: 2210316-01**

Prepared & Analyzed: 10/26/22

pH	7.82	pH Units	7.73	1.16	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/27/22 12:50

### Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 31, 2022

Paul Henehan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Miller  
Work Order #2210429

Enclosed are the results of analyses for samples received by Summit Scientific on 10/25/22 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mikayla Axtell", is written over a light gray rectangular background.

Mikayla Axtell For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-W Wall2 11 ft	2210429-01	Soil	10/25/22 00:00	10/25/22 16:00
E-N Wall 11 ft	2210429-02	Soil	10/25/22 00:00	10/25/22 16:00
W1	2210429-03	Water	10/25/22 00:00	10/25/22 16:00

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

2200429

# Summit Scientific

S<sub>2</sub>

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: Fremont Env.Project Manager: Aerphan

Address:

E-Mail: Fremont Dist. List

City/State/Zip:

Bill To: Dan P.

Phone:

Project Name: Noble - MillerSampler Name: EB

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	VOCs (915)	TPH/PAH	Metals (915)	SAR/EC/pH	Duron		
1	S-W WALL 2 11P	10/25/22		2			XX							XX	XX	XX	XX	XX	
2	E-N WALL 11P	1		2			XX							XX	XX	XX	XX	XX	
3	WI	1		3			XX							XX	XX	XX	XX	XX	
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by: <u>John Black</u>	Date/Time: <u>10/25/22 1305</u>	Received by: <u>S2</u>	Date/Time: <u>102522 1305</u>	Turn Around Time (Check)	Notes:
Relinquished by: <u>S2</u>	Date/Time: <u>102522 1600</u>	Received by: <u>[Signature]</u>	Date/Time: <u>102522 1600</u>	Same Day <input checked="" type="checkbox"/> 72 hours <input type="checkbox"/>	
				24 hours <input type="checkbox"/> Standard <input type="checkbox"/>	
				48 hours <input type="checkbox"/>	
Temperature Upon Receipt: <u>9.2</u>	Corrected Temperature: <u>9</u>	HNO <sub>3</sub> lot #	Sample Integrity:		
IR gun correction: <u>0</u>	IR gun #: <u>1</u>		Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No		

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order#

2210429

Client: FremontClient Project ID: Noble-miller

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

☐ ☐ ☐ ☐ ☐

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

9.2

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on-ice
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sameday
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

Custodian Printed Name

Date/Time

10.25.22



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**S-W Wall2 11 ft**  
**2210429-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.014	0.0020	mg/kg	1	BFJ0676	10/25/22	10/25/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.042	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.078	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.53	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.066	0.0050	"	"	"	"	"	"	
Naphthalene	0.066	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	30	0.50	"	"	"	"	"	"	

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0679	10/25/22	10/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		82.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**S-W Wall2 11 ft**  
**2210429-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0701	10/26/22	10/27/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0574</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.124</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		69.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		68.9 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.795</b>	0.0100	mg/L	1	BFJ0710	10/26/22	10/26/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**S-W Wall2 11 ft  
2210429-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.99	0.240	mg/kg dry	1	BFJ0707	10/26/22	10/26/22	EPA 6020B
Barium	282	0.480	"	"	"	"	"	"
Cadmium	0.408	0.240	"	"	"	"	"	"
Copper	8.30	0.480	"	"	"	"	"	"
Lead	12.9	0.240	"	"	"	"	"	"
Nickel	8.92	0.480	"	"	"	"	"	"
Selenium	ND	0.312	"	"	"	"	"	"
Silver	0.0437	0.0240	"	"	"	"	"	"
Zinc	36.1	0.480	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/25/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0768	10/27/22	10/27/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: 10/25/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	6.03	0.0600	mg/L dry	1	BFJ0732	10/26/22	10/28/22	EPA 6020B	
Magnesium	6.08	0.0600	"	"	"	"	"	"	
Sodium	230	0.0600	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/25/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	15.8	0.00100	units	1	BFJ0808	10/28/22	10/28/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 10/25/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**S-W Wall2 11 ft**  
**2210429-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	83.4	%	1	BFJ0714	10/26/22	10/27/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.927	0.0100	mmhos/cm	1	BFJ0778	10/27/22	10/27/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.87		pH Units	1	BFJ0777	10/27/22	10/27/22	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**E-N Wall 11 ft  
2210429-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0676	10/25/22	10/25/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		115 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0679	10/25/22	10/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		69.8 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**E-N Wall 11 ft**  
**2210429-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0701	10/26/22	10/27/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		91.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		53.1 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.135</b>	0.0100	mg/L	1	BFJ0710	10/26/22	10/26/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**E-N Wall 11 ft  
2210429-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.80	0.241	mg/kg dry	1	BFJ0707	10/26/22	10/26/22	EPA 6020B
Barium	38.3	0.482	"	"	"	"	"	"
Cadmium	0.312	0.241	"	"	"	"	"	"
Copper	10.5	0.482	"	"	"	"	"	"
Lead	15.1	0.241	"	"	"	"	"	"
Nickel	10.2	0.482	"	"	"	"	"	"
Selenium	ND	0.313	"	"	"	"	"	"
Silver	0.0438	0.0241	"	"	"	"	"	"
Zinc	40.5	0.482	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/25/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0768	10/27/22	10/27/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: 10/25/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	39.0	0.0602	mg/L dry	1	BFJ0732	10/26/22	10/28/22	EPA 6020B	
Magnesium	22.7	0.0602	"	"	"	"	"	"	
Sodium	55.3	0.0602	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/25/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.74	0.00100	units	1	BFJ0808	10/28/22	10/28/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 10/25/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**E-N Wall 11 ft**  
**2210429-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	83.0	%	1	BFJ0714	10/26/22	10/27/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.585	0.0100	mmhos/cm	1	BFJ0778	10/27/22	10/27/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.23		pH Units	1	BFJ0777	10/27/22	10/27/22	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**W1**  
**2210429-03 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Benzene</b>	<b>27</b>	1.0	ug/l	1	BFJ0690	10/25/22	10/25/22	EPA 8260B	
<b>Toluene</b>	<b>23</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>14</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>56</b>	2.0	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>1.7</b>	1.0	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>4.9</b>	1.0	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>7.2</b>	1.0	"	"	"	"	"	"	

Date Sampled: **10/25/22 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		87.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.6 %	21-167		"	"	"	"	

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PO Box 1289  
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Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0676 - EPA 5030 Soil MS

##### Blank (BFJ0676-BLK1)

Prepared & Analyzed: 10/25/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0490		"	0.0400		122	50-150			
Surrogate: Toluene-d8	0.0436		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0505		"	0.0400		126	50-150			

##### LCS (BFJ0676-BS1)

Prepared & Analyzed: 10/25/22

Benzene	0.136	0.0020	mg/kg	0.150		90.9	70-130			
Toluene	0.141	0.0050	"	0.150		93.9	70-130			
Ethylbenzene	0.152	0.0050	"	0.150		102	70-130			
m,p-Xylene	0.293	0.010	"	0.300		97.5	70-130			
o-Xylene	0.140	0.0050	"	0.150		93.6	70-130			
1,2,4-Trimethylbenzene	0.152	0.0050	"	0.150		101	70-130			
1,3,5-Trimethylbenzene	0.153	0.0050	"	0.150		102	70-130			
Naphthalene	0.137	0.0038	"	0.150		91.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0412		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.1	50-150			

##### Matrix Spike (BFJ0676-MS1)

Source: 2210393-01

Prepared & Analyzed: 10/25/22

Benzene	0.143	0.0020	mg/kg	0.150	0.00318	92.9	70-130			
Toluene	0.148	0.0050	"	0.150	ND	98.8	70-130			
Ethylbenzene	0.168	0.0050	"	0.150	ND	112	70-130			
m,p-Xylene	0.321	0.010	"	0.300	ND	107	70-130			
o-Xylene	0.152	0.0050	"	0.150	ND	101	70-130			
1,2,4-Trimethylbenzene	0.164	0.0050	"	0.150	ND	109	70-130			
1,3,5-Trimethylbenzene	0.166	0.0050	"	0.150	ND	110	70-130			
Naphthalene	0.152	0.0038	"	0.150	ND	101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0427		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.8	50-150			

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0676 - EPA 5030 Soil MS

Matrix Spike Dup (BFJ0676-MSD1)			Source: 2210393-01		Prepared & Analyzed: 10/25/22					
Benzene	0.134	0.0020	mg/kg	0.150	0.00318	86.9	70-130	6.56	30	
Toluene	0.138	0.0050	"	0.150	ND	91.8	70-130	7.41	30	
Ethylbenzene	0.154	0.0050	"	0.150	ND	103	70-130	8.43	30	
m,p-Xylene	0.299	0.010	"	0.300	ND	99.8	70-130	7.16	30	
o-Xylene	0.142	0.0050	"	0.150	ND	94.7	70-130	6.50	30	
1,2,4-Trimethylbenzene	0.154	0.0050	"	0.150	ND	103	70-130	6.30	30	
1,3,5-Trimethylbenzene	0.154	0.0050	"	0.150	ND	102	70-130	7.54	30	
Naphthalene	0.153	0.0038	"	0.150	ND	102	70-130	0.708	30	
Surrogate: 1,2-Dichloroethane-d4	0.0423		"	0.0400		106	50-150			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0383		"	0.0400		95.8	50-150			

#### Batch BFJ0690 - EPA 5030 Water MS

Blank (BFJ0690-BLK1)			Prepared: 10/25/22 Analyzed: 10/26/22							
Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.0		"	13.3		97.7	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.6	20-170			
Surrogate: 4-Bromofluorobenzene	14.1		"	13.3		106	21-167			

LCS (BFJ0690-BS1)			Prepared: 10/25/22 Analyzed: 10/26/22							
Benzene	44.6	1.0	ug/l	50.0		89.2	51-132			
Toluene	56.8	1.0	"	50.0		114	51-138			
Ethylbenzene	52.9	1.0	"	50.0		106	58-146			
m,p-Xylene	106	2.0	"	100		106	57-144			
o-Xylene	50.9	1.0	"	50.0		102	53-146			
Naphthalene	51.2	1.0	"	50.0		102	70-130			
1,2,4-Trimethylbenzene	52.4	1.0	"	50.0		105	70-130			
1,3,5-Trimethylbenzene	52.8	1.0	"	50.0		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	14.8		"	13.3		111	23-173			
Surrogate: Toluene-d8	18.8		"	13.3		141	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0690 - EPA 5030 Water MS

##### Matrix Spike (BFJ0690-MS1)

Source: 2210354-01

Prepared: 10/25/22 Analyzed: 10/26/22

Benzene	44.7	1.0	ug/l	50.0	ND	89.5	34-141			
Toluene	53.0	1.0	"	50.0	ND	106	27-151			
Ethylbenzene	54.5	1.0	"	50.0	ND	109	29-160			
m,p-Xylene	110	2.0	"	100	ND	110	20-166			
o-Xylene	52.1	1.0	"	50.0	ND	104	33-159			
Naphthalene	48.3	1.0	"	50.0	ND	96.6	70-130			
1,2,4-Trimethylbenzene	56.8	1.0	"	50.0	ND	114	70-130			
1,3,5-Trimethylbenzene	56.8	1.0	"	50.0	ND	114	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.4		"	13.3		85.5	23-173			
Surrogate: Toluene-d8	13.1		"	13.3		98.4	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		97.1	21-167			

##### Matrix Spike Dup (BFJ0690-MSD1)

Source: 2210354-01

Prepared: 10/25/22 Analyzed: 10/26/22

Benzene	43.5	1.0	ug/l	50.0	ND	87.1	34-141	2.72	30	
Toluene	57.4	1.0	"	50.0	ND	115	27-151	8.08	30	
Ethylbenzene	57.3	1.0	"	50.0	ND	115	29-160	5.08	30	
m,p-Xylene	115	2.0	"	100	ND	115	20-166	4.55	30	
o-Xylene	53.7	1.0	"	50.0	ND	107	33-159	3.02	30	
Naphthalene	51.9	1.0	"	50.0	ND	104	70-130	7.28	30	
1,2,4-Trimethylbenzene	57.0	1.0	"	50.0	ND	114	70-130	0.316	30	
1,3,5-Trimethylbenzene	57.2	1.0	"	50.0	ND	114	70-130	0.684	30	
Surrogate: 1,2-Dichloroethane-d4	13.4		"	13.3		100	23-173			
Surrogate: Toluene-d8	14.2		"	13.3		106	20-170			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		95.9	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0679 - EPA 3550A**

**Blank (BFJ0679-BLK1)**

Prepared & Analyzed: 10/25/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	10.4		"	12.5		83.5	30-150			

**LCS (BFJ0679-BS1)**

Prepared & Analyzed: 10/25/22

C10-C28 (DRO)	576	50	mg/kg	500		115	70-130			
Surrogate: o-Terphenyl	9.96		"	12.5		79.7	30-150			

**Matrix Spike (BFJ0679-MS1)**

Source: 2210393-01

Prepared: 10/25/22 Analyzed: 10/26/22

C10-C28 (DRO)	585	50	mg/kg	500	ND	117	70-130			
Surrogate: o-Terphenyl	9.69		"	12.5		77.5	30-150			

**Matrix Spike Dup (BFJ0679-MSD1)**

Source: 2210393-01

Prepared: 10/25/22 Analyzed: 10/26/22

C10-C28 (DRO)	601	50	mg/kg	500	ND	120	70-130	2.69	20	
Surrogate: o-Terphenyl	10.2		"	12.5		81.8	30-150			

