

# FREMONT ENVIRONMENTAL INC.

March 28, 2023

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

Subject:     **Excavation Report**  
          Beeler 22-12, 13  
          API# 05-123-20054  
          NWNE Sec. 22, T4N, R67W  
          Weld County, Colorado  
          Fremont Project No. C022-013  
          Facility #331032, Remediation #21781

Dear Mr. Peterson:

Enclosed please find a copy of the above referenced Excavation Report for the Beeler 22-12, 13 release site in Weld County, Colorado. The enclosed report describes excavation and sampling efforts to remediate impacted soil at the site.

Since excavation has confirmed the removal of subsurface petroleum impacts, Noble Energy Inc. should request that a No Further Action (NFA) determination be provided by the COGCC for this 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.**

**BEELER 22-12, 13**

**WELD COUNTY, COLORADO**

**FREMONT PROJECT NO. C022-013**

**FACILITY #331032, REMEDIATION #21781**

**Prepared by:  
Fremont Environmental Inc.  
1759 Redwing Lane  
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(303) 956-8714**

**March 28, 2023**

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**EXCAVATION REPORT**  
**NOBLE ENERGY INC.**  
**BEELER 22-12, 13**  
**WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C022-013**  
**FACILITY #331032, REMEDIATION #21781**

**1.0 INTRODUCTION**

The purpose of this document is to present information collected during the multi-day excavation of petroleum-impacted soil at the Beeler 22-12, 13 (Beeler) tank battery location in Weld County, Colorado. This excavation project was completed on January 17, 2023.

**2.0 BACKGROUND INFORMATION**

**2.1 Site Location**

The Beeler 22-12, 13 tank battery is located approximately four miles south of Milliken, Colorado in Weld County as shown on Figure 1. The site is located in a rural and agricultural area approximately 2.3 miles south of the intersection of County Road 44 and County Road 21. The location is further described as the NW  $\frac{1}{4}$  of the NE  $\frac{1}{4}$  of Section 22, Township 4N, Range 67W.

**2.2 Site History**

The site consisted of the Beeler 22-12, 13 (Beeler) tank battery which serviced the Beeler 22-12 and Beeler 22-13 natural gas wells. The Beeler 22-12 natural gas well was drilled in 2001 to a depth of approximately 7,398 feet.

Historical releases were discovered beneath multiple pieces of equipment at the Beeler tank battery during decommissioning activities in March of 2022. On May 3, 2022, a comprehensive site investigation was undertaken to define the magnitude and extent of

soil impacts which were subsequently removed via excavation. Groundwater was not encountered at that time.

### **3.0 FIELD ACTIVITIES**

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

Soil remediation efforts consisted of two separate excavations of petroleum impacted soil directly beneath, and adjacent to the former Beeler above ground storage tank (AST), produced water vault (PWV) and separators. The combined excavation extent at the area of the AST and PWV measured approximately 17 feet x 31 feet, with a maximum depth varying from seven feet to 7.5 feet deep. The excavation extent at the separators measured approximately 19 feet x 23 feet, with a maximum depth of seven feet. The soil consisted of clay, which extended to six feet deep; then transitioned to a sandy-clay maximum depth of approximately 7.5 feet. Groundwater was not encountered in either excavation. The excavation extents are illustrated on Figures 2 and 3.

The multi-day excavation of impacts at the former Beeler tank battery was completed on January 17, 2023. Soil samples were collected, as grab samples, from each excavation's sidewalls at six feet and in the floor each excavation between seven feet and 7.5 feet below ground surface.

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, 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, dibenz (a,h) anthracene, fluoranthene, fluorene, indeno (1,2,3-cd) pyrene, pyrene, 1-methylnaphthalene, 2-methylnaphthalene

by EPA method 8270D, specific conductance (EC) by EPA Method 120.1 saturated paste extraction, saturated paste extraction of soluble nutrients by EPA method 6020/USDA60 6(2) for calculated analysis of sodium absorption ratio (SAR), pH by saturated paste extraction APHA/ASTM/EPA methods, Total Metals by EPA method 6020B, and Hexavalent Chromium by EPA method 7196. The laboratory reports and chain-of-custody documentation are included in Appendix B.

A summary of the soil laboratory data is included in Tables 1 through 4. The laboratory analyses indicate that organic petroleum constituents in soil samples collected from the sidewalls and floor of each excavation achieved the COGCC Table 915-1 Protection of Groundwater Soil Screening Levels (PGSSLs). One sample exceeded COGCC Table 915-1 soil screening levels for SAR and pH. These exceedances are present below the root zone at seven feet.

Several samples exceeded COGCC Table 915-1 PGSSLs for arsenic, barium, and selenium. A local background sample collected east of the Beeler 22-12, 13 pad, in native soil at similar depth, also exceeded the COGCC Table 915-1 standards for arsenic, barium, and selenium. Therefore, it is proposed that these exceedances be attributed to native soil conditions.

A total of approximately 504 tons (~ 360 cubic yards) of petroleum impacted soil was removed from the location via excavation by 4X Industrial, LLC during remediation efforts. Impacted soil was disposed of at Buffalo Ridge Landfill in Keenesburg, Colorado as non-hazardous waste, and each excavation was backfilled using clean imported fill.

#### **4.0 DISCUSSION**

As demonstrated by the soil sampling, petroleum impacted soil was removed from the Beeler 22-12, 13 tank battery by two separate excavations. This was confirmed by analysis of soil samples collected from the exterior sidewalls and floor of each performed on-site excavation. Exceedances in arsenic, barium and selenium are proposed to be attributed to native soil conditions, based concentrations observed in a local background sample collected adjacent to the former Beeler tank battery. Approximately 360 cubic yards of impacted soil were removed and transported to the landfill. The soil data for each excavation is illustrated and summarized in the attached tables and figures.

Based on their depth of two feet to 3.5 feet below the root zone, Noble proposes to leave soils exceeding the COGCC Table 915-1 soil screening levels for SAR and pH in situ. An impenetrable layer of fine grained, hard pan soil exists at the base of the excavation preventing communication with potential impacts and groundwater measured at approximately 40 below ground surface in the nearest down gradient well, a monitoring hole (Permit No. 45042-MH) 5,508 feet northeast of the Beeler excavation. Additionally, water has never been observed over the life span of this year-long project in the 8.8 acre freshwater pond directly north of the former Beeler facility. Given that surface and groundwater were never encountered at or adjacent to the site no further action designation based on the COGCC Table 915-1 Residential Soil Screening Levels is being requested for the Beeler 22-12, 13 site.

#### **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.**

Prepared By:



3/28/23

Date \_\_\_\_\_

\_\_\_\_\_  
Jeff T. Griggs

Geologist

Reviewed by:



3/28/23

Date \_\_\_\_\_

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

Geologist

## TABLES

**TABLE 1**  
**SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**BEELER 22-12,13, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C022-013**

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		
B01@7.0'	1/13/2023	7.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
NW01@6.0'	1/13/2023	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
NE01@6.0'	1/13/2023	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SE01@6.0'	1/13/2023	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
B02@7.0'	1/16/2023	7.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
NW02@6.0'	1/16/2023	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SE02@6.0'	1/16/2023	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SW01@6.0'	1/16/2023	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
B03@7.0'	1/17/2023	7.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
B04@7.0'	1/17/2023	7.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
NW03@6.0'	1/17/2023	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
NW04@6.0'	1/17/2023	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
NE02@6.0'	1/17/2023	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SW02@6.0'	1/17/2023	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SE03@6.0'	1/17/2023	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SE04@6.0'	1/17/2023	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<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.  
BEELER 22-12,13, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C022-013

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
B01@7.0'	1/13/2023	7.0 Ft	<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
NW01@6.0'	1/13/2023	6.0 Ft	<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
NE01@6.0'	1/13/2023	6.0 Ft	<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
SE01@6.0'	1/13/2023	6.0 Ft	<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
B02@7.0'	1/16/2023	7.0 Ft	<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
NW02@6.0'	1/16/2023	6.0 Ft	<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
SE02@6.0'	1/16/2023	6.0 Ft	<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
SW01@6.0'	1/16/2023	6.0 Ft	<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
B03@7.0'	1/17/2023	7.0 Ft	<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
B04@7.0'	1/17/2023	7.0 Ft	<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
NW03@6.0'	1/17/2023	6.0 Ft	<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
NW04@6.0'	1/17/2023	6.0 Ft	<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
NE02@6.0'	1/17/2023	6.0 Ft	<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
SW02@6.0'	1/17/2023	6.0 Ft	<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
SE03@6.0'	1/17/2023	6.0 Ft	<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
SE04@6.0'	1/17/2023	6.0 Ft	<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 3**  
**SUMMARY OF INORGANICS IN SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**BEELER 22-12,13, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C022-013**