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0701 - EPA 5030 Soil MS

##### Blank (BFJ0701-BLK1)

Prepared & Analyzed: 10/26/22

Acenaphthene	ND	0.00500	mg/kg								
Anthracene	ND	0.00500	"								
Benzo (a) anthracene	ND	0.00500	"								
Benzo (a) pyrene	ND	0.00500	"								
Benzo (b) fluoranthene	ND	0.00500	"								
Benzo (k) fluoranthene	ND	0.00500	"								
Chrysene	ND	0.00500	"								
Dibenz (a,h) anthracene	ND	0.00500	"								
Fluoranthene	ND	0.00500	"								
Fluorene	ND	0.00500	"								
Indeno (1,2,3-cd) pyrene	ND	0.00500	"								
Pyrene	ND	0.00500	"								
1-Methylnaphthalene	ND	0.00500	"								
2-Methylnaphthalene	ND	0.00500	"								
Surrogate: 2-Methylnaphthalene-d10	0.0387		"	0.0333		116		40-150			
Surrogate: Fluoranthene-d10	0.0306		"	0.0333		91.8		40-150			

##### LCS (BFJ0701-BS1)

Prepared & Analyzed: 10/26/22

Acenaphthene	0.0389	0.00500	mg/kg	0.0333		117		31-137			
Anthracene	0.0354	0.00500	"	0.0333		106		30-120			
Benzo (a) anthracene	0.0311	0.00500	"	0.0333		93.4		30-120			
Benzo (a) pyrene	0.0353	0.00500	"	0.0333		106		30-120			
Benzo (b) fluoranthene	0.0378	0.00500	"	0.0333		113		30-120			
Benzo (k) fluoranthene	0.0388	0.00500	"	0.0333		117		30-120			
Chrysene	0.0312	0.00500	"	0.0333		93.6		30-120			
Dibenz (a,h) anthracene	0.0363	0.00500	"	0.0333		109		30-120			
Fluoranthene	0.0381	0.00500	"	0.0333		114		30-120			
Fluorene	0.0329	0.00500	"	0.0333		98.8		30-120			
Indeno (1,2,3-cd) pyrene	0.0331	0.00500	"	0.0333		99.2		30-120			
Pyrene	0.0322	0.00500	"	0.0333		96.7		35-142			
1-Methylnaphthalene	0.0357	0.00500	"	0.0333		107		35-142			
2-Methylnaphthalene	0.0387	0.00500	"	0.0333		116		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0384		"	0.0333		115		40-150			
Surrogate: Fluoranthene-d10	0.0393		"	0.0333		118		40-150			

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0701 - EPA 5030 Soil MS

##### Matrix Spike (BFJ0701-MS1)

Source: 2210414-01

Prepared & Analyzed: 10/26/22

Acenaphthene	0.0263	0.00500	mg/kg	0.0333	ND	78.8	31-137		
Anthracene	0.0248	0.00500	"	0.0333	ND	74.4	30-120		
Benzo (a) anthracene	0.0222	0.00500	"	0.0333	ND	66.5	30-120		
Benzo (a) pyrene	0.0231	0.00500	"	0.0333	ND	69.2	30-120		
Benzo (b) fluoranthene	0.0254	0.00500	"	0.0333	ND	76.2	30-120		
Benzo (k) fluoranthene	0.0272	0.00500	"	0.0333	ND	81.5	30-120		
Chrysene	0.0213	0.00500	"	0.0333	ND	63.9	30-120		
Dibenz (a,h) anthracene	0.0246	0.00500	"	0.0333	ND	73.7	30-120		
Fluoranthene	0.0274	0.00500	"	0.0333	ND	82.1	30-120		
Fluorene	0.0264	0.00500	"	0.0333	ND	79.1	30-120		
Indeno (1,2,3-cd) pyrene	0.0220	0.00500	"	0.0333	ND	65.9	30-120		
Pyrene	0.0229	0.00500	"	0.0333	ND	68.7	35-142		
1-Methylnaphthalene	0.0250	0.00500	"	0.0333	ND	74.9	15-130		
2-Methylnaphthalene	0.0278	0.00500	"	0.0333	ND	83.4	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0255		"	0.0333		76.4	40-150		
Surrogate: Fluoranthene-d10	0.0267		"	0.0333		80.1	40-150		

##### Matrix Spike Dup (BFJ0701-MSD1)

Source: 2210414-01

Prepared & Analyzed: 10/26/22

Acenaphthene	0.0288	0.00500	mg/kg	0.0333	ND	86.3	31-137	9.01	30
Anthracene	0.0245	0.00500	"	0.0333	ND	73.4	30-120	1.44	30
Benzo (a) anthracene	0.0225	0.00500	"	0.0333	ND	67.6	30-120	1.65	30
Benzo (a) pyrene	0.0242	0.00500	"	0.0333	ND	72.5	30-120	4.64	30
Benzo (b) fluoranthene	0.0257	0.00500	"	0.0333	ND	77.1	30-120	1.15	30
Benzo (k) fluoranthene	0.0267	0.00500	"	0.0333	ND	80.1	30-120	1.73	30
Chrysene	0.0213	0.00500	"	0.0333	ND	64.0	30-120	0.189	30
Dibenz (a,h) anthracene	0.0246	0.00500	"	0.0333	ND	73.8	30-120	0.175	30
Fluoranthene	0.0274	0.00500	"	0.0333	ND	82.3	30-120	0.246	30
Fluorene	0.0240	0.00500	"	0.0333	ND	72.0	30-120	9.49	30
Indeno (1,2,3-cd) pyrene	0.0229	0.00500	"	0.0333	ND	68.8	30-120	4.23	30
Pyrene	0.0224	0.00500	"	0.0333	ND	67.1	35-142	2.41	30
1-Methylnaphthalene	0.0241	0.00500	"	0.0333	ND	72.2	15-130	3.66	50
2-Methylnaphthalene	0.0254	0.00500	"	0.0333	ND	76.2	15-130	9.06	50
Surrogate: 2-Methylnaphthalene-d10	0.0246		"	0.0333		73.9	40-150		
Surrogate: Fluoranthene-d10	0.0271		"	0.0333		81.4	40-150		

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0710 - EPA 3050B**

**Blank (BFJ0710-BLK1)**

Prepared & Analyzed: 10/26/22

Boron ND 0.0100 mg/L

**LCS (BFJ0710-BS1)**

Prepared & Analyzed: 10/26/22

Boron 5.48 0.0100 mg/L 5.00 110 80-120

**Duplicate (BFJ0710-DUP1)**

Source: 2210428-01

Prepared & Analyzed: 10/26/22

Boron 0.304 0.0100 mg/L 0.311 2.31 20

**Matrix Spike (BFJ0710-MS1)**

Source: 2210428-01

Prepared & Analyzed: 10/26/22

Boron 5.34 0.0100 mg/L 5.00 0.311 100 75-125

**Matrix Spike Dup (BFJ0710-MSD1)**

Source: 2210428-01

Prepared & Analyzed: 10/26/22

Boron 5.38 0.0100 mg/L 5.00 0.311 101 75-125 0.825 25

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller  
Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units			Level	Result	%REC	Limits	RPD

**Batch BFJ0707 - EPA 3050B**

**Blank (BFJ0707-BLK1)**

Prepared & Analyzed: 10/26/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

**LCS (BFJ0707-BS1)**

Prepared & Analyzed: 10/26/22

Arsenic	46.5	0.200	mg/kg wet	40.0	116	80-120
Barium	42.8	0.400	"	40.0	107	80-120
Cadmium	2.16	0.200	"	2.00	108	80-120
Copper	40.5	0.400	"	40.0	101	80-120
Lead	20.9	0.200	"	20.0	104	80-120
Nickel	47.2	0.400	"	40.0	118	80-120
Selenium	4.17	0.260	"	4.00	104	80-120
Silver	2.26	0.0200	"	2.00	113	80-120
Zinc	47.3	0.400	"	40.0	118	80-120

**Duplicate (BFJ0707-DUP1)**

Source: 2210323-01

Prepared & Analyzed: 10/26/22

Arsenic	1.33	0.208	mg/kg dry	1.33	0.376	20
Barium	51.8	0.416	"	48.7	6.11	20
Cadmium	0.847	0.208	"	0.717	16.6	20
Copper	21.6	0.416	"	22.4	3.28	20
Lead	68.9	0.208	"	58.4	16.6	20
Nickel	9.73	0.416	"	8.26	16.4	20
Selenium	ND	0.270	"	ND		20
Silver	0.520	0.0208	"	0.498	4.25	20
Zinc	152	0.416	"	134	12.4	20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0707 - EPA 3050B**

Matrix Spike (BFJ0707-MS1)			Source: 2210323-01		Prepared & Analyzed: 10/26/22					
Arsenic	39.1	0.208	mg/kg dry	41.6	1.33	90.8	75-125			
Barium	109	0.416	"	41.6	48.7	145	75-125			QM-05
Cadmium	2.93	0.208	"	2.08	0.717	106	75-125			
Copper	57.7	0.416	"	41.6	22.4	85.0	75-125			
Lead	128	0.208	"	20.8	58.4	336	75-125			QM-05
Nickel	42.5	0.416	"	41.6	8.26	82.4	75-125			
Selenium	5.03	0.270	"	4.16	ND	121	75-125			
Silver	2.64	0.0208	"	2.08	0.498	103	75-125			
Zinc	177	0.416	"	41.6	134	103	75-125			

Matrix Spike Dup (BFJ0707-MSD1)			Source: 2210323-01		Prepared & Analyzed: 10/26/22					
Arsenic	37.8	0.208	mg/kg dry	41.6	1.33	87.7	75-125	3.29	25	
Barium	111	0.416	"	41.6	48.7	150	75-125	1.94	25	QM-05
Cadmium	3.12	0.208	"	2.08	0.717	115	75-125	6.20	25	
Copper	59.1	0.416	"	41.6	22.4	88.3	75-125	2.29	25	
Lead	88.7	0.208	"	20.8	58.4	146	75-125	36.6	25	QM-05
Nickel	45.7	0.416	"	41.6	8.26	90.0	75-125	7.20	25	
Selenium	4.86	0.270	"	4.16	ND	117	75-125	3.59	25	
Silver	2.87	0.0208	"	2.08	0.498	114	75-125	8.17	25	
Zinc	173	0.416	"	41.6	134	93.8	75-125	2.15	25	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0768 - 3060A Mod**

**Blank (BFJ0768-BLK1)**

Prepared & Analyzed: 10/27/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFJ0768-BS1)**

Prepared & Analyzed: 10/27/22

Chromium, Hexavalent 28.2 0.30 mg/kg wet 25.0 113 80-120

**Duplicate (BFJ0768-DUP1)**

Source: 2210217-05

Prepared & Analyzed: 10/27/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFJ0768-MS1)**

Source: 2210217-05

Prepared & Analyzed: 10/27/22

Chromium, Hexavalent 36.2 0.30 mg/kg dry 29.5 ND 123 75-125

**Matrix Spike Dup (BFJ0768-MSD1)**

Source: 2210217-05

Prepared & Analyzed: 10/27/22

Chromium, Hexavalent 36.6 0.30 mg/kg dry 29.5 ND 124 75-125 0.972 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0732 - General Preparation**

**Blank (BFJ0732-BLK1)**

Prepared: 10/26/22 Analyzed: 10/28/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

**LCS (BFJ0732-BS1)**

Prepared: 10/26/22 Analyzed: 10/28/22

Calcium	5.90	0.0500	mg/L wet	5.00	118	70-130
Magnesium	5.90	0.0500	"	5.00	118	70-130
Sodium	5.54	0.0500	"	5.00	111	70-130

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

### Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

#### Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0714 - General Preparation

Duplicate (BFJ0714-DUP1)

Source: 2210428-01

Prepared: 10/26/22 Analyzed: 10/27/22

% Solids	63.2	%	63.2	0.0746	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0778 - General Preparation**

**Blank (BFJ0778-BLK1)**

Prepared & Analyzed: 10/27/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFJ0778-BS1)**

Prepared & Analyzed: 10/27/22

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

**Duplicate (BFJ0778-DUP1)**

**Source: 2210358-01**

Prepared & Analyzed: 10/27/22

Specific Conductance (EC) 0.536 0.0100 mmhos/cm 0.528 1.67 20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0777 - General Preparation**

**LCS (BFJ0777-BS1)**

Prepared & Analyzed: 10/27/22

pH	9.04	pH Units	9.18	98.5	95-105
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**Duplicate (BFJ0777-DUP1)**

**Source: 2210358-01**

Prepared & Analyzed: 10/27/22

pH	8.53	pH Units	8.57	0.468	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 13:28

### Notes and Definitions

QM-05     The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.

DET        Analyte DETECTED

ND        Analyte NOT DETECTED at or above the reporting limit

NR        Not Reported

dry        Sample results reported on a dry weight basis

RPD        Relative Percent Difference

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 31, 2022

Paul Henehan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Miller 16-29  
Work Order #2210470

Enclosed are the results of analyses for samples received by Summit Scientific on 10/26/22 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mikayla Axtell", is written over a light gray rectangular background.

Mikayla Axtell For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-W Wall 3 11 ft	2210470-01	Soil	10/26/22 00:00	10/26/22 16:00
S-E Wall 11 ft	2210470-03	Soil	10/26/22 00:00	10/26/22 16:00

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

2210470

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310

Page 1 of 1

Client: Fremont Environmental

Project Manager: Henehan

Address:

E-Mail: fremont env list list (jeffg, paulh, ethanb), chrisl

City/State/Zip:

Bill To: Noble - Dan

Phone:

Project Name: Noble - Miller 16-29

Sampler Name: EB

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOCs (q15)	TPH (q15)	PAHs (q15)	TDS/GI/SO4	SAR/EC/pH	BORON	METALS (q15)		
1	S-W WALL 3 11FT	10/26/22		2			X			X				X	X	X		X	X	X	
2	W-S WALL 11FT	↓		1			X			X				↓	↓	↓		↓	↓	↓	
3	S-E WALL 11FT	↓		1			X			X				↓	↓	↓		↓	↓	↓	
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <u>Ethan Blake</u>	Date/Time: <u>10/26/22 1435</u>	Received by: <u>S2</u>	Date/Time: <u>10/26/22 1435</u>	<b>Turn Around Time</b> (Check) Same Day <input checked="" type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard 48 hours <input type="checkbox"/> <b>Sample Integrity:</b> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	<b>Notes:</b>
Relinquished by: <u>S2</u>	Date/Time: <u>10/26/22 1600</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/26/22 1600</u>		
Temperature Upon Receipt: <u>9.1</u>	Corrected Temperature: <u>9.1</u>	HNO3 lot #			
IR gun correction: <u>0</u>	IR gun #: <u>1</u>				

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order#

2210470

Client: FremontClient Project ID: Noble-miller 16-29

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

--	--	--	--	--

Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

9.1

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

Custodian Printed Name

Date/Time

10.26.22



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**S-W Wall 3 11 ft**  
**2210470-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0749	10/26/22	10/26/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		149 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		114 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0750	10/26/22	10/26/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		88.8 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**S-W Wall 3 11 ft**  
**2210470-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0751	10/27/22	10/28/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		101 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		67.5 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.235	0.0100	mg/L	1	BFJ0759	10/27/22	10/28/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**S-W Wall 3 11 ft**  
**2210470-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.67	0.242	mg/kg dry	1	BFJ0756	10/27/22	10/27/22	EPA 6020B
Barium	194	0.484	"	"	"	"	"	"
Cadmium	ND	0.242	"	"	"	"	"	"
Copper	7.86	0.484	"	"	"	"	"	"
Lead	8.72	0.242	"	"	"	"	"	"
Nickel	8.00	0.484	"	"	"	"	"	"
Selenium	ND	0.315	"	"	"	"	"	"
Silver	0.0281	0.0242	"	"	"	"	"	"
Zinc	33.2	0.484	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0769	10/27/22	10/27/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	17.1	0.0605	mg/L dry	1	BFJ0779	10/27/22	10/29/22	EPA 6020B	
Magnesium	12.7	0.0605	"	"	"	"	"	"	
Sodium	48.6	0.0605	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.17	0.00100	units	1	BFJ0836	10/31/22	10/31/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**S-W Wall 3 11 ft**  
**2210470-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.6		%	1	BFJ0762	10/27/22	10/27/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.315	0.0100	mmhos/cm	1	BFJ0817	10/28/22	10/28/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.57		pH Units	1	BFJ0816	10/28/22	10/28/22	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**S-E Wall 11 ft**  
**2210470-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0749	10/26/22	10/26/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		133 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		112 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0750	10/26/22	10/26/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		139 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**S-E Wall 11 ft**  
**2210470-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0751	10/27/22	10/28/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		91.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		57.5 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.122</b>	0.0100	mg/L	1	BFJ0759	10/27/22	10/28/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**S-E Wall 11 ft  
2210470-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	4.24	0.230	mg/kg dry	1	BFJ0756	10/27/22	10/27/22	EPA 6020B
Barium	52.1	0.460	"	"	"	"	"	"
Cadmium	0.258	0.230	"	"	"	"	"	"
Copper	6.63	0.460	"	"	"	"	"	"
Lead	7.35	0.230	"	"	"	"	"	"
Nickel	7.04	0.460	"	"	"	"	"	"
Selenium	ND	0.299	"	"	"	"	"	"
Silver	0.0271	0.0230	"	"	"	"	"	"
Zinc	29.5	0.460	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/26/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0769	10/27/22	10/27/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: 10/26/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	24.0	0.0575	mg/L dry	1	BFJ0779	10/27/22	10/29/22	EPA 6020B	
Magnesium	9.74	0.0575	"	"	"	"	"	"	
Sodium	78.8	0.0575	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/26/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.43	0.00100	units	1	BFJ0836	10/31/22	10/31/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 10/26/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**S-E Wall 11 ft**  
**2210470-03 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	86.9	%	1	BFJ0762	10/27/22	10/27/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.508	0.0100	mmhos/cm	1	BFJ0817	10/28/22	10/28/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/26/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.43		pH Units	1	BFJ0816	10/28/22	10/28/22	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0749 - EPA 5030 Soil MS

##### Blank (BFJ0749-BLK1)

Prepared: 10/26/22 Analyzed: 10/27/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0426		"	0.0400		106	50-150			
Surrogate: Toluene-d8	0.0447		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0445		"	0.0400		111	50-150			

##### LCS (BFJ0749-BS1)

Prepared: 10/26/22 Analyzed: 10/27/22

Benzene	0.0768	0.0020	mg/kg	0.100		76.8	70-130			
Toluene	0.0735	0.0050	"	0.100		73.5	70-130			
Ethylbenzene	0.0778	0.0050	"	0.100		77.8	70-130			
m,p-Xylene	0.155	0.010	"	0.200		77.7	70-130			
o-Xylene	0.0799	0.0050	"	0.100		79.9	70-130			
1,2,4-Trimethylbenzene	0.0900	0.0050	"	0.100		90.0	70-130			
1,3,5-Trimethylbenzene	0.0882	0.0050	"	0.100		88.2	70-130			
Naphthalene	0.130	0.0038	"	0.100		130	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0400		97.5	50-150			
Surrogate: Toluene-d8	0.0447		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0429		"	0.0400		107	50-150			

##### Matrix Spike (BFJ0749-MS1)

Source: 2210486-01

Prepared: 10/26/22 Analyzed: 10/27/22

Benzene	0.0781	0.0020	mg/kg	0.100	ND	78.1	70-130			
Toluene	0.0752	0.0050	"	0.100	ND	75.2	70-130			
Ethylbenzene	0.0764	0.0050	"	0.100	ND	76.4	70-130			
m,p-Xylene	0.151	0.010	"	0.200	ND	75.6	70-130			
o-Xylene	0.0785	0.0050	"	0.100	ND	78.5	70-130			
1,2,4-Trimethylbenzene	0.0884	0.0050	"	0.100	ND	88.4	70-130			
1,3,5-Trimethylbenzene	0.0850	0.0050	"	0.100	ND	85.0	70-130			
Naphthalene	0.122	0.0038	"	0.100	ND	122	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0423		"	0.0400		106	50-150			
Surrogate: Toluene-d8	0.0458		"	0.0400		114	50-150			
Surrogate: 4-Bromofluorobenzene	0.0432		"	0.0400		108	50-150			

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

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10/31/22 15:03

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0749 - EPA 5030 Soil MS

Matrix Spike Dup (BFJ0749-MSD1)		Source: 2210486-01			Prepared: 10/26/22 Analyzed: 10/27/22					
Benzene	0.0752	0.0020	mg/kg	0.100	ND	75.2	70-130	3.80	30	
Toluene	0.0773	0.0050	"	0.100	ND	77.3	70-130	2.71	30	
Ethylbenzene	0.0791	0.0050	"	0.100	ND	79.1	70-130	3.59	30	
m,p-Xylene	0.157	0.010	"	0.200	ND	78.6	70-130	3.95	30	
o-Xylene	0.0804	0.0050	"	0.100	ND	80.4	70-130	2.38	30	
1,2,4-Trimethylbenzene	0.0896	0.0050	"	0.100	ND	89.6	70-130	1.35	30	
1,3,5-Trimethylbenzene	0.0886	0.0050	"	0.100	ND	88.6	70-130	4.18	30	
Naphthalene	0.121	0.0038	"	0.100	ND	121	70-130	0.420	30	
Surrogate: 1,2-Dichloroethane-d4		0.0425	"	0.0400		106	50-150			
Surrogate: Toluene-d8		0.0494	"	0.0400		123	50-150			
Surrogate: 4-Bromofluorobenzene		0.0418	"	0.0400		104	50-150			

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0750 - EPA 3550A**

**Blank (BFJ0750-BLK1)**

Prepared: 10/26/22 Analyzed: 10/27/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	9.72		"	12.5		77.8	30-150			

**LCS (BFJ0750-BS1)**

Prepared: 10/26/22 Analyzed: 10/27/22

C10-C28 (DRO)	496	50	mg/kg	500		99.1	70-130			
Surrogate: o-Terphenyl	16.0		"	12.5		128	30-150			

**Matrix Spike (BFJ0750-MS1)**

Source: 2210470-01

Prepared: 10/26/22 Analyzed: 10/27/22

C10-C28 (DRO)	485	50	mg/kg	500	19.2	93.2	70-130			
Surrogate: o-Terphenyl	15.9		"	12.5		127	30-150			

**Matrix Spike Dup (BFJ0750-MSD1)**

Source: 2210470-01

Prepared: 10/26/22 Analyzed: 10/27/22

C10-C28 (DRO)	523	50	mg/kg	500	19.2	101	70-130	7.41	20	
Surrogate: o-Terphenyl	11.1		"	12.5		88.8	30-150			

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result		%REC	Limits	RPD	Notes

#### Batch BFJ0751 - EPA 5030 Soil MS

##### Blank (BFJ0751-BLK1)

Prepared & Analyzed: 10/27/22

Acenaphthene	ND	0.00500	mg/kg
Anthracene	ND	0.00500	"
Benzo (a) anthracene	ND	0.00500	"
Benzo (a) pyrene	ND	0.00500	"
Benzo (b) fluoranthene	ND	0.00500	"
Benzo (k) fluoranthene	ND	0.00500	"
Chrysene	ND	0.00500	"
Dibenz (a,h) anthracene	ND	0.00500	"
Fluoranthene	ND	0.00500	"
Fluorene	ND	0.00500	"
Indeno (1,2,3-cd) pyrene	ND	0.00500	"
Pyrene	ND	0.00500	"
1-Methylnaphthalene	ND	0.00500	"
2-Methylnaphthalene	ND	0.00500	"

Surrogate: 2-Methylnaphthalene-d10	0.0379	"	0.0333	114	40-150
Surrogate: Fluoranthene-d10	0.0336	"	0.0333	101	40-150

##### LCS (BFJ0751-BS1)

Prepared & Analyzed: 10/27/22

Acenaphthene	0.0360	0.00500	mg/kg	0.0333	108	31-137
Anthracene	0.0374	0.00500	"	0.0333	112	30-120
Benzo (a) anthracene	0.0341	0.00500	"	0.0333	102	30-120
Benzo (a) pyrene	0.0393	0.00500	"	0.0333	118	30-120
Benzo (b) fluoranthene	0.0372	0.00500	"	0.0333	112	30-120
Benzo (k) fluoranthene	0.0338	0.00500	"	0.0333	101	30-120
Chrysene	0.0329	0.00500	"	0.0333	98.8	30-120
Dibenz (a,h) anthracene	0.0370	0.00500	"	0.0333	111	30-120
Fluoranthene	0.0371	0.00500	"	0.0333	111	30-120
Fluorene	0.0376	0.00500	"	0.0333	113	30-120
Indeno (1,2,3-cd) pyrene	0.0368	0.00500	"	0.0333	110	30-120
Pyrene	0.0349	0.00500	"	0.0333	105	35-142
1-Methylnaphthalene	0.0368	0.00500	"	0.0333	110	35-142
2-Methylnaphthalene	0.0363	0.00500	"	0.0333	109	35-142

Surrogate: 2-Methylnaphthalene-d10	0.0385	"	0.0333	115	40-150
Surrogate: Fluoranthene-d10	0.0363	"	0.0333	109	40-150

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0751 - EPA 5030 Soil MS

##### Matrix Spike (BFJ0751-MS1)

Source: 2210384-01

Prepared & Analyzed: 10/27/22

Acenaphthene	0.0240	0.00500	mg/kg	0.0333	ND	71.9	31-137		
Anthracene	0.0210	0.00500	"	0.0333	ND	63.1	30-120		
Benzo (a) anthracene	0.0206	0.00500	"	0.0333	ND	61.9	30-120		
Benzo (a) pyrene	0.0216	0.00500	"	0.0333	ND	64.7	30-120		
Benzo (b) fluoranthene	0.0243	0.00500	"	0.0333	ND	73.0	30-120		
Benzo (k) fluoranthene	0.0240	0.00500	"	0.0333	ND	72.1	30-120		
Chrysene	0.0189	0.00500	"	0.0333	ND	56.6	30-120		
Dibenz (a,h) anthracene	0.0219	0.00500	"	0.0333	ND	65.8	30-120		
Fluoranthene	0.0217	0.00500	"	0.0333	ND	65.1	30-120		
Fluorene	0.0205	0.00500	"	0.0333	ND	61.4	30-120		
Indeno (1,2,3-cd) pyrene	0.0206	0.00500	"	0.0333	ND	61.7	30-120		
Pyrene	0.0205	0.00500	"	0.0333	ND	61.4	35-142		
1-Methylnaphthalene	0.0226	0.00500	"	0.0333	ND	67.8	15-130		
2-Methylnaphthalene	0.0234	0.00500	"	0.0333	ND	70.1	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0224		"	0.0333		67.3	40-150		
Surrogate: Fluoranthene-d10	0.0220		"	0.0333		65.9	40-150		