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
Site Specific Background Concentration/Value			7.76	4.98	2.72	0.558
B01@7.0'	1/13/2023	7.0 Ft	7.68	1.73	0.478	0.0637
NW01@6.0'	1/13/2023	6.0 Ft	7.98	0.279	0.0349	0.0327
NE01@6.0'	1/13/2023	6.0 Ft	7.82	0.407	0.200	0.0912
SE01@6.0'	1/13/2023	6.0 Ft	7.75	0.524	0.0774	0.0855
B02@7.0'	1/16/2023	7.0 Ft	<b>8.72</b>	1.25	<b>23.9</b>	0.689
NW02@6.0'	1/16/2023	6.0 Ft	7.56	2.87	0.296	0.222
SE02@6.0'	1/16/2023	6.0 Ft	7.56	1.34	0.232	0.229
SW01@6.0'	1/16/2023	6.0 Ft	7.49	2.70	0.243	0.0830
B03@7.0'	1/17/2023	7.0 Ft	7.88	1.73	2.67	0.218
B04@7.0'	1/17/2023	7.0 Ft	7.49	3.28	0.954	0.308
NW03@6.0'	1/17/2023	6.0 Ft	7.74	1.64	0.826	0.0645
NW04@6.0'	1/17/2023	6.0 Ft	7.55	3.66	0.441	0.188
NE02@6.0'	1/17/2023	6.0 Ft	7.55	3.89	0.223	0.183
SW02@6.0'	1/17/2023	6.0 Ft	7.64	3.39	2.60	0.525
SE03@6.0'	1/17/2023	6.0 Ft	7.52	3.43	0.293	0.201
SE04@6.0'	1/17/2023	6.0 Ft	7.96	0.769	0.291	0.464
BKG01@7.0'	1/16/2023	7.0 Ft	7.76	<b>4.98</b>	2.72	0.558

Bold faced values exceed the COGCC Table 915-1 concentrations

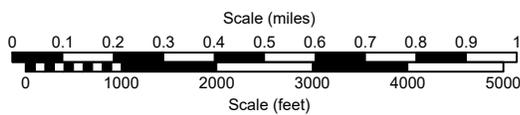
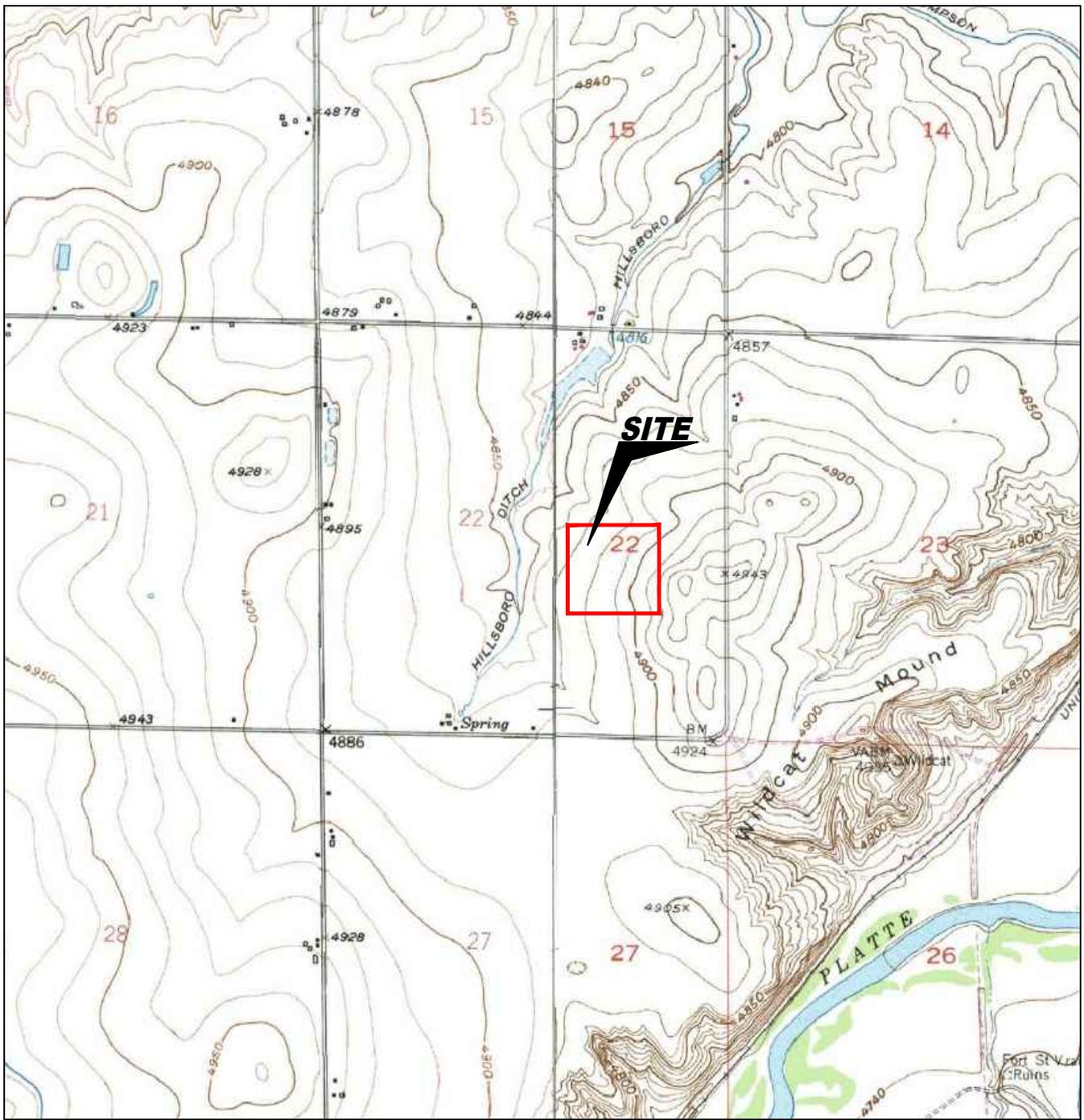
Yellow highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

**TABLE 4**  
**SUMMARY OF METALS IN SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**BEELER 22-12,13, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C022-013**

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
B01@7.0'	1/13/2023	7.0 Ft	<b>1.48</b>	16.7	0.0874	<0.30	5.13	6.18	6.29	<b>0.850</b>	0.0228	37.1
NW01@6.0'	1/13/2023	6.0 Ft	<b>2.55</b>	49.9	0.0498	<0.30	6.69	6.49	7.32	<b>0.849</b>	0.0366	35.4
NE01@6.0'	1/13/2023	6.0 Ft	<b>2.79</b>	43.4	0.0511	<0.30	4.38	6.16	6.49	<b>1.07</b>	0.0377	31.8
SE01@6.0'	1/13/2023	6.0 Ft	<b>2.03</b>	<b>84.5</b>	0.0379	<0.30	4.77	6.04	6.33	<b>0.793</b>	0.0290	38.2
B02@7.0'	1/16/2023	7.0 Ft	<b>1.69</b>	18.6	0.0256	<0.30	5.22	5.90	6.54	<b>0.481</b>	0.0174	37.1
NW02@6.0'	1/16/2023	6.0 Ft	<b>2.31</b>	47.4	0.0364	<0.30	4.99	5.92	6.69	<b>0.659</b>	0.0183	33.1
SE02@6.0'	1/16/2023	6.0 Ft	<b>3.38</b>	72.7	0.0358	<0.30	4.03	5.12	5.79	<b>0.461</b>	0.0230	30.1
SW01@6.0'	1/16/2023	6.0 Ft	<b>2.77</b>	36.1	0.0383	<0.30	4.41	5.48	6.50	<b>0.527</b>	0.0214	28.9
B03@7.0'	1/17/2023	7.0 Ft	<b>3.70</b>	9.90	0.0951	<0.30	4.28	6.42	4.69	<0.312	0.0125	22.2
B04@7.0'	1/17/2023	7.0 Ft	<b>10.1</b>	19.6	0.153	<0.30	6.88	10.2	6.83	<0.319	0.0339	31.4
NW03@6.0'	1/17/2023	6.0 Ft	<b>5.34</b>	<b>107</b>	0.139	<0.30	4.03	8.73	5.83	<0.295	0.0322	22.9
NW04@6.0'	1/17/2023	6.0 Ft	<b>3.92</b>	14.3	0.0956	<0.30	4.10	6.28	5.38	<0.311	0.0167	27.1
NE02@6.0'	1/17/2023	6.0 Ft	<b>5.77</b>	37.2	0.115	<0.30	5.75	8.76	5.05	<0.313	0.0304	36.3
SW02@6.0'	1/17/2023	6.0 Ft	<b>11.9</b>	34.3	0.123	<0.30	6.75	9.53	6.60	<0.325	0.0295	27.6
SE03@6.0'	1/17/2023	6.0 Ft	<b>14.7</b>	44.6	0.166	<0.30	11.1	<b>15.3</b>	8.00	<0.317	0.0332	36.8
SE04@6.0'	1/17/2023	6.0 Ft	<b>9.08</b>	59.5	0.162	<0.30	7.87	11.6	6.67	0.220	0.0407	32.8
BKG01@7.0'	1/16/2023	7.0 Ft	<b>6.81</b>	<b>123</b>	0.128	<0.30	11.4	6.14	<b>47.7</b>	<b>0.615</b>	0.0275	30.4

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

## FIGURES



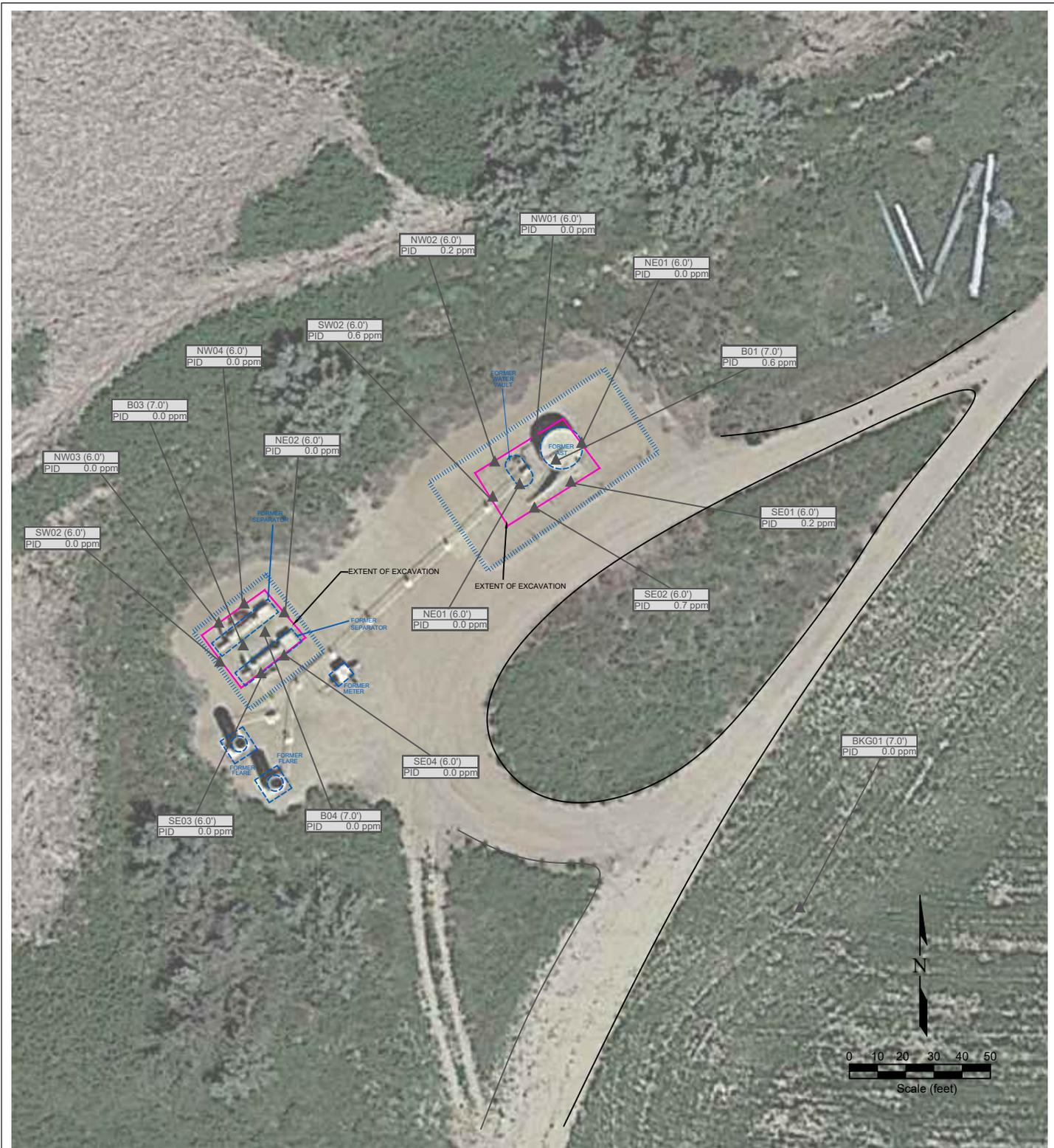
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1  
SITE LOCATION MAP

**Noble Energy, Inc. ~ Beeler 22-12, 13**  
 NWNE Sec. 22, T4N, R67W, 6th PM  
 Weld County, Colorado  
 40.303521°, -104.873342°

Project # <b>C022-013</b>	API # <b>05-123-20054</b>	Facility # <b>331032</b>
Date <b>2/25/23</b>	Remediation # <b>21781</b>	Filename <b>22013T</b>





**LEGEND**

- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- CONTAINMENT BERM
- EXTENT OF EXCAVATION

▲ PID READING LOCATION

AS101 (1.0)  
PID 483.4 ppm PHOTO IONIZATION DETECTION READING (ppm)  
PID = photo ionization detection / PPM = parts per million

**Figure 2  
SITE MAP**

**Noble Energy, Inc. ~ Beeler 22-12, 13**  
 NWNE Sec. 22, T4N, R67W, 6th PM  
 Weld County, Colorado  
 40.303662°, -104.873344°

Project No. <b>C022-013</b>	API # <b>05-123-20054</b>	Facility # <b>331032</b>
Date <b>2/25/23</b>	Remediation # <b>21781</b>	Filename <b>22013Q1</b>



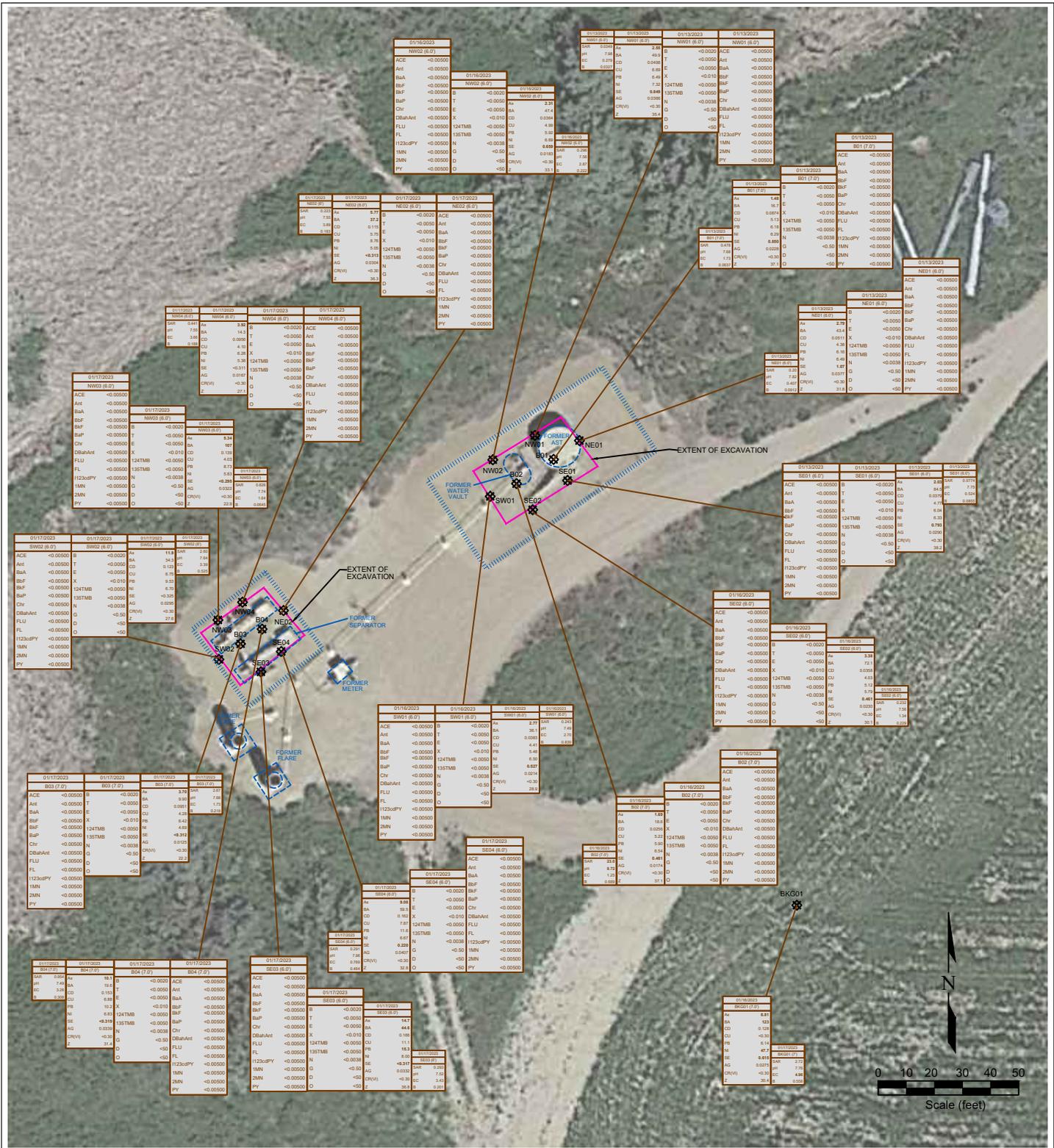


Figure 3  
SOIL CHEMISTRY MAP

Noble Energy, Inc. ~ Beeler 22-12, 13  
NWNE Sec. 22, T4N, R67W, 6th PM  
Weld County, Colorado  
40.303662° , -104.873344°

Project No. <b>C022-013</b>	API # <b>05-123-20054</b>	Facility # <b>331032</b>
Date <b>2/25/23</b>	Remediation # <b>21781</b>	Filename <b>22013Q1</b>