##### Matrix Spike Dup (BFJ0751-MSD1)

Source: 2210384-01

Prepared & Analyzed: 10/27/22

Acenaphthene	0.0294	0.00500	mg/kg	0.0333	ND	88.2	31-137	20.4	30
Anthracene	0.0238	0.00500	"	0.0333	ND	71.5	30-120	12.4	30
Benzo (a) anthracene	0.0225	0.00500	"	0.0333	ND	67.5	30-120	8.61	30
Benzo (a) pyrene	0.0239	0.00500	"	0.0333	ND	71.8	30-120	10.4	30
Benzo (b) fluoranthene	0.0270	0.00500	"	0.0333	ND	81.0	30-120	10.4	30
Benzo (k) fluoranthene	0.0270	0.00500	"	0.0333	ND	80.9	30-120	11.5	30
Chrysene	0.0209	0.00500	"	0.0333	ND	62.7	30-120	10.1	30
Dibenz (a,h) anthracene	0.0246	0.00500	"	0.0333	ND	73.8	30-120	11.5	30
Fluoranthene	0.0251	0.00500	"	0.0333	ND	75.2	30-120	14.4	30
Fluorene	0.0275	0.00500	"	0.0333	ND	82.5	30-120	29.4	30
Indeno (1,2,3-cd) pyrene	0.0232	0.00500	"	0.0333	ND	69.5	30-120	11.8	30
Pyrene	0.0232	0.00500	"	0.0333	ND	69.5	35-142	12.3	30
1-Methylnaphthalene	0.0262	0.00500	"	0.0333	ND	78.7	15-130	14.9	50
2-Methylnaphthalene	0.0278	0.00500	"	0.0333	ND	83.5	15-130	17.4	50
Surrogate: 2-Methylnaphthalene-d10	0.0251		"	0.0333		75.2	40-150		
Surrogate: Fluoranthene-d10	0.0254		"	0.0333		76.1	40-150		

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0759 - EPA 3050B**

**Blank (BFJ0759-BLK1)**

Prepared & Analyzed: 10/27/22

Boron ND 0.0100 mg/L

**LCS (BFJ0759-BS1)**

Prepared & Analyzed: 10/27/22

Boron 5.43 0.0100 mg/L 5.00 109 80-120

**Duplicate (BFJ0759-DUP1)**

**Source: 2210418-06**

Prepared & Analyzed: 10/27/22

Boron 0.261 0.0100 mg/L 0.255 2.55 20

**Matrix Spike (BFJ0759-MS1)**

**Source: 2210418-06**

Prepared & Analyzed: 10/27/22

Boron 5.47 0.0100 mg/L 5.00 0.255 104 75-125

**Matrix Spike Dup (BFJ0759-MSD1)**

**Source: 2210418-06**

Prepared & Analyzed: 10/27/22

Boron 5.42 0.0100 mg/L 5.00 0.255 103 75-125 0.916 25

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0756 - EPA 3050B

##### Blank (BFJ0756-BLK1)

Prepared & Analyzed: 10/27/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

##### LCS (BFJ0756-BS1)

Prepared & Analyzed: 10/27/22

Arsenic	36.9	0.200	mg/kg wet	40.0	92.3	80-120
Barium	37.9	0.400	"	40.0	94.8	80-120
Cadmium	1.94	0.200	"	2.00	96.9	80-120
Copper	38.9	0.400	"	40.0	97.2	80-120
Lead	23.5	0.200	"	20.0	118	80-120
Nickel	36.6	0.400	"	40.0	91.4	80-120
Selenium	4.03	0.260	"	4.00	101	80-120
Silver	1.62	0.0200	"	2.00	81.2	80-120
Zinc	37.1	0.400	"	40.0	92.8	80-120

##### Duplicate (BFJ0756-DUP1)

Source: 2210217-05

Prepared & Analyzed: 10/27/22

Arsenic	1.93	0.236	mg/kg dry	1.94	0.415	20
Barium	64.4	0.472	"	65.6	1.93	20
Cadmium	0.144	0.236	"	0.141	1.99	20
Copper	6.83	0.472	"	6.84	0.0899	20
Lead	5.76	0.236	"	6.03	4.59	20
Nickel	5.75	0.472	"	5.64	1.97	20
Selenium	ND	0.307	"	ND		20
Silver	0.0302	0.0236	"	0.0307	1.55	20
Zinc	22.0	0.472	"	21.8	0.735	20

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0756 - EPA 3050B**

Matrix Spike (BFJ0756-MS1)			Source: 2210217-05		Prepared & Analyzed: 10/27/22					
Arsenic	45.7	0.236	mg/kg dry	47.2	1.94	92.7	75-125			
Barium	84.2	0.472	"	47.2	65.6	39.4	75-125			QM-05
Cadmium	2.13	0.236	"	2.36	0.141	84.2	75-125			
Copper	43.1	0.472	"	47.2	6.84	76.9	75-125			
Lead	30.0	0.236	"	23.6	6.03	101	75-125			
Nickel	44.5	0.472	"	47.2	5.64	82.2	75-125			
Selenium	4.18	0.307	"	4.72	ND	88.5	75-125			
Silver	2.13	0.0236	"	2.36	0.0307	89.1	75-125			
Zinc	51.9	0.472	"	47.2	21.8	63.6	75-125			QM-05

Matrix Spike Dup (BFJ0756-MSD1)			Source: 2210217-05		Prepared & Analyzed: 10/27/22					
Arsenic	45.7	0.236	mg/kg dry	47.2	1.94	92.7	75-125	0.0795	25	
Barium	80.3	0.472	"	47.2	65.6	31.1	75-125	4.74	25	QM-05
Cadmium	2.09	0.236	"	2.36	0.141	82.5	75-125	1.90	25	
Copper	43.2	0.472	"	47.2	6.84	77.0	75-125	0.0832	25	
Lead	29.1	0.236	"	23.6	6.03	97.7	75-125	2.90	25	
Nickel	44.8	0.472	"	47.2	5.64	82.9	75-125	0.751	25	
Selenium	4.22	0.307	"	4.72	ND	89.3	75-125	0.889	25	
Silver	2.07	0.0236	"	2.36	0.0307	86.4	75-125	3.03	25	
Zinc	66.2	0.472	"	47.2	21.8	93.9	75-125	24.3	25	

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0769 - 3060A Mod**

**Blank (BFJ0769-BLK1)**

Prepared & Analyzed: 10/27/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFJ0769-BS1)**

Prepared & Analyzed: 10/27/22

Chromium, Hexavalent 25.0 0.30 mg/kg wet 25.0 99.8 80-120

**Duplicate (BFJ0769-DUP1)**

**Source: 2210428-01**

Prepared & Analyzed: 10/27/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFJ0769-MS1)**

**Source: 2210428-01**

Prepared & Analyzed: 10/27/22

Chromium, Hexavalent 36.8 0.30 mg/kg dry 39.6 ND 93.0 75-125

**Matrix Spike Dup (BFJ0769-MSD1)**

**Source: 2210428-01**

Prepared & Analyzed: 10/27/22

Chromium, Hexavalent 38.5 0.30 mg/kg dry 39.6 ND 97.4 75-125 4.62 20

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0779 - General Preparation**

**Blank (BFJ0779-BLK1)**

Prepared: 10/27/22 Analyzed: 10/28/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

**LCS (BFJ0779-BS1)**

Prepared: 10/27/22 Analyzed: 10/28/22

Calcium	5.79	0.0500	mg/L wet	5.00	116	70-130
Magnesium	5.56	0.0500	"	5.00	111	70-130
Sodium	5.29	0.0500	"	5.00	106	70-130

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0762 - General Preparation**

**Duplicate (BFJ0762-DUP1)**

**Source: 2210286-10**

**Prepared & Analyzed: 10/27/22**

% Solids	90.2	%		92.8		2.94	20
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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0817 - General Preparation**

**Blank (BFJ0817-BLK1)**

Prepared & Analyzed: 10/28/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFJ0817-BS1)**

Prepared & Analyzed: 10/28/22

Specific Conductance (EC) 0.149 0.0100 mmhos/cm 0.150 99.1 95-105

**Duplicate (BFJ0817-DUP1)**

**Source: 2210441-02**

Prepared & Analyzed: 10/28/22

Specific Conductance (EC) 0.358 0.0100 mmhos/cm 0.381 6.26 20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0816 - General Preparation**

**LCS (BFJ0816-BS1)**

Prepared & Analyzed: 10/28/22

pH	9.18	pH Units	9.18	100	95-105
----	------	----------	------	-----	--------

**Duplicate (BFJ0816-DUP1)**

Source: 2210441-02

Prepared & Analyzed: 10/28/22

pH	8.22	pH Units	8.23	0.122	20
----	------	----------	------	-------	----

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/31/22 15:03

### Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 02, 2022

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Miller 16-29  
Work Order #2210502

Enclosed are the results of analyses for samples received by Summit Scientific on 10/27/22 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W-N Wall 2 11 ft	2210502-01	Soil	10/27/22 00:00	10/27/22 16:00
E-N Wall 11 ft	2210502-02	Soil	10/27/22 00:00	10/27/22 16:00

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

2210802

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310

Page 1 of 1

Client: Fremont Environmental

Project Manager: Henderson

Address:

E-Mail: fremont env dist list (jeffg, paulh, ethanb), chrisl

City/State/Zip:

Bill To: Noble

Phone:

Project Name: Noble - Miller 16-29

Sampler Name: FB

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOCs (q15)	TPH (q15)	PAHs (q15)	TDS/Ci/SO4	SAR/EC/pH	Boron	Metals (q15)		
1	W-N WALL 21 FT	10/27/22		2			X							X	X	X		X	X	X	
2	E-N WALL 11 FT	1		2			X							X	X	X		X	X	X	
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <u>Ullrich</u>	Date/Time: <u>10/27/22 1532</u>	Received by: <u>SZ</u>	Date/Time: <u>10/27/22 1532</u>	<b>Turn Around Time</b> (Check) Same Day <input checked="" type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard 48 hours <input type="checkbox"/> <b>Sample Integrity:</b> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	<b>Notes:</b>
Relinquished by: <u>SZ</u>	Date/Time: <u>10/27/22 1600</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/27/22 1600</u>		
Temperature Upon Receipt: <u>-7.3</u>	Corrected Temperature: <u>0</u>	HNO3 lot #			
IR gun correction: <u>0</u>	IR gun #: <u>1</u>				

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2210502Client: FremontClient Project ID: Noble-miller 16-29Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

7.3

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

Custodian Printed Name

Date/Time

6-27-22



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

**W-N Wall 2 11 ft**  
**2210502-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0781	10/27/22	10/27/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		113 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0782	10/27/22	10/27/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		64.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

**W-N Wall 2 11 ft**  
**2210502-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0786	10/28/22	10/29/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		65.6 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.145</b>	0.0100	mg/L	1	BFJ0794	10/28/22	10/29/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
11/02/22 13:45

**W-N Wall 2 11 ft**  
**2210502-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.04	0.235	mg/kg dry	1	BFJ0789	10/28/22	10/28/22	EPA 6020B
Barium	66.6	0.469	"	"	"	"	"	"
Cadmium	ND	0.235	"	"	"	"	"	"
Copper	8.43	0.469	"	"	"	"	"	"
Lead	8.77	0.235	"	"	"	"	"	"
Nickel	6.55	0.469	"	"	"	"	"	"
Selenium	ND	0.305	"	"	"	"	"	"
Silver	0.0258	0.0235	"	"	"	"	"	"
Zinc	28.1	0.469	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0799	10/28/22	11/02/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.9	0.0587	mg/L dry	1	BFJ0818	10/28/22	10/31/22	EPA 6020B	
Magnesium	17.0	0.0587	"	"	"	"	"	"	
Sodium	25.8	0.0587	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.967	0.00100	units	1	BFK0012	11/01/22	11/01/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

**W-N Wall 2 11 ft**  
**2210502-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.2		%	1	BFJ0796	10/28/22	10/28/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.398	0.0100	mmhos/cm	1	BFJ0827	10/28/22	10/31/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.33		pH Units	1	BFJ0826	10/28/22	10/31/22	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
11/02/22 13:45

**E-N Wall 11 ft**  
**2210502-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0781	10/27/22	10/27/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		111 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0782	10/27/22	10/27/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		36.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

**E-N Wall 11 ft**  
**2210502-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0786	10/28/22	10/29/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		50.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		80.5 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.169</b>	0.0100	mg/L	1	BFJ0794	10/28/22	10/29/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
11/02/22 13:45

**E-N Wall 11 ft  
2210502-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.34	0.232	mg/kg dry	1	BFJ0789	10/28/22	10/28/22	EPA 6020B
Barium	81.9	0.465	"	"	"	"	"	"
Cadmium	0.474	0.232	"	"	"	"	"	"
Copper	4.58	0.465	"	"	"	"	"	"
Lead	7.26	0.232	"	"	"	"	"	"
Nickel	5.27	0.465	"	"	"	"	"	"
Selenium	ND	0.302	"	"	"	"	"	"
Silver	ND	0.0232	"	"	"	"	"	"
Zinc	24.1	0.465	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0799	10/28/22	11/02/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	35.5	0.0581	mg/L dry	1	BFJ0818	10/28/22	10/31/22	EPA 6020B	
Magnesium	36.9	0.0581	"	"	"	"	"	"	
Sodium	84.6	0.0581	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.37	0.00100	units	1	BFK0012	11/01/22	11/01/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

**E-N Wall 11 ft**  
**2210502-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.1		%	1	BFJ0796	10/28/22	10/28/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.802	0.0100	mmhos/cm	1	BFJ0827	10/28/22	10/31/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/27/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.15		pH Units	1	BFJ0826	10/28/22	10/31/22	EPA 9045D	

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0781 - EPA 5030 Soil MS

##### Blank (BFJ0781-BLK1)

Prepared & Analyzed: 10/27/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0415		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0451		"	0.0400		113	50-150			
Surrogate: 4-Bromofluorobenzene	0.0447		"	0.0400		112	50-150			

##### LCS (BFJ0781-BS1)

Prepared & Analyzed: 10/27/22

Benzene	0.0805	0.0020	mg/kg	0.100		80.5	70-130			
Toluene	0.0715	0.0050	"	0.100		71.5	70-130			
Ethylbenzene	0.0730	0.0050	"	0.100		73.0	70-130			
m,p-Xylene	0.145	0.010	"	0.200		72.6	70-130			
o-Xylene	0.0768	0.0050	"	0.100		76.8	70-130			
1,2,4-Trimethylbenzene	0.0851	0.0050	"	0.100		85.1	70-130			
1,3,5-Trimethylbenzene	0.0818	0.0050	"	0.100		81.8	70-130			
Naphthalene	0.109	0.0038	"	0.100		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0399		"	0.0400		99.8	50-150			
Surrogate: Toluene-d8	0.0447		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0442		"	0.0400		111	50-150			