**LEGEND**

- SOIL SAMPLE LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- CONTAINMENT BERM
- EXTENT OF EXCAVATION

DATE SAMPLED	SAMPLE ID and DEPTH (ft)	DATE SAMPLED	SAMPLE ID and DEPTH (ft)
01/16/2023	SW01 (6.0)	01/13/2023	SW01 (6.0)
01/17/2023	SW02 (6.0)	01/17/2023	SW02 (6.0)
01/17/2023	SW03 (6.0)	01/17/2023	SW03 (6.0)
01/17/2023	SW04 (6.0)	01/17/2023	SW04 (6.0)
01/17/2023	SW05 (6.0)	01/17/2023	SW05 (6.0)
01/17/2023	SW06 (6.0)	01/17/2023	SW06 (6.0)
01/17/2023	SW07 (6.0)	01/17/2023	SW07 (6.0)
01/17/2023	SW08 (6.0)	01/17/2023	SW08 (6.0)
01/17/2023	SW09 (6.0)	01/17/2023	SW09 (6.0)
01/17/2023	SW10 (6.0)	01/17/2023	SW10 (6.0)
01/17/2023	SW11 (6.0)	01/17/2023	SW11 (6.0)
01/17/2023	SW12 (6.0)	01/17/2023	SW12 (6.0)
01/17/2023	SW13 (6.0)	01/17/2023	SW13 (6.0)
01/17/2023	SW14 (6.0)	01/17/2023	SW14 (6.0)
01/17/2023	SW15 (6.0)	01/17/2023	SW15 (6.0)
01/17/2023	SW16 (6.0)	01/17/2023	SW16 (6.0)
01/17/2023	SW17 (6.0)	01/17/2023	SW17 (6.0)
01/17/2023	SW18 (6.0)	01/17/2023	SW18 (6.0)
01/17/2023	SW19 (6.0)	01/17/2023	SW19 (6.0)
01/17/2023	SW20 (6.0)	01/17/2023	SW20 (6.0)
01/17/2023	SW21 (6.0)	01/17/2023	SW21 (6.0)
01/17/2023	SW22 (6.0)	01/17/2023	SW22 (6.0)
01/17/2023	SW23 (6.0)	01/17/2023	SW23 (6.0)
01/17/2023	SW24 (6.0)	01/17/2023	SW24 (6.0)
01/17/2023	SW25 (6.0)	01/17/2023	SW25 (6.0)
01/17/2023	SW26 (6.0)	01/17/2023	SW26 (6.0)
01/17/2023	SW27 (6.0)	01/17/2023	SW27 (6.0)
01/17/2023	SW28 (6.0)	01/17/2023	SW28 (6.0)
01/17/2023	SW29 (6.0)	01/17/2023	SW29 (6.0)
01/17/2023	SW30 (6.0)	01/17/2023	SW30 (6.0)
01/17/2023	SW31 (6.0)	01/17/2023	SW31 (6.0)
01/17/2023	SW32 (6.0)	01/17/2023	SW32 (6.0)
01/17/2023	SW33 (6.0)	01/17/2023	SW33 (6.0)
01/17/2023	SW34 (6.0)	01/17/2023	SW34 (6.0)
01/17/2023	SW35 (6.0)	01/17/2023	SW35 (6.0)
01/17/2023	SW36 (6.0)	01/17/2023	SW36 (6.0)
01/17/2023	SW37 (6.0)	01/17/2023	SW37 (6.0)
01/17/2023	SW38 (6.0)	01/17/2023	SW38 (6.0)
01/17/2023	SW39 (6.0)	01/17/2023	SW39 (6.0)
01/17/2023	SW40 (6.0)	01/17/2023	SW40 (6.0)
01/17/2023	SW41 (6.0)	01/17/2023	SW41 (6.0)
01/17/2023	SW42 (6.0)	01/17/2023	SW42 (6.0)
01/17/2023	SW43 (6.0)	01/17/2023	SW43 (6.0)
01/17/2023	SW44 (6.0)	01/17/2023	SW44 (6.0)
01/17/2023	SW45 (6.0)	01/17/2023	SW45 (6.0)
01/17/2023	SW46 (6.0)	01/17/2023	SW46 (6.0)
01/17/2023	SW47 (6.0)	01/17/2023	SW47 (6.0)
01/17/2023	SW48 (6.0)	01/17/2023	SW48 (6.0)
01/17/2023	SW49 (6.0)	01/17/2023	SW49 (6.0)
01/17/2023	SW50 (6.0)	01/17/2023	SW50 (6.0)
01/17/2023	SW51 (6.0)	01/17/2023	SW51 (6.0)
01/17/2023	SW52 (6.0)	01/17/2023	SW52 (6.0)
01/17/2023	SW53 (6.0)	01/17/2023	SW53 (6.0)
01/17/2023	SW54 (6.0)	01/17/2023	SW54 (6.0)
01/17/2023	SW55 (6.0)	01/17/2023	SW55 (6.0)
01/17/2023	SW56 (6.0)	01/17/2023	SW56 (6.0)
01/17/2023	SW57 (6.0)	01/17/2023	SW57 (6.0)
01/17/2023	SW58 (6.0)	01/17/2023	SW58 (6.0)
01/17/2023	SW59 (6.0)	01/17/2023	SW59 (6.0)
01/17/2023	SW60 (6.0)	01/17/2023	SW60 (6.0)
01/17/2023	SW61 (6.0)	01/17/2023	SW61 (6.0)
01/17/2023	SW62 (6.0)	01/17/2023	SW62 (6.0)
01/17/2023	SW63 (6.0)	01/17/2023	SW63 (6.0)
01/17/2023	SW64 (6.0)	01/17/2023	SW64 (6.0)
01/17/2023	SW65 (6.0)	01/17/2023	SW65 (6.0)
01/17/2023	SW66 (6.0)	01/17/2023	SW66 (6.0)
01/17/2023	SW67 (6.0)	01/17/2023	SW67 (6.0)
01/17/2023	SW68 (6.0)	01/17/2023	SW68 (6.0)
01/17/2023	SW69 (6.0)	01/17/2023	SW69 (6.0)
01/17/2023	SW70 (6.0)	01/17/2023	SW70 (6.0)
01/17/2023	SW71 (6.0)	01/17/2023	SW71 (6.0)
01/17/2023	SW72 (6.0)	01/17/2023	SW72 (6.0)
01/17/2023	SW73 (6.0)	01/17/2023	SW73 (6.0)
01/17/2023	SW74 (6.0)	01/17/2023	SW74 (6.0)
01/17/2023	SW75 (6.0)	01/17/2023	SW75 (6.0)
01/17/2023	SW76 (6.0)	01/17/2023	SW76 (6.0)
01/17/2023	SW77 (6.0)	01/17/2023	SW77 (6.0)
01/17/2023	SW78 (6.0)	01/17/2023	SW78 (6.0)
01/17/2023	SW79 (6.0)	01/17/2023	SW79 (6.0)
01/17/2023	SW80 (6.0)	01/17/2023	SW80 (6.0)
01/17/2023	SW81 (6.0)	01/17/2023	SW81 (6.0)
01/17/2023	SW82 (6.0)	01/17/2023	SW82 (6.0)
01/17/2023	SW83 (6.0)	01/17/2023	SW83 (6.0)
01/17/2023	SW84 (6.0)	01/17/2023	SW84 (6.0)
01/17/2023	SW85 (6.0)	01/17/2023	SW85 (6.0)
01/17/2023	SW86 (6.0)	01/17/2023	SW86 (6.0)
01/17/2023	SW87 (6.0)	01/17/2023	SW87 (6.0)
01/17/2023	SW88 (6.0)	01/17/2023	SW88 (6.0)
01/17/2023	SW89 (6.0)	01/17/2023	SW89 (6.0)
01/17/2023	SW90 (6.0)	01/17/2023	SW90 (6.0)
01/17/2023	SW91 (6.0)	01/17/2023	SW91 (6.0)
01/17/2023	SW92 (6.0)	01/17/2023	SW92 (6.0)
01/17/2023	SW93 (6.0)	01/17/2023	SW93 (6.0)
01/17/2023	SW94 (6.0)	01/17/2023	SW94 (6.0)
01/17/2023	SW95 (6.0)	01/17/2023	SW95 (6.0)
01/17/2023	SW96 (6.0)	01/17/2023	SW96 (6.0)
01/17/2023	SW97 (6.0)	01/17/2023	SW97 (6.0)
01/17/2023	SW98 (6.0)	01/17/2023	SW98 (6.0)
01/17/2023	SW99 (6.0)	01/17/2023	SW99 (6.0)
01/17/2023	SW100 (6.0)	01/17/2023	SW100 (6.0)

**APPENDIX A**

**PHOTO LOG**



***Description:***

# Photo Log



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# Photo Log



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# Photo Log



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**APPENDIX B**

**LABORATORY DOCUMENTATION**

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 18, 2023

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549

RE: Noble - Beeler 22-12, 13

Work Order #2301247

Enclosed are the results of analyses for samples received by Summit Scientific on 01/13/23 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Scott Sheely For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@7.0'	2301247-01	Soil	01/13/23 00:00	01/13/23 17:00
NW01@6.0'	2301247-02	Soil	01/13/23 00:00	01/13/23 17:00
NE01@6.0'	2301247-03	Soil	01/13/23 00:00	01/13/23 17:00
SE01@6.0'	2301247-04	Soil	01/13/23 00:00	01/13/23 17:00