##### Matrix Spike (BFJ0781-MS1)

Source: 2210494-02

Prepared: 10/27/22 Analyzed: 10/28/22

Benzene	0.0770	0.0020	mg/kg	0.100	ND	77.0	70-130			
Toluene	0.0711	0.0050	"	0.100	ND	71.1	70-130			
Ethylbenzene	0.0757	0.0050	"	0.100	ND	75.7	70-130			
m,p-Xylene	0.149	0.010	"	0.200	ND	74.6	70-130			
o-Xylene	0.0785	0.0050	"	0.100	ND	78.5	70-130			
1,2,4-Trimethylbenzene	0.0877	0.0050	"	0.100	ND	87.7	70-130			
1,3,5-Trimethylbenzene	0.0850	0.0050	"	0.100	ND	85.0	70-130			
Naphthalene	0.102	0.0038	"	0.100	ND	102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0415		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0442		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0438		"	0.0400		110	50-150			

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Project Number: [none]  
Project Manager: Paul Henchan

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11/02/22 13:45

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0781 - EPA 5030 Soil MS**

**Matrix Spike Dup (BFJ0781-MSD1)**

**Source: 2210494-02**

Prepared: 10/27/22 Analyzed: 10/28/22

Benzene	0.0814	0.0020	mg/kg	0.100	ND	81.4	70-130	5.65	30	
Toluene	0.0901	0.0050	"	0.100	ND	90.1	70-130	23.6	30	
Ethylbenzene	0.0794	0.0050	"	0.100	ND	79.4	70-130	4.80	30	
m,p-Xylene	0.166	0.010	"	0.200	ND	83.0	70-130	10.7	30	
o-Xylene	0.0827	0.0050	"	0.100	ND	82.7	70-130	5.14	30	
1,2,4-Trimethylbenzene	0.0797	0.0050	"	0.100	ND	79.7	70-130	9.57	30	
1,3,5-Trimethylbenzene	0.0930	0.0050	"	0.100	ND	93.0	70-130	9.00	30	
Naphthalene	0.0898	0.0038	"	0.100	ND	89.8	70-130	12.3	30	
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0557		"	0.0400		139	50-150			
Surrogate: 4-Bromofluorobenzene	0.0473		"	0.0400		118	50-150			

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0782 - EPA 3550A**

**Blank (BFJ0782-BLK1)**

Prepared & Analyzed: 10/27/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	8.64		"	12.5		69.2	30-150			

**LCS (BFJ0782-BS1)**

Prepared & Analyzed: 10/27/22

C10-C28 (DRO)	488	50	mg/kg	500		97.5	70-130			
Surrogate: o-Terphenyl	10.2		"	12.5		81.7	30-150			

**Matrix Spike (BFJ0782-MS1)**

Source: 2210494-02

Prepared & Analyzed: 10/27/22

C10-C28 (DRO)	412	50	mg/kg	500	31.1	76.3	70-130			
Surrogate: o-Terphenyl	7.68		"	12.5		61.4	30-150			

**Matrix Spike Dup (BFJ0782-MSD1)**

Source: 2210494-02

Prepared & Analyzed: 10/27/22

C10-C28 (DRO)	493	50	mg/kg	500	31.1	92.3	70-130	17.7	20	
Surrogate: o-Terphenyl	8.83		"	12.5		70.6	30-150			

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

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11/02/22 13:45

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Reporting				Spike	Source	%REC			RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0786 - EPA 5030 Soil MS

##### Blank (BFJ0786-BLK1)

Prepared & Analyzed: 10/28/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0235		"	0.0333		70.4	40-150			
Surrogate: Fluoranthene-d10	0.0296		"	0.0333		88.9	40-150			

##### LCS (BFJ0786-BS1)

Prepared & Analyzed: 10/28/22

Acenaphthene	0.0349	0.00500	mg/kg	0.0333	105	31-137
Anthracene	0.0358	0.00500	"	0.0333	107	30-120
Benzo (a) anthracene	0.0320	0.00500	"	0.0333	95.9	30-120
Benzo (a) pyrene	0.0308	0.00500	"	0.0333	92.5	30-120
Benzo (b) fluoranthene	0.0299	0.00500	"	0.0333	89.7	30-120
Benzo (k) fluoranthene	0.0302	0.00500	"	0.0333	90.6	30-120
Chrysene	0.0324	0.00500	"	0.0333	97.3	30-120
Dibenz (a,h) anthracene	0.0285	0.00500	"	0.0333	85.6	30-120
Fluoranthene	0.0336	0.00500	"	0.0333	101	30-120
Fluorene	0.0342	0.00500	"	0.0333	103	30-120
Indeno (1,2,3-cd) pyrene	0.0289	0.00500	"	0.0333	86.6	30-120
Pyrene	0.0321	0.00500	"	0.0333	96.2	35-142
1-Methylnaphthalene	0.0316	0.00500	"	0.0333	94.7	35-142
2-Methylnaphthalene	0.0271	0.00500	"	0.0333	81.3	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0304		"	0.0333	91.1	40-150
Surrogate: Fluoranthene-d10	0.0355		"	0.0333	107	40-150

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

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## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0786 - EPA 5030 Soil MS

##### Matrix Spike (BFJ0786-MS1)

Source: 2210442-01

Prepared & Analyzed: 10/28/22

Acenaphthene	0.0225	0.00500	mg/kg	0.0333	ND	67.4	31-137				
Anthracene	0.0222	0.00500	"	0.0333	ND	66.7	30-120				
Benzo (a) anthracene	0.0187	0.00500	"	0.0333	ND	56.1	30-120				
Benzo (a) pyrene	0.0170	0.00500	"	0.0333	ND	51.0	30-120				
Benzo (b) fluoranthene	0.0168	0.00500	"	0.0333	ND	50.4	30-120				
Benzo (k) fluoranthene	0.0173	0.00500	"	0.0333	ND	52.0	30-120				
Chrysene	0.0189	0.00500	"	0.0333	ND	56.7	30-120				
Dibenz (a,h) anthracene	0.0155	0.00500	"	0.0333	ND	46.5	30-120				
Fluoranthene	0.0220	0.00500	"	0.0333	ND	66.0	30-120				
Fluorene	0.0222	0.00500	"	0.0333	ND	66.6	30-120				
Indeno (1,2,3-cd) pyrene	0.0158	0.00500	"	0.0333	ND	47.3	30-120				
Pyrene	0.0190	0.00500	"	0.0333	ND	56.8	35-142				
1-Methylnaphthalene	0.0193	0.00500	"	0.0333	ND	58.0	15-130				
2-Methylnaphthalene	0.0206	0.00500	"	0.0333	ND	61.9	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0174		"	0.0333		52.1	40-150				
Surrogate: Fluoranthene-d10	0.0222		"	0.0333		66.5	40-150				

##### Matrix Spike Dup (BFJ0786-MSD1)

Source: 2210442-01

Prepared & Analyzed: 10/28/22

Acenaphthene	0.0224	0.00500	mg/kg	0.0333	ND	67.2	31-137	0.244	30
Anthracene	0.0231	0.00500	"	0.0333	ND	69.4	30-120	3.89	30
Benzo (a) anthracene	0.0208	0.00500	"	0.0333	ND	62.3	30-120	10.5	30
Benzo (a) pyrene	0.0191	0.00500	"	0.0333	ND	57.4	30-120	11.8	30
Benzo (b) fluoranthene	0.0187	0.00500	"	0.0333	ND	56.0	30-120	10.5	30
Benzo (k) fluoranthene	0.0192	0.00500	"	0.0333	ND	57.6	30-120	10.2	30
Chrysene	0.0208	0.00500	"	0.0333	ND	62.4	30-120	9.53	30
Dibenz (a,h) anthracene	0.0173	0.00500	"	0.0333	ND	52.0	30-120	11.1	30
Fluoranthene	0.0226	0.00500	"	0.0333	ND	67.9	30-120	2.84	30
Fluorene	0.0224	0.00500	"	0.0333	ND	67.2	30-120	0.767	30
Indeno (1,2,3-cd) pyrene	0.0177	0.00500	"	0.0333	ND	53.2	30-120	11.7	30
Pyrene	0.0201	0.00500	"	0.0333	ND	60.4	35-142	5.99	30
1-Methylnaphthalene	0.0206	0.00500	"	0.0333	ND	61.8	15-130	6.37	50
2-Methylnaphthalene	0.0229	0.00500	"	0.0333	ND	68.7	15-130	10.4	50
Surrogate: 2-Methylnaphthalene-d10	0.0188		"	0.0333		56.3	40-150		
Surrogate: Fluoranthene-d10	0.0230		"	0.0333		68.9	40-150		

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0794 - EPA 3050B**

**Blank (BFJ0794-BLK1)**

Prepared: 10/28/22 Analyzed: 10/29/22

Boron ND 0.0100 mg/L

**LCS (BFJ0794-BS1)**

Prepared: 10/28/22 Analyzed: 10/29/22

Boron 5.52 0.0100 mg/L 5.00 110 80-120

**Duplicate (BFJ0794-DUP1)**

**Source: 2210442-06**

Prepared: 10/28/22 Analyzed: 10/29/22

Boron 0.0575 0.0100 mg/L 0.0663 14.2 20

**Matrix Spike (BFJ0794-MS1)**

**Source: 2210442-06**

Prepared: 10/28/22 Analyzed: 10/29/22

Boron 5.75 0.0100 mg/L 5.00 0.0663 114 75-125

**Matrix Spike Dup (BFJ0794-MSD1)**

**Source: 2210442-06**

Prepared: 10/28/22 Analyzed: 10/29/22

Boron 5.56 0.0100 mg/L 5.00 0.0663 110 75-125 3.36 25

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units			Level	Result	%REC	Limits	RPD

#### Batch BFJ0789 - EPA 3050B

##### Blank (BFJ0789-BLK1)

Prepared & Analyzed: 10/28/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

##### LCS (BFJ0789-BS1)

Prepared & Analyzed: 10/28/22

Arsenic	32.7	0.200	mg/kg wet	40.0	81.8	80-120
Barium	38.6	0.400	"	40.0	96.6	80-120
Cadmium	1.80	0.200	"	2.00	90.0	80-120
Copper	34.1	0.400	"	40.0	85.2	80-120
Lead	18.4	0.200	"	20.0	92.1	80-120
Nickel	32.8	0.400	"	40.0	82.0	80-120
Selenium	4.33	0.260	"	4.00	108	80-120
Silver	1.87	0.0200	"	2.00	93.5	80-120
Zinc	33.5	0.400	"	40.0	83.7	80-120

##### Duplicate (BFJ0789-DUP1)

Source: 2210448-08

Prepared & Analyzed: 10/28/22

Arsenic	0.713	0.227	mg/kg dry	0.723	1.33	20
Barium	45.0	0.454	"	45.5	1.17	20
Cadmium	0.103	0.227	"	0.0908	12.6	20
Copper	5.31	0.454	"	5.10	3.99	20
Lead	6.56	0.227	"	6.62	0.813	20
Nickel	3.22	0.454	"	3.09	3.97	20
Selenium	ND	0.295	"	ND		20
Silver	0.0431	0.0227	"	0.0409	5.41	20
Zinc	16.3	0.454	"	15.8	3.05	20

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0789 - EPA 3050B

Matrix Spike (BFJ0789-MS1)			Source: 2210448-08		Prepared & Analyzed: 10/28/22						
Arsenic	17.5	0.227	mg/kg dry	45.4	0.723	36.8	75-125				QM-05
Barium	62.6	0.454	"	45.4	45.5	37.6	75-125				QM-05
Cadmium	1.51	0.227	"	2.27	0.0908	62.5	75-125				QM-05
Copper	34.2	0.454	"	45.4	5.10	64.0	75-125				QM-05
Lead	20.0	0.227	"	22.7	6.62	58.7	75-125				QM-05
Nickel	31.5	0.454	"	45.4	3.09	62.4	75-125				QM-05
Selenium	3.26	0.295	"	4.54	ND	71.9	75-125				QM-05
Silver	1.52	0.0227	"	2.27	0.0409	65.0	75-125				QM-05
Zinc	44.1	0.454	"	45.4	15.8	62.2	75-125				QM-05

Matrix Spike Dup (BFJ0789-MSD1)			Source: 2210448-08		Prepared & Analyzed: 10/28/22						
Arsenic	17.6	0.227	mg/kg dry	45.4	0.723	37.1	75-125	0.615	25		QM-05
Barium	62.6	0.454	"	45.4	45.5	37.6	75-125	0.0203	25		QM-05
Cadmium	1.49	0.227	"	2.27	0.0908	61.6	75-125	1.36	25		QM-05
Copper	35.9	0.454	"	45.4	5.10	67.7	75-125	4.79	25		QM-05
Lead	19.7	0.227	"	22.7	6.62	57.6	75-125	1.27	25		QM-05
Nickel	33.0	0.454	"	45.4	3.09	65.7	75-125	4.66	25		QM-05
Selenium	3.28	0.295	"	4.54	ND	72.3	75-125	0.610	25		QM-05
Silver	1.51	0.0227	"	2.27	0.0409	64.5	75-125	0.691	25		QM-05
Zinc	46.3	0.454	"	45.4	15.8	67.2	75-125	5.03	25		QM-05

Post Spike (BFJ0789-PS1)			Source: 2210448-08		Prepared & Analyzed: 10/28/22						
Arsenic	54.4		ug/l	100	1.59	52.8	75-125				QM-05