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

2301247

S<sub>2</sub>

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

Page 1 of 1

Client: Fremont Env

Project Manager: Paul Henehan

Address: \_\_\_\_\_ E-Mail: Paul@Fremontenv.com jeffg@Fremontenv.com

City/State/Zip: \_\_\_\_\_ Ethanb@Fremontenv.com

Phone: \_\_\_\_\_ Project Name: Beeler 22-12, 13

Sampler Name: JG 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	BTEX+N	TMSs (915)	GR0, OR0, DR0	PAHs (915)	EC, PH, SAR Baron	Metals (915)		
1	B01@7.0'	01/13/23		2			X			X				X	X	X	X	X		
2	NW01@6.0'	↓		↓										↓	↓	↓	↓	↓		
3	NE01@6.0'																			
4	SE01@6.0'	↓		↓										↓	↓	↓	↓	↓		
5																				
6																				
7																				
8																				
9																				
10																				
Relinquished by: <u>[Signature]</u>		Date/Time: <u>01/13/23</u>		Received by: <u>[Signature]</u>		Date/Time: <u>1/13/23</u> <u>1700</u>		Turn Around Time (Check)		Same Day <input checked="" type="checkbox"/>		72 hours <input type="checkbox"/>		Standard <input type="checkbox"/>		Notes: <b>Bill to Noble</b>				
Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____		24 hours <input type="checkbox"/>		48 hours <input type="checkbox"/>										
Temperature Upon Receipt: <u>8.7</u>		Corrected Temperature: <u>8</u>		HNO3 lot # _____		Sample Integrity:		Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No												
IR gun correction: <u>0</u>		IR gun #: <u>1</u>																		

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 230/247

Client: Fremont Client Project ID: Beeler 22-12,13

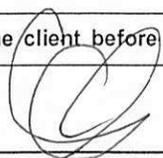
Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other  Airbill #: \_\_\_\_\_

Matrix (Check all that apply) Air  Soil/Solid  Water  Other

Temp (°C)  Thermometer #

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

1.13.23  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

**B01@7.0'**  
**2301247-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGA0322	01/13/23	01/13/23	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: **01/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0443	111 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0419	105 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0310	77.6 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0323	01/13/23	01/13/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	16.1	129 %		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 - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

**B01@7.0'**  
**2301247-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0342	01/16/23	01/16/23	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: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0199	59.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0263	79.0 %	40-150		"	"	"	"	

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0637</b>	0.0100	mg/L	1	BGA0330	01/15/23	01/16/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/13/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

**B01@7.0'**  
**2301247-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.48	0.237	mg/kg dry	1	BGA0332	01/15/23	01/16/23	EPA 6020B	
Barium	16.7	0.474	"	"	"	"	"	"	
Cadmium	0.0874	0.237	"	"	"	"	"	"	
Copper	5.13	0.474	"	"	"	"	"	"	
Lead	6.18	0.237	"	"	"	"	"	"	
Nickel	6.29	0.474	"	"	"	"	"	"	
Selenium	0.850	0.308	"	"	"	"	"	"	
Silver	0.0228	0.0237	"	"	"	"	"	"	
Zinc	37.1	0.474	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 01/13/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0360	01/16/23	01/16/23	EPA 7196A	

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

Date Sampled: 01/13/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	150	0.0592	mg/L dry	1	BGA0327	01/15/23	01/17/23	EPA 6020B	
Magnesium	101	0.0592	"	"	"	"	"	"	
Sodium	30.9	0.0592	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 01/13/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.478	0.00100	units	1	BGA0395	01/17/23	01/17/23	Calculation	

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

Date Sampled: 01/13/23 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 - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

**B01@7.0'**  
**2301247-01 (Soil)**

**Summit Scientific**

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

% Solids	84.4	%	1	BGA0326	01/15/23	01/15/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.73	0.0100	mmhos/cm	1	BGA0351	01/16/23	01/16/23	EPA 120.1	

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.68		pH Units	1	BGA0352	01/16/23	01/16/23	EPA 9045D	

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

**NW01@6.0'**  
**2301247-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0322	01/13/23	01/13/23	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: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0440	110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0328	82.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0323	01/13/23	01/13/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.5	116 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

**NW01@6.0'**  
**2301247-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0342	01/16/23	01/16/23	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: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0195	58.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0243	72.9 %	40-150		"	"	"	"	

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0327</b>	0.0100	mg/L	1	BGA0330	01/15/23	01/16/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/13/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

**NW01@6.0'**  
**2301247-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.55	0.232	mg/kg dry	1	BGA0332	01/15/23	01/16/23	EPA 6020B
Barium	49.9	0.464	"	"	"	"	"	"
Cadmium	0.0498	0.232	"	"	"	"	"	"
Copper	6.69	0.464	"	"	"	"	"	"
Lead	6.49	0.232	"	"	"	"	"	"
Nickel	7.32	0.464	"	"	"	"	"	"
Selenium	0.849	0.302	"	"	"	"	"	"
Silver	0.0366	0.0232	"	"	"	"	"	"
Zinc	35.4	0.464	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 01/13/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0360	01/16/23	01/16/23	EPA 7196A	

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

Date Sampled: 01/13/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	26.8	0.0580	mg/L dry	1	BGA0327	01/15/23	01/17/23	EPA 6020B	
Magnesium	9.63	0.0580	"	"	"	"	"	"	
Sodium	0.827	0.0580	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 01/13/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0349	0.00100	units	1	BGA0395	01/17/23	01/17/23	Calculation	

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

Date Sampled: 01/13/23 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 - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

**NW01@6.0'**  
**2301247-02 (Soil)**

**Summit Scientific**

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

% Solids	86.1	%	1	BGA0326	01/15/23	01/15/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.279	0.0100	mmhos/cm	1	BGA0351	01/16/23	01/16/23	EPA 120.1	

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.98		pH Units	1	BGA0352	01/16/23	01/16/23	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

**NE01@6.0'**  
**2301247-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGA0322	01/13/23	01/13/23	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: **01/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0443	111 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0412	103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0325	81.2 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0323	01/13/23	01/14/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.9	94.9 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

**NE01@6.0'**  
**2301247-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0342	01/16/23	01/16/23	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: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0204	61.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0224	67.2 %	40-150		"	"	"	"	

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0912</b>	0.0100	mg/L	1	BGA0330	01/15/23	01/16/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/13/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

**NE01@6.0'**  
**2301247-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.79	0.232	mg/kg dry	1	BGA0332	01/15/23	01/16/23	EPA 6020B
Barium	43.4	0.464	"	"	"	"	"	"
Cadmium	0.0511	0.232	"	"	"	"	"	"
Copper	4.38	0.464	"	"	"	"	"	"
Lead	6.16	0.232	"	"	"	"	"	"
Nickel	6.49	0.464	"	"	"	"	"	"
Selenium	1.07	0.302	"	"	"	"	"	"
Silver	0.0377	0.0232	"	"	"	"	"	"
Zinc	31.8	0.464	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0360	01/16/23	01/16/23	EPA 7196A	

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	45.6	0.0580	mg/L dry	1	BGA0327	01/15/23	01/17/23	EPA 6020B	
Magnesium	11.4	0.0580	"	"	"	"	"	"	
Sodium	5.84	0.0580	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.200	0.00100	units	1	BGA0395	01/17/23	01/17/23	Calculation	

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

Date Sampled: **01/13/23 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 - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

**NE01@6.0'**  
**2301247-03 (Soil)**

**Summit Scientific**

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

% Solids	86.2	%	1	BGA0326	01/15/23	01/15/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.407	0.0100	mmhos/cm	1	BGA0351	01/16/23	01/16/23	EPA 120.1	

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.82		pH Units	1	BGA0352	01/16/23	01/16/23	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

**SE01@6.0'**  
**2301247-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0322	01/13/23	01/13/23	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: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0449	112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0331	82.6 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0323	01/13/23	01/14/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.5	116 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

**SE01@6.0'**  
**2301247-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0342	01/16/23	01/16/23	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: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0145	43.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0208	62.5 %	40-150		"	"	"	"	

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0855</b>	0.0100	mg/L	1	BGA0330	01/15/23	01/16/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/13/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

**SE01@6.0'**  
**2301247-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.03	0.234	mg/kg dry	1	BGA0332	01/15/23	01/16/23	EPA 6020B
Barium	84.5	0.468	"	"	"	"	"	"
Cadmium	0.0379	0.234	"	"	"	"	"	"
Copper	4.77	0.468	"	"	"	"	"	"
Lead	6.04	0.234	"	"	"	"	"	"
Nickel	6.33	0.468	"	"	"	"	"	"
Selenium	0.793	0.304	"	"	"	"	"	"
Silver	0.0290	0.0234	"	"	"	"	"	"
Zinc	38.2	0.468	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 01/13/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0360	01/16/23	01/16/23	EPA 7196A	

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

Date Sampled: 01/13/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	63.5	0.0584	mg/L dry	1	BGA0327	01/15/23	01/17/23	EPA 6020B	
Magnesium	16.2	0.0584	"	"	"	"	"	"	
Sodium	2.67	0.0584	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 01/13/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0774	0.00100	units	1	BGA0395	01/17/23	01/17/23	Calculation	

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

Date Sampled: 01/13/23 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 - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