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0799 - 3060A Mod**

**Blank (BFJ0799-BLK1)**

Prepared: 10/28/22 Analyzed: 11/02/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFJ0799-BS1)**

Prepared: 10/28/22 Analyzed: 11/02/22

Chromium, Hexavalent 26.8 0.30 mg/kg wet 25.0 107 80-120

**Duplicate (BFJ0799-DUP1)**

**Source: 2210446-01**

Prepared: 10/28/22 Analyzed: 11/02/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFJ0799-MS1)**

**Source: 2210446-01**

Prepared: 10/28/22 Analyzed: 11/02/22

Chromium, Hexavalent 33.9 0.30 mg/kg dry 28.4 ND 120 75-125

**Matrix Spike Dup (BFJ0799-MSD1)**

**Source: 2210446-01**

Prepared: 10/28/22 Analyzed: 11/02/22

Chromium, Hexavalent 34.8 0.30 mg/kg dry 28.4 ND 123 75-125 2.64 20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0818 - General Preparation**

**Blank (BFJ0818-BLK1)**

Prepared: 10/28/22 Analyzed: 10/31/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

**LCS (BFJ0818-BS1)**

Prepared: 10/28/22 Analyzed: 10/31/22

Calcium	5.00	0.0500	mg/L wet	5.00	100	70-130
Magnesium	5.54	0.0500	"	5.00	111	70-130
Sodium	5.55	0.0500	"	5.00	111	70-130

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

### Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

#### Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0796 - General Preparation

##### Duplicate (BFJ0796-DUP1)

Source: 2210448-08

Prepared & Analyzed: 10/28/22

% Solids	88.2	%		88.1		0.101	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0827 - General Preparation**

**Blank (BFJ0827-BLK1)**

Prepared: 10/28/22 Analyzed: 10/31/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFJ0827-BS1)**

Prepared: 10/28/22 Analyzed: 10/31/22

Specific Conductance (EC) 0.154 0.0100 mmhos/cm 0.150 103 95-105

**Duplicate (BFJ0827-DUP1)**

**Source: 2210478-01**

Prepared: 10/28/22 Analyzed: 10/31/22

Specific Conductance (EC) 0.809 0.0100 mmhos/cm 0.834 3.13 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0826 - General Preparation**

**LCS (BFJ0826-BS1)**

Prepared: 10/28/22 Analyzed: 10/31/22

pH	9.03	pH Units	9.18	98.4	95-105
----	------	----------	------	------	--------

**Duplicate (BFJ0826-DUP1)**

**Source: 2210478-01**

Prepared: 10/28/22 Analyzed: 10/31/22

pH	8.34	pH Units	8.28	0.722	20
----	------	----------	------	-------	----

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/02/22 13:45

### Notes and Definitions

QM-05     The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.

DET        Analyte DETECTED

ND        Analyte NOT DETECTED at or above the reporting limit

NR        Not Reported

dry        Sample results reported on a dry weight basis

RPD        Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 01, 2022

Paul Henehan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Miller 16-29  
Work Order #2210538

Enclosed are the results of analyses for samples received by Summit Scientific on 10/28/22 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mikayla Axtell", is written over a light gray rectangular background.

Mikayla Axtell For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E-S Wall 11 ft	2210538-01	Soil	10/28/22 00:00	10/28/22 16:00
Floor E 13 ft	2210538-02	Soil	10/28/22 00:00	10/28/22 16:00

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

2210538

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: Fremont Environmental

Project Manager: Henehan

Address:

E-Mail: fremont env dist list (jeffg, paulh, ethanb), chrisl

City/State/Zip:

Bill To: Noble

Phone:

Project Name: Noble-Miller 16-29

Sampler Name: EB

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOCs (q15)	TPH (q15)	PAHs (q15)	TDS/Cl/SO4	SAR/EC/pH	BORON	METALS (q15)		
1	E-S WALL 11FT	10/28/22		2			X			X				X	X	X		X	X	X	
2	FLOOR E 13FT	I		2			X			X				X	X	X		X	X	X	
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <u>Ethan Henehan</u>	Date/Time: <u>10/28/22 1445</u>	Received by: <u>SZ</u>	Date/Time: <u>10/28/22 1445</u>	Turn Around Time (Check)	Notes:	
Relinquished by: <u>SC</u>	Date/Time: <u>10/28/22 1600</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/28/22 1600</u>	Same Day <input checked="" type="checkbox"/> 72 hours		
				24 hours <input type="checkbox"/>		
				48 hours <input type="checkbox"/>		
Temperature Upon Receipt: <u>7.6</u>				Corrected Temperature: <u>0</u>	HNO3 lot #	Sample Integrity: <u>Yes</u> No
IR gun correction: <u>0</u>				IR gun #: <u>1</u>		

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2210538Client: Fremont Client Project ID: Noble-miller 11-29Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #:                     

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 7.6 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

Custodian Printed Name

10-28-22  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**E-S Wall 11 ft  
2210538-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0823	10/28/22	10/29/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		111 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0824	10/28/22	10/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		80.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**E-S Wall 11 ft**  
**2210538-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0831	10/31/22	10/31/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		76.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		79.0 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0210</b>	0.0100	mg/L	1	BFJ0832	10/31/22	10/31/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
11/01/22 16:51

**E-S Wall 11 ft  
2210538-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.93	0.239	mg/kg dry	1	BFJ0847	10/31/22	10/31/22	EPA 6020B
Barium	44.8	0.478	"	"	"	"	"	"
Cadmium	0.424	0.239	"	"	"	"	"	"
Copper	7.32	0.478	"	"	"	"	"	"
Lead	8.97	0.239	"	"	"	"	"	"
Nickel	5.84	0.478	"	"	"	"	"	"
Selenium	ND	0.310	"	"	"	"	"	"
Silver	ND	0.0239	"	"	"	"	"	"
Zinc	29.7	0.478	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0850	10/31/22	10/31/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	57.0	0.0597	mg/L dry	1	BFJ0830	10/29/22	11/01/22	EPA 6020B	
Magnesium	21.1	0.0597	"	"	"	"	"	"	
Sodium	102	0.0597	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.93	0.00100	units	1	BFK0031	11/01/22	11/01/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**E-S Wall 11 ft  
2210538-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.7		%	1	BFJ0845	10/31/22	10/31/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.913	0.0100	mmhos/cm	1	BFJ0841	10/31/22	10/31/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94		pH Units	1	BFJ0842	10/31/22	10/31/22	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**Floor E 13 ft**  
**2210538-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0823	10/28/22	10/29/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0824	10/28/22	10/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		80.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**Floor E 13 ft**  
**2210538-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0831	10/31/22	11/01/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		69.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		72.6 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.107</b>	0.0100	mg/L	1	BFJ0832	10/31/22	10/31/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
11/01/22 16:51

**Floor E 13 ft**  
**2210538-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.21	0.244	mg/kg dry	1	BFJ0847	10/31/22	10/31/22	EPA 6020B
Barium	23.9	0.488	"	"	"	"	"	"
Cadmium	0.325	0.244	"	"	"	"	"	"
Copper	5.07	0.488	"	"	"	"	"	"
Lead	6.31	0.244	"	"	"	"	"	"
Nickel	4.61	0.488	"	"	"	"	"	"
Selenium	ND	0.317	"	"	"	"	"	"
Silver	ND	0.0244	"	"	"	"	"	"
Zinc	23.5	0.488	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0850	10/31/22	10/31/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	52.6	0.0610	mg/L dry	1	BFJ0830	10/29/22	11/01/22	EPA 6020B	
Magnesium	42.4	0.0610	"	"	"	"	"	"	
Sodium	153	0.0610	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.81	0.00100	units	1	BFK0031	11/01/22	11/01/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**Floor E 13 ft**  
**2210538-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.0		%	1	BFJ0845	10/31/22	10/31/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.11	0.0100	mmhos/cm	1	BFJ0841	10/31/22	10/31/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **10/28/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.02		pH Units	1	BFJ0842	10/31/22	10/31/22	EPA 9045D	

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0823 - EPA 5030 Soil MS

##### Blank (BFJ0823-BLK1)

Prepared: 10/28/22 Analyzed: 10/29/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0406		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0443		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0436		"	0.0400		109	50-150			

##### LCS (BFJ0823-BS1)

Prepared: 10/28/22 Analyzed: 10/29/22

Benzene	0.0826	0.0020	mg/kg	0.100		82.6	70-130			
Toluene	0.0808	0.0050	"	0.100		80.8	70-130			
Ethylbenzene	0.0763	0.0050	"	0.100		76.3	70-130			
m,p-Xylene	0.151	0.010	"	0.200		75.5	70-130			
o-Xylene	0.0761	0.0050	"	0.100		76.1	70-130			
1,2,4-Trimethylbenzene	0.0847	0.0050	"	0.100		84.7	70-130			
1,3,5-Trimethylbenzene	0.0794	0.0050	"	0.100		79.4	70-130			
Naphthalene	0.105	0.0038	"	0.100		105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0414		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0469		"	0.0400		117	50-150			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	50-150			

##### Matrix Spike (BFJ0823-MS1)

Source: 2210538-01

Prepared: 10/28/22 Analyzed: 10/29/22

Benzene	0.0810	0.0020	mg/kg	0.100	ND	81.0	70-130			
Toluene	0.0813	0.0050	"	0.100	ND	81.3	70-130			
Ethylbenzene	0.0768	0.0050	"	0.100	ND	76.8	70-130			
m,p-Xylene	0.156	0.010	"	0.200	ND	78.2	70-130			
o-Xylene	0.0806	0.0050	"	0.100	ND	80.6	70-130			
1,2,4-Trimethylbenzene	0.0896	0.0050	"	0.100	ND	89.6	70-130			
1,3,5-Trimethylbenzene	0.0845	0.0050	"	0.100	ND	84.5	70-130			
Naphthalene	0.104	0.0038	"	0.100	ND	104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0431		"	0.0400		108	50-150			
Surrogate: Toluene-d8	0.0492		"	0.0400		123	50-150			
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	50-150			

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

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## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0823 - EPA 5030 Soil MS

##### Matrix Spike Dup (BFJ0823-MSD1)

Source: 2210538-01

Prepared: 10/28/22 Analyzed: 10/29/22

Benzene	0.0828	0.0020	mg/kg	0.100	ND	82.8	70-130	2.16	30	
Toluene	0.0802	0.0050	"	0.100	ND	80.2	70-130	1.37	30	
Ethylbenzene	0.0759	0.0050	"	0.100	ND	75.9	70-130	1.22	30	
m,p-Xylene	0.155	0.010	"	0.200	ND	77.4	70-130	1.06	30	
o-Xylene	0.0784	0.0050	"	0.100	ND	78.4	70-130	2.76	30	
1,2,4-Trimethylbenzene	0.0895	0.0050	"	0.100	ND	89.5	70-130	0.100	30	
1,3,5-Trimethylbenzene	0.0833	0.0050	"	0.100	ND	83.3	70-130	1.36	30	
Naphthalene	0.112	0.0038	"	0.100	ND	112	70-130	7.67	30	
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0491		"	0.0400		123	50-150			
Surrogate: 4-Bromofluorobenzene	0.0419		"	0.0400		105	50-150			

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0824 - EPA 3550A**

**Blank (BFJ0824-BLK1)**

Prepared: 10/28/22 Analyzed: 10/29/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	10.1		"	12.5		80.6	30-150			

**LCS (BFJ0824-BS1)**

Prepared: 10/28/22 Analyzed: 10/29/22

C10-C28 (DRO)	472	50	mg/kg	500		94.3	70-130			
Surrogate: o-Terphenyl	11.5		"	12.5		91.7	30-150			

**Matrix Spike (BFJ0824-MS1)**

Source: 2210538-01

Prepared: 10/28/22 Analyzed: 10/29/22

C10-C28 (DRO)	460	50	mg/kg	500	26.8	86.7	70-130			
Surrogate: o-Terphenyl	11.5		"	12.5		92.0	30-150			

**Matrix Spike Dup (BFJ0824-MSD1)**

Source: 2210538-01

Prepared: 10/28/22 Analyzed: 10/29/22

C10-C28 (DRO)	511	50	mg/kg	500	26.8	96.8	70-130	10.4	20	
Surrogate: o-Terphenyl	10.8		"	12.5		86.5	30-150			

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0832 - EPA 3050B**

**Blank (BFJ0832-BLK1)**

Prepared & Analyzed: 10/31/22

Boron ND 0.0100 mg/L

**LCS (BFJ0832-BS1)**

Prepared & Analyzed: 10/31/22

Boron 8.13 0.0100 mg/L 10.0 81.3 80-120

**Duplicate (BFJ0832-DUP1)**

**Source: 2210538-01**

Prepared & Analyzed: 10/31/22

Boron 0.0183 0.0100 mg/L 0.0210 14.1 20

**Matrix Spike (BFJ0832-MS1)**

**Source: 2210538-01**

Prepared & Analyzed: 10/31/22

Boron 8.38 0.0100 mg/L 10.0 0.0210 83.6 75-125

**Matrix Spike Dup (BFJ0832-MSD1)**

**Source: 2210538-01**

Prepared & Analyzed: 10/31/22

Boron 8.47 0.0100 mg/L 10.0 0.0210 84.5 75-125 1.02 25

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0847 - EPA 3050B

##### Blank (BFJ0847-BLK1)

Prepared & Analyzed: 10/31/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

##### LCS (BFJ0847-BS1)

Prepared & Analyzed: 10/31/22

Arsenic	43.8	0.200	mg/kg wet	40.0	109	80-120
Barium	32.5	0.400	"	40.0	81.3	80-120
Cadmium	1.62	0.200	"	2.00	80.9	80-120
Copper	44.8	0.400	"	40.0	112	80-120
Lead	19.6	0.200	"	20.0	97.9	80-120
Nickel	42.3	0.400	"	40.0	106	80-120
Selenium	4.55	0.260	"	4.00	114	80-120
Silver	1.76	0.0200	"	2.00	88.2	80-120
Zinc	42.6	0.400	"	40.0	106	80-120

##### Duplicate (BFJ0847-DUP1)

Source: 2210484-01

Prepared & Analyzed: 10/31/22

Arsenic	0.967	0.215	mg/kg dry	0.972	0.531	20
Barium	151	0.429	"	147	2.97	20
Cadmium	0.152	0.215	"	0.149	2.00	20
Copper	4.83	0.429	"	5.01	3.71	20
Lead	4.70	0.215	"	4.63	1.53	20
Nickel	3.70	0.429	"	3.54	4.50	20
Selenium	ND	0.279	"	ND		20
Silver	0.0279	0.0215	"	0.0275	1.55	20
Zinc	18.7	0.429	"	18.5	1.03	20

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

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### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFJ0847 - EPA 3050B

Matrix Spike (BFJ0847-MS1)		Source: 2210484-01			Prepared & Analyzed: 10/31/22					
Arsenic	22.0	0.215	mg/kg dry	42.9	0.972	49.0	75-125			QM-05
Barium	295	0.429	"	42.9	147	345	75-125			QM-05
Cadmium	1.88	0.215	"	2.15	0.149	80.7	75-125			QM-05
Copper	44.5	0.429	"	42.9	5.01	92.0	75-125			
Lead	20.0	0.215	"	21.5	4.63	71.8	75-125			QM-05
Nickel	42.2	0.429	"	42.9	3.54	90.0	75-125			
Selenium	5.00	0.279	"	4.29	ND	117	75-125			
Silver	1.87	0.0215	"	2.15	0.0275	86.0	75-125			
Zinc	56.4	0.429	"	42.9	18.5	88.3	75-125			

Matrix Spike Dup (BFJ0847-MSD1)		Source: 2210484-01			Prepared & Analyzed: 10/31/22					
Arsenic	22.7	0.215	mg/kg dry	42.9	0.972	50.6	75-125	3.19	25	QM-05
Barium	434	0.429	"	42.9	147	668	75-125	38.1	25	QM-05
Cadmium	1.91	0.215	"	2.15	0.149	82.1	75-125	1.65	25	
Copper	45.9	0.429	"	42.9	5.01	95.3	75-125	3.07	25	
Lead	19.7	0.215	"	21.5	4.63	70.3	75-125	1.64	25	QM-05
Nickel	43.2	0.429	"	42.9	3.54	92.3	75-125	2.31	25	
Selenium	5.20	0.279	"	4.29	ND	121	75-125	3.86	25	
Silver	1.86	0.0215	"	2.15	0.0275	85.3	75-125	0.805	25	
Zinc	58.9	0.429	"	42.9	18.5	94.1	75-125	4.32	25	

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0850 - 3060A Mod**

**Blank (BFJ0850-BLK1)**

Prepared & Analyzed: 10/31/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFJ0850-BS1)**

Prepared & Analyzed: 10/31/22

Chromium, Hexavalent 21.2 0.30 mg/kg wet 25.0 85.0 80-120

**Duplicate (BFJ0850-DUP1)**

**Source: 2210551-07**

Prepared & Analyzed: 10/31/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFJ0850-MS1)**

**Source: 2210551-07**

Prepared & Analyzed: 10/31/22

Chromium, Hexavalent 33.6 0.30 mg/kg dry 29.1 ND 115 75-125

**Matrix Spike Dup (BFJ0850-MSD1)**

**Source: 2210551-07**

Prepared & Analyzed: 10/31/22

Chromium, Hexavalent 42.7 0.30 mg/kg dry 29.1 ND 147 75-125 23.8 20 QM-05

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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0830 - General Preparation**

**Blank (BFJ0830-BLK1)**

Prepared: 10/29/22 Analyzed: 11/01/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

**LCS (BFJ0830-BS1)**

Prepared: 10/29/22 Analyzed: 11/01/22

Calcium	4.61	0.0500	mg/L wet	5.00	92.2	70-130
Magnesium	6.10	0.0500	"	5.00	122	70-130
Sodium	6.07	0.0500	"	5.00	121	70-130

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PO Box 1289  
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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0845 - General Preparation**

**Duplicate (BFJ0845-DUP1)**

**Source: 2210484-01**

Prepared & Analyzed: 10/31/22

% Solids	77.3	%		93.2		18.6	20
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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0841 - General Preparation**

**Blank (BFJ0841-BLK1)**

Prepared & Analyzed: 10/31/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFJ0841-BS1)**

Prepared & Analyzed: 10/31/22

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.7 95-105

**Duplicate (BFJ0841-DUP1)**

**Source: 2210538-01**

Prepared & Analyzed: 10/31/22

Specific Conductance (EC) 0.896 0.0100 mmhos/cm 0.913 1.94 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
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Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFJ0842 - General Preparation**

**LCS (BFJ0842-BS1)**

Prepared & Analyzed: 10/31/22

pH	9.02	pH Units	9.18	98.3	95-105
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**Duplicate (BFJ0842-DUP1)**

Source: 2210538-01

Prepared & Analyzed: 10/31/22

pH	8.00	pH Units	7.94	0.753	20
----	------	----------	------	-------	----

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/01/22 16:51

### Notes and Definitions

QM-05     The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.

DET        Analyte DETECTED

ND        Analyte NOT DETECTED at or above the reporting limit

NR        Not Reported

dry        Sample results reported on a dry weight basis

RPD        Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 09, 2022

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Miller 16-29  
Work Order #2211044

Enclosed are the results of analyses for samples received by Summit Scientific on 11/02/22 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mikayla Axtell", is written over a light gray rectangular background.

Mikayla Axtell For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BKG 11ft	2211044-01	Soil	11/02/22 00:00	11/02/22 16:00
Backfill 1	2211044-02	Soil	11/02/22 00:00	11/02/22 16:00

Summit Scientific

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# Summit Scientific

2211044

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: Fremont Environmental

Project Manager: Henderson

Address:

E-Mail: fremont env dist list (jeffg, paulh, ethanb), chrisl

City/State/Zip:

Bill To: Noble - Dan

Phone:

Project Name: Noble - Miller 16-29

Sampler Name: FB

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOCs (q15)	TPH (q15)	PAHs (q15)	TDS/Cl/SO <sub>4</sub>	SAR/EC/pH	BORON	METALS (q15)	
1	BKG IFT	11/2/22		2			X			X										
2	Back fill	↓		2			X			X										
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: <u>[Signature]</u>	Date/Time: <u>11/2/22 1500</u>	Received by: <u>Sz</u>	Date/Time: <u>11/2/22 1500</u>	<b>Turn Around Time (Check)</b> Same Day _____ 72 hours _____ 24 hours _____ Standard <u>X</u> 48 hours _____ <b>Sample Integrity:</b> Samples Intact: <u>Yes</u> No _____	<b>Notes:</b>
Relinquished by: <u>Sz</u>	Date/Time: <u>11/2/22 1600</u>	Received by: <u>[Signature]</u>	Date/Time: <u>11/2/22 1600</u>		
Temperature Upon Receipt: <u>6.8</u>	Corrected Temperature <u>6.8</u>	HNO3 lot # _____			
IR gun correction: <u>0</u>		IR gun #: <u>1</u>			

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order#

2211044

Client: FremontClient Project ID: Noble-Miller 16-29

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

☐ ☐ ☐ ☐ ☐

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

6.8

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

Custodian Printed Name

Date/Time

11-2-22 1600



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

**BKG 11ft**  
**2211044-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0916	0.0100	mg/L	1	BFK0108	11/03/22	11/04/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.40	0.206	mg/kg dry	1	BFK0087	11/03/22	11/03/22	EPA 6020B	
Barium	67.2	0.411	"	"	"	"	"	"	
Cadmium	0.234	0.206	"	"	"	"	"	"	
Copper	5.02	0.411	"	"	"	"	"	"	
Lead	6.50	0.206	"	"	"	"	"	"	
Nickel	4.74	0.411	"	"	"	"	"	"	
Selenium	ND	0.267	"	"	"	"	"	"	
Silver	0.0267	0.0206	"	"	"	"	"	"	
Zinc	17.4	0.411	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0089	11/03/22	11/04/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	57.8	0.0514	mg/L dry	1	BFK0152	11/05/22	11/08/22	EPA 6020B	
Magnesium	17.9	0.0514	"	"	"	"	"	"	
Sodium	33.1	0.0514	"	"	"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henahan

**Reported:**  
11/09/22 12:44

**BKG 11ft**  
**2211044-01 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.975	0.00100	units	1	BFK0232	11/09/22	11/09/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.3		%	1	BFK0133	11/04/22	11/05/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.603	0.0100	mmhos/cm	1	BFK0159	11/06/22	11/06/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.14		pH Units	1	BFK0158	11/06/22	11/06/22	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

**Backfill 1**  
**2211044-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFK0081	11/03/22	11/03/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0083	11/03/22	11/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		95.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

**Backfill 1**  
**2211044-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0085	11/03/22	11/04/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		65.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		51.2 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0950	0.0100	mg/L	1	BFK0108	11/03/22	11/04/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

**Backfill 1**  
**2211044-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.43	0.214	mg/kg dry	1	BFK0087	11/03/22	11/03/22	EPA 6020B
Barium	85.2	0.427	"	"	"	"	"	"
Cadmium	0.248	0.214	"	"	"	"	"	"
Copper	6.06	0.427	"	"	"	"	"	"
Lead	8.35	0.214	"	"	"	"	"	"
Nickel	5.18	0.427	"	"	"	"	"	"
Selenium	ND	0.278	"	"	"	"	"	"
Silver	0.0333	0.0214	"	"	"	"	"	"
Zinc	20.1	0.427	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/02/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0089	11/03/22	11/04/22	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: 11/02/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	48.8	0.0534	mg/L dry	1	BFK0152	11/05/22	11/08/22	EPA 6020B	
Magnesium	19.5	0.0534	"	"	"	"	"	"	
Sodium	36.9	0.0534	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/02/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.13	0.00100	units	1	BFK0232	11/09/22	11/09/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 11/02/22 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

**Backfill 1**  
**2211044-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	93.7	%	1	BFK0133	11/04/22	11/05/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.614	0.0100	mmhos/cm	1	BFK0159	11/06/22	11/06/22	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **11/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.13		pH Units	1	BFK0158	11/06/22	11/06/22	EPA 9045D	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFK0081 - EPA 5030 Soil MS

##### Blank (BFK0081-BLK1)

Prepared & Analyzed: 11/03/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0322		"	0.0400		80.6	50-150			
Surrogate: Toluene-d8	0.0461		"	0.0400		115	50-150			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	50-150			

##### LCS (BFK0081-BS1)

Prepared & Analyzed: 11/03/22

Benzene	0.0662	0.0020	mg/kg	0.0750		88.2	70-130			
Toluene	0.0672	0.0050	"	0.0750		89.6	70-130			
Ethylbenzene	0.0748	0.0050	"	0.0750		99.8	70-130			
m,p-Xylene	0.152	0.010	"	0.150		102	70-130			
o-Xylene	0.0754	0.0050	"	0.0750		101	70-130			
1,2,4-Trimethylbenzene	0.0826	0.0050	"	0.0750		110	70-130			
1,3,5-Trimethylbenzene	0.0824	0.0050	"	0.0750		110	70-130			
Naphthalene	0.0781	0.0038	"	0.0750		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0324		"	0.0400		80.9	50-150			
Surrogate: Toluene-d8	0.0430		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	50-150			

##### Matrix Spike (BFK0081-MS1)

Source: 2211035-01

Prepared & Analyzed: 11/03/22

Benzene	0.0719	0.0020	mg/kg	0.0750	ND	95.9	70-130			
Toluene	0.0698	0.0050	"	0.0750	ND	93.0	70-130			
Ethylbenzene	0.0709	0.0050	"	0.0750	ND	94.5	70-130			
m,p-Xylene	0.145	0.010	"	0.150	ND	96.9	70-130			
o-Xylene	0.0755	0.0050	"	0.0750	ND	101	70-130			
1,2,4-Trimethylbenzene	0.0838	0.0050	"	0.0750	ND	112	70-130			
1,3,5-Trimethylbenzene	0.0802	0.0050	"	0.0750	ND	107	70-130			
Naphthalene	0.0783	0.0038	"	0.0750	ND	104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0362		"	0.0400		90.6	50-150			
Surrogate: Toluene-d8	0.0435		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0420		"	0.0400		105	50-150			

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFK0081 - EPA 5030 Soil MS**

Matrix Spike Dup (BFK0081-MSD1)		Source: 2211035-01			Prepared & Analyzed: 11/03/22					
Benzene	0.0698	0.0020	mg/kg	0.0750	ND	93.0	70-130	3.05	30	
Toluene	0.0692	0.0050	"	0.0750	ND	92.3	70-130	0.777	30	
Ethylbenzene	0.0722	0.0050	"	0.0750	ND	96.3	70-130	1.89	30	
m,p-Xylene	0.147	0.010	"	0.150	ND	98.2	70-130	1.31	30	
o-Xylene	0.0756	0.0050	"	0.0750	ND	101	70-130	0.119	30	
1,2,4-Trimethylbenzene	0.0853	0.0050	"	0.0750	ND	114	70-130	1.77	30	
1,3,5-Trimethylbenzene	0.0819	0.0050	"	0.0750	ND	109	70-130	2.04	30	
Naphthalene	0.0768	0.0038	"	0.0750	ND	102	70-130	1.97	30	
Surrogate: 1,2-Dichloroethane-d4		0.0343	"	0.0400		85.8	50-150			
Surrogate: Toluene-d8		0.0441	"	0.0400		110	50-150			
Surrogate: 4-Bromofluorobenzene		0.0408	"	0.0400		102	50-150			