**SE01@6.0'**  
**2301247-04 (Soil)**

**Summit Scientific**

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

% Solids	85.5	%	1	BGA0326	01/15/23	01/15/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.524	0.0100	mmhos/cm	1	BGA0351	01/16/23	01/16/23	EPA 120.1	

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

Date Sampled: **01/13/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.75		pH Units	1	BGA0352	01/16/23	01/16/23	EPA 9045D	

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

### 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 BGA0322 - EPA 5030 Soil MS

##### Blank (BGA0322-BLK1)

Prepared & Analyzed: 01/13/23

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0420		"	0.0400		105	50-150			
<i>Surrogate: Toluene-d8</i>	0.0395		"	0.0400		98.7	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0300		"	0.0400		75.0	50-150			

##### LCS (BGA0322-BS1)

Prepared & Analyzed: 01/13/23

Benzene	0.0950	0.0020	mg/kg	0.100		95.0	70-130			
Toluene	0.0991	0.0050	"	0.100		99.1	70-130			
Ethylbenzene	0.0917	0.0050	"	0.100		91.7	70-130			
m,p-Xylene	0.189	0.010	"	0.200		94.7	70-130			
o-Xylene	0.0866	0.0050	"	0.100		86.6	70-130			
1,2,4-Trimethylbenzene	0.0952	0.0050	"	0.100		95.2	70-130			
1,3,5-Trimethylbenzene	0.0994	0.0050	"	0.100		99.4	70-130			
Naphthalene	0.0910	0.0038	"	0.100		91.0	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0440		"	0.0400		110	50-150			
<i>Surrogate: Toluene-d8</i>	0.0363		"	0.0400		90.8	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0322		"	0.0400		80.5	50-150			

##### Matrix Spike (BGA0322-MS1)

Source: 2301247-01

Prepared & Analyzed: 01/13/23

Benzene	0.0986	0.0020	mg/kg	0.100	ND	98.6	70-130			
Toluene	0.103	0.0050	"	0.100	ND	103	70-130			
Ethylbenzene	0.0869	0.0050	"	0.100	ND	86.9	70-130			
m,p-Xylene	0.184	0.010	"	0.200	ND	92.2	70-130			
o-Xylene	0.0851	0.0050	"	0.100	ND	85.1	70-130			
1,2,4-Trimethylbenzene	0.0922	0.0050	"	0.100	ND	92.2	70-130			
1,3,5-Trimethylbenzene	0.0978	0.0050	"	0.100	ND	97.8	70-130			
Naphthalene	0.104	0.0038	"	0.100	ND	104	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0440		"	0.0400		110	50-150			
<i>Surrogate: Toluene-d8</i>	0.0393		"	0.0400		98.2	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0286		"	0.0400		71.5	50-150			

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

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

**Summit Scientific**

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

**Batch BGA0322 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BGA0322-MSD1)</b>	<b>Source: 2301247-01</b>			<b>Prepared &amp; Analyzed: 01/13/23</b>						
Benzene	0.0930	0.0020	mg/kg	0.100	ND	93.0	70-130	5.82	30	
Toluene	0.0978	0.0050	"	0.100	ND	97.8	70-130	5.46	30	
Ethylbenzene	0.0868	0.0050	"	0.100	ND	86.8	70-130	0.138	30	
m,p-Xylene	0.181	0.010	"	0.200	ND	90.5	70-130	1.91	30	
o-Xylene	0.0855	0.0050	"	0.100	ND	85.5	70-130	0.492	30	
1,2,4-Trimethylbenzene	0.0943	0.0050	"	0.100	ND	94.3	70-130	2.19	30	
1,3,5-Trimethylbenzene	0.0965	0.0050	"	0.100	ND	96.5	70-130	1.36	30	
Naphthalene	0.103	0.0038	"	0.100	ND	103	70-130	1.04	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0432</i>		<i>"</i>	<i>0.0400</i>		<i>108</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0382</i>		<i>"</i>	<i>0.0400</i>		<i>95.5</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0297</i>		<i>"</i>	<i>0.0400</i>		<i>74.3</i>	<i>50-150</i>			

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

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

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

**Batch BGA0323 - EPA 3550A**

**Blank (BGA0323-BLK1)**

Prepared & Analyzed: 01/13/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	5.34		"	12.5		42.7	30-150				

**LCS (BGA0323-BS1)**

Prepared & Analyzed: 01/13/23

C10-C28 (DRO)	475	50	mg/kg	500		95.1	70-130				
Surrogate: <i>o</i> -Terphenyl	16.5		"	12.5		132	30-150				

**Matrix Spike (BGA0323-MS1)**

Source: 2301247-01

Prepared & Analyzed: 01/13/23

C10-C28 (DRO)	432	50	mg/kg	500	24.4	81.5	70-130				
Surrogate: <i>o</i> -Terphenyl	14.2		"	12.5		113	30-150				

**Matrix Spike Dup (BGA0323-MSD1)**

Source: 2301247-01

Prepared & Analyzed: 01/13/23

C10-C28 (DRO)	448	50	mg/kg	500	24.4	84.8	70-130	3.77	20		
Surrogate: <i>o</i> -Terphenyl	13.7		"	12.5		110	30-150				

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

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

**Summit Scientific**

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

**Batch BGA0342 - EPA 5030 Soil MS**

**Blank (BGA0342-BLK1)**

Prepared & Analyzed: 01/16/23

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0251</i>		"	<i>0.0333</i>		<i>75.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0377</i>		"	<i>0.0333</i>		<i>113</i>	<i>40-150</i>			

**LCS (BGA0342-BS1)**

Prepared & Analyzed: 01/16/23

Acenaphthene	0.0354	0.00500	mg/kg	0.0333	106	31-137
Anthracene	0.0348	0.00500	"	0.0333	104	30-120
Benzo (a) anthracene	0.0323	0.00500	"	0.0333	96.9	30-120
Benzo (a) pyrene	0.0330	0.00500	"	0.0333	99.1	30-120
Benzo (b) fluoranthene	0.0328	0.00500	"	0.0333	98.3	30-120
Benzo (k) fluoranthene	0.0342	0.00500	"	0.0333	103	30-120
Chrysene	0.0330	0.00500	"	0.0333	99.0	30-120
Dibenz (a,h) anthracene	0.0290	0.00500	"	0.0333	87.1	30-120
Fluoranthene	0.0355	0.00500	"	0.0333	107	30-120
Fluorene	0.0346	0.00500	"	0.0333	104	30-120
Indeno (1,2,3-cd) pyrene	0.0313	0.00500	"	0.0333	93.8	30-120
Pyrene	0.0351	0.00500	"	0.0333	105	35-142
1-Methylnaphthalene	0.0364	0.00500	"	0.0333	109	35-142
2-Methylnaphthalene	0.0338	0.00500	"	0.0333	101	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0306</i>		"	<i>0.0333</i>	<i>91.7</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0359</i>		"	<i>0.0333</i>	<i>108</i>	<i>40-150</i>

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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

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

**Summit Scientific**

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

**Batch BGA0342 - EPA 5030 Soil MS**

**Matrix Spike (BGA0342-MS1)**

Source: 2301247-01

Prepared & Analyzed: 01/16/23

Acenaphthene	0.0232	0.00500	mg/kg	0.0333	ND	69.5	31-137			
Anthracene	0.0225	0.00500	"	0.0333	ND	67.5	30-120			
Benzo (a) anthracene	0.0218	0.00500	"	0.0333	ND	65.4	30-120			
Benzo (a) pyrene	0.0205	0.00500	"	0.0333	ND	61.4	30-120			
Benzo (b) fluoranthene	0.0206	0.00500	"	0.0333	ND	61.8	30-120			
Benzo (k) fluoranthene	0.0208	0.00500	"	0.0333	ND	62.5	30-120			
Chrysene	0.0207	0.00500	"	0.0333	ND	62.1	30-120			
Dibenz (a,h) anthracene	0.0191	0.00500	"	0.0333	ND	57.2	30-120			
Fluoranthene	0.0232	0.00500	"	0.0333	ND	69.5	30-120			
Fluorene	0.0230	0.00500	"	0.0333	ND	68.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0189	0.00500	"	0.0333	ND	56.7	30-120			
Pyrene	0.0220	0.00500	"	0.0333	ND	65.9	35-142			
1-Methylnaphthalene	0.0252	0.00500	"	0.0333	ND	75.7	15-130			
2-Methylnaphthalene	0.0229	0.00500	"	0.0333	ND	68.6	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0225		"	0.0333		67.5	40-150			
Surrogate: Fluoranthene-d10	0.0230		"	0.0333		68.9	40-150			