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFK0083 - EPA 3550A**

**Blank (BFK0083-BLK1)**

Prepared: 11/03/22 Analyzed: 11/04/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.0		"	12.5		95.8	30-150			

**LCS (BFK0083-BS1)**

Prepared: 11/03/22 Analyzed: 11/04/22

C10-C28 (DRO)	398	50	mg/kg	500		79.5	70-130			
Surrogate: o-Terphenyl	11.7		"	12.5		93.8	30-150			

**Matrix Spike (BFK0083-MS1)**

Source: 2211035-01

Prepared: 11/03/22 Analyzed: 11/04/22

C10-C28 (DRO)	392	50	mg/kg	500	12.2	75.9	70-130			
Surrogate: o-Terphenyl	10.5		"	12.5		84.1	30-150			

**Matrix Spike Dup (BFK0083-MSD1)**

Source: 2211035-01

Prepared: 11/03/22 Analyzed: 11/04/22

C10-C28 (DRO)	365	50	mg/kg	500	12.2	70.6	70-130	7.00	20	
Surrogate: o-Terphenyl	9.65		"	12.5		77.2	30-150			

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Reporting				Spike	Source	%REC			RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFK0085 - EPA 5030 Soil MS

##### Blank (BFK0085-BLK1)

Prepared & Analyzed: 11/03/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0369		"	0.0333		111	40-150			
Surrogate: Fluoranthene-d10	0.0283		"	0.0333		84.8	40-150			

##### LCS (BFK0085-BS1)

Prepared & Analyzed: 11/03/22

Acenaphthene	0.0360	0.00500	mg/kg	0.0333	108	31-137
Anthracene	0.0326	0.00500	"	0.0333	97.7	30-120
Benzo (a) anthracene	0.0297	0.00500	"	0.0333	89.0	30-120
Benzo (a) pyrene	0.0297	0.00500	"	0.0333	89.0	30-120
Benzo (b) fluoranthene	0.0333	0.00500	"	0.0333	100	30-120
Benzo (k) fluoranthene	0.0345	0.00500	"	0.0333	103	30-120
Chrysene	0.0299	0.00500	"	0.0333	89.6	30-120
Dibenz (a,h) anthracene	0.0288	0.00500	"	0.0333	86.4	30-120
Fluoranthene	0.0321	0.00500	"	0.0333	96.2	30-120
Fluorene	0.0364	0.00500	"	0.0333	109	30-120
Indeno (1,2,3-cd) pyrene	0.0243	0.00500	"	0.0333	73.0	30-120
Pyrene	0.0320	0.00500	"	0.0333	96.0	35-142
1-Methylnaphthalene	0.0295	0.00500	"	0.0333	88.6	35-142
2-Methylnaphthalene	0.0287	0.00500	"	0.0333	86.0	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0307		"	0.0333	92.2	40-150
Surrogate: Fluoranthene-d10	0.0334		"	0.0333	100	40-150

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFK0085 - EPA 5030 Soil MS

##### Matrix Spike (BFK0085-MS1)

Source: 2210565-01

Prepared & Analyzed: 11/03/22

Acenaphthene	0.0189	0.00500	mg/kg	0.0333	ND	56.7	31-137				
Anthracene	0.0165	0.00500	"	0.0333	ND	49.6	30-120				
Benzo (a) anthracene	0.0177	0.00500	"	0.0333	ND	53.2	30-120				
Benzo (a) pyrene	0.0180	0.00500	"	0.0333	ND	54.0	30-120				
Benzo (b) fluoranthene	0.0185	0.00500	"	0.0333	ND	55.6	30-120				
Benzo (k) fluoranthene	0.0203	0.00500	"	0.0333	ND	60.9	30-120				
Chrysene	0.0170	0.00500	"	0.0333	ND	51.1	30-120				
Dibenz (a,h) anthracene	0.0182	0.00500	"	0.0333	ND	54.5	30-120				
Fluoranthene	0.0179	0.00500	"	0.0333	ND	53.8	30-120				
Fluorene	0.0198	0.00500	"	0.0333	ND	59.3	30-120				
Indeno (1,2,3-cd) pyrene	0.0149	0.00500	"	0.0333	ND	44.8	30-120				
Pyrene	0.0185	0.00500	"	0.0333	ND	55.5	35-142				
1-Methylnaphthalene	0.0185	0.00500	"	0.0333	ND	55.5	15-130				
2-Methylnaphthalene	0.0184	0.00500	"	0.0333	ND	55.2	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0178		"	0.0333		53.5	40-150				
Surrogate: Fluoranthene-d10	0.0176		"	0.0333		52.8	40-150				

##### Matrix Spike Dup (BFK0085-MSD1)

Source: 2210565-01

Prepared & Analyzed: 11/03/22

Acenaphthene	0.0265	0.00500	mg/kg	0.0333	ND	79.5	31-137	33.6	30		QR-02
Anthracene	0.0212	0.00500	"	0.0333	ND	63.5	30-120	24.6	30		
Benzo (a) anthracene	0.0215	0.00500	"	0.0333	ND	64.4	30-120	19.0	30		
Benzo (a) pyrene	0.0229	0.00500	"	0.0333	ND	68.6	30-120	23.9	30		
Benzo (b) fluoranthene	0.0239	0.00500	"	0.0333	ND	71.6	30-120	25.1	30		
Benzo (k) fluoranthene	0.0253	0.00500	"	0.0333	ND	75.8	30-120	21.9	30		
Chrysene	0.0209	0.00500	"	0.0333	ND	62.6	30-120	20.2	30		
Dibenz (a,h) anthracene	0.0229	0.00500	"	0.0333	ND	68.8	30-120	23.3	30		
Fluoranthene	0.0226	0.00500	"	0.0333	ND	67.7	30-120	22.9	30		
Fluorene	0.0237	0.00500	"	0.0333	ND	71.2	30-120	18.2	30		
Indeno (1,2,3-cd) pyrene	0.0197	0.00500	"	0.0333	ND	59.2	30-120	27.7	30		
Pyrene	0.0222	0.00500	"	0.0333	ND	66.5	35-142	17.9	30		
1-Methylnaphthalene	0.0203	0.00500	"	0.0333	ND	60.8	15-130	9.08	50		
2-Methylnaphthalene	0.0210	0.00500	"	0.0333	ND	62.9	15-130	13.1	50		
Surrogate: 2-Methylnaphthalene-d10	0.0200		"	0.0333		59.9	40-150				
Surrogate: Fluoranthene-d10	0.0224		"	0.0333		67.1	40-150				

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFK0108 - EPA 3050B**

**Blank (BFK0108-BLK1)**

Prepared & Analyzed: 11/03/22

Boron ND 0.0100 mg/L

**LCS (BFK0108-BS1)**

Prepared & Analyzed: 11/03/22

Boron 5.53 0.0100 mg/L 5.00 111 80-120

**Duplicate (BFK0108-DUP1)**

**Source: 2211034-02**

Prepared & Analyzed: 11/03/22

Boron 0.0786 0.0100 mg/L 0.0658 17.8 20

**Matrix Spike (BFK0108-MS1)**

**Source: 2211034-02**

Prepared & Analyzed: 11/03/22

Boron 4.47 0.0100 mg/L 5.00 0.0658 88.1 75-125

**Matrix Spike Dup (BFK0108-MSD1)**

**Source: 2211034-02**

Prepared & Analyzed: 11/03/22

Boron 4.50 0.0100 mg/L 5.00 0.0658 88.7 75-125 0.600 25

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFK0087 - EPA 3050B

##### Blank (BFK0087-BLK1)

Prepared & Analyzed: 11/03/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

##### LCS (BFK0087-BS1)

Prepared & Analyzed: 11/03/22

Arsenic	39.1	0.200	mg/kg wet	40.0	97.7	80-120
Barium	40.7	0.400	"	40.0	102	80-120
Cadmium	2.01	0.200	"	2.00	100	80-120
Copper	41.5	0.400	"	40.0	104	80-120
Lead	21.1	0.200	"	20.0	105	80-120
Nickel	39.4	0.400	"	40.0	98.6	80-120
Selenium	3.54	0.260	"	4.00	88.4	80-120
Silver	2.05	0.0200	"	2.00	103	80-120
Zinc	39.8	0.400	"	40.0	99.4	80-120

##### Duplicate (BFK0087-DUP1)

Source: 2211038-01

Prepared & Analyzed: 11/03/22

Arsenic	1.02	0.216	mg/kg dry	1.02	0.382	20
Barium	89.5	0.433	"	92.3	3.05	20
Cadmium	0.221	0.216	"	0.228	2.89	20
Copper	8.76	0.433	"	8.68	0.957	20
Lead	30.7	0.216	"	32.9	6.85	20
Nickel	4.45	0.433	"	4.38	1.48	20
Selenium	ND	0.281	"	ND		20
Silver	0.0264	0.0216	"	0.0251	5.04	20
Zinc	26.2	0.433	"	25.8	1.25	20

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BFK0087 - EPA 3050B

##### Matrix Spike (BFK0087-MS1)

Source: 2211038-01

Prepared & Analyzed: 11/03/22

Arsenic	15.3	0.216	mg/kg dry	43.3	1.02	33.0	75-125			QM-05
Barium	130	0.433	"	43.3	92.3	87.0	75-125			
Cadmium	2.26	0.216	"	2.16	0.228	93.9	75-125			
Copper	40.2	0.433	"	43.3	8.68	72.9	75-125			QM-05
Lead	46.9	0.216	"	21.6	32.9	64.5	75-125			QM-05
Nickel	36.1	0.433	"	43.3	4.38	73.3	75-125			QM-05
Selenium	3.33	0.281	"	4.33	ND	76.9	75-125			
Silver	2.07	0.0216	"	2.16	0.0251	94.8	75-125			
Zinc	57.2	0.433	"	43.3	25.8	72.6	75-125			QM-05

##### Matrix Spike Dup (BFK0087-MSD1)

Source: 2211038-01

Prepared & Analyzed: 11/03/22

Arsenic	15.3	0.216	mg/kg dry	43.3	1.02	33.0	75-125	0.00	25	QM-05
Barium	129	0.433	"	43.3	92.3	85.8	75-125	0.394	25	
Cadmium	2.29	0.216	"	2.16	0.228	95.5	75-125	1.58	25	
Copper	41.1	0.433	"	43.3	8.68	74.9	75-125	2.11	25	QM-05
Lead	46.7	0.216	"	21.6	32.9	63.8	75-125	0.324	25	QM-05
Nickel	36.7	0.433	"	43.3	4.38	74.7	75-125	1.61	25	QM-05
Selenium	3.35	0.281	"	4.33	ND	77.5	75-125	0.726	25	
Silver	2.09	0.0216	"	2.16	0.0251	95.5	75-125	0.769	25	
Zinc	58.1	0.433	"	43.3	25.8	74.6	75-125	1.52	25	QM-05

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
11/09/22 12:44

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BFK0089 - 3060A Mod**

**Blank (BFK0089-BLK1)**

Prepared: 11/03/22 Analyzed: 11/04/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFK0089-BS1)**

Prepared: 11/03/22 Analyzed: 11/04/22

Chromium, Hexavalent 24.4 0.30 mg/kg wet 25.0 97.4 80-120

**Duplicate (BFK0089-DUP1)**

**Source: 2211031-01**

Prepared: 11/03/22 Analyzed: 11/04/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFK0089-MS1)**

**Source: 2211031-01**

Prepared: 11/03/22 Analyzed: 11/04/22

Chromium, Hexavalent 29.2 0.30 mg/kg dry 28.8 ND 101 75-125

**Matrix Spike Dup (BFK0089-MSD1)**

**Source: 2211031-01**

Prepared: 11/03/22 Analyzed: 11/04/22

Chromium, Hexavalent 29.3 0.30 mg/kg dry 28.8 ND 102 75-125 0.197 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFK0152 - General Preparation**

**Blank (BFK0152-BLK1)**

Prepared: 11/05/22 Analyzed: 11/08/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

**LCS (BFK0152-BS1)**

Prepared: 11/05/22 Analyzed: 11/08/22

Calcium	5.80	0.0500	mg/L wet	5.00	116	70-130
Magnesium	5.54	0.0500	"	5.00	111	70-130
Sodium	5.14	0.0500	"	5.00	103	70-130

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFK0133 - General Preparation**

Duplicate (BFK0133-DUP1)		Source: 2211037-01		Prepared: 11/04/22 Analyzed: 11/05/22	
% Solids	74.3		%	75.0	0.980 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFK0159 - General Preparation**

**Blank (BFK0159-BLK1)**

Prepared & Analyzed: 11/06/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFK0159-BS1)**

Prepared & Analyzed: 11/06/22

Specific Conductance (EC) 0.147 0.0100 mmhos/cm 0.150 98.0 95-105

**Duplicate (BFK0159-DUP1)**

**Source: 2211039-01**

Prepared & Analyzed: 11/06/22

Specific Conductance (EC) 4.33 0.0100 mmhos/cm 4.37 0.781 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BFK0158 - General Preparation**

**LCS (BFK0158-BS1)**

Prepared & Analyzed: 11/06/22

pH	9.01	pH Units	9.18	98.1	95-105
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**Duplicate (BFK0158-DUP1)**

Source: 2211039-01

Prepared & Analyzed: 11/06/22

pH	8.12	pH Units	8.09	0.370	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Miller 16-29

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/09/22 12:44

### Notes and Definitions

QR-02      The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

QM-05      The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.

DET        Analyte DETECTED

ND        Analyte NOT DETECTED at or above the reporting limit

NR        Not Reported

dry        Sample results reported on a dry weight basis

RPD        Relative Percent Difference