**Matrix Spike Dup (BGA0342-MSD1)**

Source: 2301247-01

Prepared & Analyzed: 01/16/23

Acenaphthene	0.0252	0.00500	mg/kg	0.0333	ND	75.5	31-137	8.24	30
Anthracene	0.0251	0.00500	"	0.0333	ND	75.3	30-120	10.9	30
Benzo (a) anthracene	0.0239	0.00500	"	0.0333	ND	71.8	30-120	9.37	30
Benzo (a) pyrene	0.0234	0.00500	"	0.0333	ND	70.1	30-120	13.2	30
Benzo (b) fluoranthene	0.0232	0.00500	"	0.0333	ND	69.5	30-120	11.8	30
Benzo (k) fluoranthene	0.0236	0.00500	"	0.0333	ND	70.8	30-120	12.4	30
Chrysene	0.0229	0.00500	"	0.0333	ND	68.6	30-120	9.98	30
Dibenz (a,h) anthracene	0.0223	0.00500	"	0.0333	ND	66.9	30-120	15.7	30
Fluoranthene	0.0258	0.00500	"	0.0333	ND	77.5	30-120	10.8	30
Fluorene	0.0252	0.00500	"	0.0333	ND	75.5	30-120	9.18	30
Indeno (1,2,3-cd) pyrene	0.0226	0.00500	"	0.0333	ND	67.7	30-120	17.7	30
Pyrene	0.0240	0.00500	"	0.0333	ND	72.0	35-142	8.92	30
1-Methylnaphthalene	0.0237	0.00500	"	0.0333	ND	71.1	15-130	6.27	50
2-Methylnaphthalene	0.0266	0.00500	"	0.0333	ND	79.7	15-130	15.0	50
Surrogate: 2-Methylnaphthalene-d10	0.0171		"	0.0333		51.2	40-150		
Surrogate: Fluoranthene-d10	0.0257		"	0.0333		77.2	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 - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

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

**Summit Scientific**

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

**Batch BGA0330 - EPA 3050B**

**Blank (BGA0330-BLK1)**

Prepared: 01/15/23 Analyzed: 01/16/23

Boron ND 0.0100 mg/L

**LCS (BGA0330-BS1)**

Prepared: 01/15/23 Analyzed: 01/16/23

Boron 5.16 0.0100 mg/L 5.00 103 80-120

**Duplicate (BGA0330-DUP1)**

Source: 2301180-03

Prepared: 01/15/23 Analyzed: 01/16/23

Boron 0.208 0.0100 mg/L 0.206 0.774 20

**Matrix Spike (BGA0330-MS1)**

Source: 2301180-03

Prepared: 01/15/23 Analyzed: 01/16/23

Boron 5.91 0.0100 mg/L 5.00 0.206 114 75-125

**Matrix Spike Dup (BGA0330-MSD1)**

Source: 2301180-03

Prepared: 01/15/23 Analyzed: 01/16/23

Boron 6.47 0.0100 mg/L 5.00 0.206 125 75-125 9.08 25

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

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

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

**Batch BGA0332 - EPA 3050B**

**Blank (BGA0332-BLK1)**

Prepared: 01/15/23 Analyzed: 01/16/23

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 (BGA0332-BS1)**

Prepared: 01/15/23 Analyzed: 01/16/23

Arsenic	47.1	0.200	mg/kg wet	40.0	118	80-120
Barium	43.8	0.400	"	40.0	110	80-120
Cadmium	2.02	0.200	"	2.00	101	80-120
Copper	47.9	0.400	"	40.0	120	80-120
Lead	22.9	0.200	"	20.0	115	80-120
Nickel	47.8	0.400	"	40.0	119	80-120
Selenium	4.54	0.260	"	4.00	114	80-120
Silver	2.40	0.0200	"	2.00	120	80-120
Zinc	46.5	0.400	"	40.0	116	80-120

**Duplicate (BGA0332-DUP1)**

Source: 2301247-01

Prepared: 01/15/23 Analyzed: 01/16/23

Arsenic	1.33	0.237	mg/kg dry	1.48	10.9	20
Barium	15.9	0.474	"	16.7	5.02	20
Cadmium	0.0826	0.237	"	0.0874	5.63	20
Copper	4.39	0.474	"	5.13	15.5	20
Lead	5.58	0.237	"	6.18	10.2	20
Nickel	5.93	0.474	"	6.29	5.83	20
Selenium	0.820	0.308	"	0.850	3.59	20
Silver	0.0227	0.0237	"	0.0228	0.644	20
Zinc	33.9	0.474	"	37.1	9.01	20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

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

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

**Batch BGA0332 - EPA 3050B**

**Matrix Spike (BGA0332-MS1)**

Source: 2301247-01

Prepared: 01/15/23 Analyzed: 01/16/23

Arsenic	54.6	0.237	mg/kg dry	47.4	1.48	112	75-125			
Barium	66.5	0.474	"	47.4	16.7	105	75-125			
Cadmium	2.65	0.237	"	2.37	0.0874	108	75-125			
Copper	52.3	0.474	"	47.4	5.13	99.6	75-125			
Lead	28.0	0.237	"	23.7	6.18	92.1	75-125			
Nickel	55.0	0.474	"	47.4	6.29	103	75-125			
Selenium	5.38	0.308	"	4.74	0.850	95.7	75-125			
Silver	2.43	0.0237	"	2.37	0.0228	102	75-125			
Zinc	85.2	0.474	"	47.4	37.1	102	75-125			

**Matrix Spike Dup (BGA0332-MSD1)**

Source: 2301247-01

Prepared: 01/15/23 Analyzed: 01/16/23

Arsenic	61.4	0.237	mg/kg dry	47.4	1.48	126	75-125	11.6	25	QM-07
Barium	101	0.474	"	47.4	16.7	178	75-125	41.3	25	QM-07
Cadmium	3.01	0.237	"	2.37	0.0874	124	75-125	13.0	25	
Copper	59.5	0.474	"	47.4	5.13	115	75-125	12.9	25	
Lead	31.7	0.237	"	23.7	6.18	108	75-125	12.4	25	
Nickel	62.0	0.474	"	47.4	6.29	118	75-125	12.0	25	
Selenium	5.95	0.308	"	4.74	0.850	108	75-125	10.1	25	
Silver	2.78	0.0237	"	2.37	0.0228	116	75-125	13.2	25	
Zinc	94.5	0.474	"	47.4	37.1	121	75-125	10.3	25	

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

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

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

**Batch BGA0360 - 3060A Mod**

**Blank (BGA0360-BLK1)**

Prepared & Analyzed: 01/16/23

Chromium, Hexavalent      ND      0.30    mg/kg wet

**LCS (BGA0360-BS1)**

Prepared & Analyzed: 01/16/23

Chromium, Hexavalent      24.1      0.30    mg/kg wet      25.0      96.4      80-120

**Duplicate (BGA0360-DUP1)**

**Source: 2301257-01**

Prepared & Analyzed: 01/16/23

Chromium, Hexavalent      ND      0.30    mg/kg dry      ND      20

**Matrix Spike (BGA0360-MS1)**

**Source: 2301257-01**

Prepared & Analyzed: 01/16/23

Chromium, Hexavalent      26.6      0.30    mg/kg dry      27.6      ND      96.4      75-125

**Matrix Spike Dup (BGA0360-MSD1)**

**Source: 2301257-01**

Prepared & Analyzed: 01/16/23

Chromium, Hexavalent      23.1      0.30    mg/kg dry      27.6      ND      83.8      75-125      14.0      20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

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

**Summit Scientific**

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

**Batch BGA0327 - General Preparation**

**Blank (BGA0327-BLK1)**

Prepared: 01/15/23 Analyzed: 01/17/23

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

**LCS (BGA0327-BS1)**

Prepared: 01/15/23 Analyzed: 01/17/23

Calcium	5.15	0.0500	mg/L wet	5.00		103	70-130			
Magnesium	5.34	0.0500	"	5.00		107	70-130			
Sodium	4.93	0.0500	"	5.00		98.6	70-130			

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

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

**Summit Scientific**

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

**Batch BGA0326 - General Preparation**

**Duplicate (BGA0326-DUP1)**

**Source: 2301247-01**

Prepared & Analyzed: 01/15/23

% Solids	84.6		%		84.4			0.233	20	
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Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

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

**Summit Scientific**

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

**Batch BGA0351 - General Preparation**

**Blank (BGA0351-BLK1)**

Prepared & Analyzed: 01/16/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGA0351-BS1)**

Prepared & Analyzed: 01/16/23

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

**Duplicate (BGA0351-DUP1)**

Source: 2301153-05

Prepared & Analyzed: 01/16/23

Specific Conductance (EC) 0.801 0.0100 mmhos/cm 0.789 1.43 20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/18/23 13:41

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

**Summit Scientific**

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

**Batch BGA0352 - General Preparation**

**LCS (BGA0352-BS1)**

Prepared & Analyzed: 01/16/23

pH	9.06	pH Units	9.18	98.7	95-105
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**Duplicate (BGA0352-DUP1)**

Source: 2301153-05

Prepared & Analyzed: 01/16/23

pH	7.71	pH Units	7.77	0.775	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/18/23 13:41

### Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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

January 23, 2023

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549

RE: Noble - Beeler 22-12, 13

Work Order #2301274

Enclosed are the results of analyses for samples received by Summit Scientific on 01/16/23 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Scott Sheely For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B02@7.5'	2301274-01	Soil	01/16/23 00:00	01/16/23 16:30
NW02@6.0'	2301274-02	Soil	01/16/23 00:00	01/16/23 16:30
SE02@6.0'	2301274-03	Soil	01/16/23 00:00	01/16/23 16:30
SW01@6.0'	2301274-04	Soil	01/16/23 00:00	01/16/23 16:30
BKG01@7.0	2301274-05	Soil	01/16/23 00:00	01/16/23 16:30

Summit Scientific

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2301274

# Summit Scientific

S<sub>2</sub>

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

Client: Fremont Env

Project Manager: Paul Henenan

Address:

E-Mail: Paulh@fremontenv.com jeffg@fremontenv.com

City/State/Zip:

Ethanb@fremontenv.com

Phone:

Project Name: Beeler 22-12,13

Sampler Name: JG

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	BTEX+N	TMBs (915)	GAO, PRO, PRO	PAHs (915)	ES, PH, SAR <small>(Boron)</small>	Metals (915)		
1	B02@7.5'	01/16/23		2			X			X				X	X	X	X	X	X	
2	NV02@6.0'	↓		1																
3	SE02@6.0'	↓		1																
4	SW01@6.0'	↓		2										X	X	X	X			
5	BK601@7.0'	↓		1													X	X		
6																				
7																				
8																				
9																				
10																				

Relinquished by: <u>[Signature]</u>	Date/Time: <u>01/16/23</u>	Received by: <u>SZ</u>	Date/Time: <u>1/16/23</u>	<b>Turn Around Time (Check)</b> 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="checkbox"/> Yes <input type="checkbox"/> No	<b>Notes:</b>  Bill to Noble
Relinquished by: <u>SZ</u>	Date/Time: <u>1/16/23</u> <u>1030</u>	Received by: <u>[Signature]</u>	Date/Time: <u>1/16/23</u> <u>1030</u>		
Temperature Upon Receipt: <u>8C</u>	Corrected Temperature: <u>[Signature]</u>	HNO <sub>3</sub> lot # _____			
IR gun correction: <u>0</u>	IR gun #: <u>1</u>				

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2301274

Client: Framont Client Project ID: Becker 22-12,13

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

Matrix (Check all that apply) Air  Soil/Solid  Water  Other

Temp (°C)  Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> NOTE: 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 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 type="checkbox"/>	<input checked="" 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.

[Signature]  
Custodian Printed Name

1-16-23  
Date/Time



Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

**B02@7.5'**  
**2301274-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0370	01/16/23	01/17/23	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: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0531	133 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0375	93.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0410	103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0371	01/16/23	01/17/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.9	111 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

**B02@7.5'**  
**2301274-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0373	01/17/23	01/17/23	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: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0169	50.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0201	60.4 %	40-150		"	"	"	"	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.689</b>	0.0100	mg/L	1	BGA0386	01/17/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/16/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

**B02@7.5'**  
**2301274-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.69	0.240	mg/kg dry	1	BGA0417	01/17/23	01/20/23	EPA 6020B
Barium	18.6	0.480	"	"	"	"	"	"
Cadmium	0.0256	0.240	"	"	"	"	"	"
Copper	5.22	0.480	"	"	"	"	"	"
Lead	5.90	0.240	"	"	"	"	"	"
Nickel	6.54	0.480	"	"	"	"	"	"
Selenium	0.481	0.312	"	"	"	"	"	"
Silver	0.0174	0.0240	"	"	"	"	"	"
Zinc	37.1	0.480	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 01/16/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0392	01/17/23	01/17/23	EPA 7196A	

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

Date Sampled: 01/16/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	4.06	0.0600	mg/L dry	1	BGA0372	01/16/23	01/18/23	EPA 6020B	
Magnesium	4.15	0.0600	"	"	"	"	"	"	
Sodium	287	0.0600	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 01/16/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	23.9	0.00100	units	1	BGA0447	01/18/23	01/18/23	Calculation	

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

Date Sampled: 01/16/23 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 - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

**B02@7.5'**  
**2301274-01 (Soil)**

**Summit Scientific**

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

% Solids	83.3	%	1	BGA0390	01/17/23	01/17/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.25	0.0100	mmhos/cm	1	BGA0388	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.72		pH Units	1	BGA0389	01/17/23	01/17/23	EPA 9045D	

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

**NW02@6.0'**  
**2301274-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0370	01/16/23	01/17/23	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: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0530	132 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0375	93.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0409	102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0371	01/16/23	01/17/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.9	119 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

**NW02@6.0'**  
**2301274-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0373	01/17/23	01/17/23	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: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0169	50.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0202	60.7 %	40-150		"	"	"	"	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.222</b>	0.0100	mg/L	1	BGA0386	01/17/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/16/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

**NW02@6.0'**  
**2301274-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.31	0.232	mg/kg dry	1	BGA0417	01/17/23	01/20/23	EPA 6020B	
Barium	47.4	0.464	"	"	"	"	"	"	
Cadmium	0.0364	0.232	"	"	"	"	"	"	
Copper	4.99	0.464	"	"	"	"	"	"	
Lead	5.92	0.232	"	"	"	"	"	"	
Nickel	6.69	0.464	"	"	"	"	"	"	
Selenium	0.659	0.302	"	"	"	"	"	"	
Silver	0.0183	0.0232	"	"	"	"	"	"	
Zinc	33.1	0.464	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0392	01/17/23	01/17/23	EPA 7196A	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	458	0.0580	mg/L dry	1	BGA0372	01/16/23	01/18/23	EPA 6020B	
Magnesium	141	0.0580	"	"	"	"	"	"	
Sodium	28.2	0.0580	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.296	0.00100	units	1	BGA0447	01/18/23	01/18/23	Calculation	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
 PO Box 1289  
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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

**NW02@6.0'**  
**2301274-02 (Soil)**

**Summit Scientific**

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

% Solids	86.2	%	1	BGA0390	01/17/23	01/17/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.87	0.0100	mmhos/cm	1	BGA0388	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.56		pH Units	1	BGA0389	01/17/23	01/17/23	EPA 9045D	

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

**SE02@6.0'**  
**2301274-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0370	01/16/23	01/17/23	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: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0542	135 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0378	94.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0371	01/16/23	01/17/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.4	98.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

**SE02@6.0'**  
**2301274-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0373	01/17/23	01/17/23	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: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0186	55.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0226	67.8 %	40-150		"	"	"	"	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.229</b>	0.0100	mg/L	1	BGA0386	01/17/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/16/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

**SE02@6.0'**  
**2301274-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.38	0.241	mg/kg dry	1	BGA0417	01/17/23	01/20/23	EPA 6020B	
Barium	72.7	0.483	"	"	"	"	"	"	
Cadmium	0.0358	0.241	"	"	"	"	"	"	
Copper	4.03	0.483	"	"	"	"	"	"	
Lead	5.12	0.241	"	"	"	"	"	"	
Nickel	5.79	0.483	"	"	"	"	"	"	
Selenium	0.461	0.314	"	"	"	"	"	"	
Silver	0.0230	0.0241	"	"	"	"	"	"	
Zinc	30.1	0.483	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0392	01/17/23	01/17/23	EPA 7196A	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	188	0.0603	mg/L dry	1	BGA0372	01/16/23	01/18/23	EPA 6020B	
Magnesium	36.7	0.0603	"	"	"	"	"	"	
Sodium	13.3	0.0603	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.232	0.00100	units	1	BGA0447	01/18/23	01/18/23	Calculation	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
 PO Box 1289  
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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

**SE02@6.0'**  
**2301274-03 (Soil)**

**Summit Scientific**

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

% Solids	82.9	%	1	BGA0390	01/17/23	01/17/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.34	0.0100	mmhos/cm	1	BGA0388	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.56		pH Units	1	BGA0389	01/17/23	01/17/23	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

**SW01@6.0'**  
**2301274-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0370	01/16/23	01/17/23	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: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0546	136 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0376	94.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0413	103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0371	01/16/23	01/17/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.0	88.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

**SW01@6.0'**  
**2301274-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0373	01/17/23	01/17/23	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: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0171	51.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0217	65.0 %	40-150		"	"	"	"	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0830</b>	0.0100	mg/L	1	BGA0386	01/17/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/16/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

**SW01@6.0'**  
**2301274-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.77	0.234	mg/kg dry	1	BGA0417	01/17/23	01/20/23	EPA 6020B
Barium	36.1	0.468	"	"	"	"	"	"
Cadmium	0.0383	0.234	"	"	"	"	"	"
Copper	4.41	0.468	"	"	"	"	"	"
Lead	5.48	0.234	"	"	"	"	"	"
Nickel	6.50	0.468	"	"	"	"	"	"
Selenium	0.527	0.304	"	"	"	"	"	"
Silver	0.0214	0.0234	"	"	"	"	"	"
Zinc	28.9	0.468	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 01/16/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0392	01/17/23	01/17/23	EPA 7196A	

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

Date Sampled: 01/16/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	509	0.0584	mg/L dry	1	BGA0372	01/16/23	01/18/23	EPA 6020B	
Magnesium	79.6	0.0584	"	"	"	"	"	"	
Sodium	22.3	0.0584	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 01/16/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.243	0.00100	units	1	BGA0447	01/18/23	01/18/23	Calculation	

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

Date Sampled: 01/16/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

**SW01@6.0'**  
**2301274-04 (Soil)**

**Summit Scientific**

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

% Solids	85.6	%	1	BGA0390	01/17/23	01/17/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.70	0.0100	mmhos/cm	1	BGA0388	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.49		pH Units	1	BGA0389	01/17/23	01/17/23	EPA 9045D	

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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

**BKG01@7.0**  
**2301274-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.558	0.0100	mg/L	1	BGA0386	01/17/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.81	0.216	mg/kg dry	1	BGA0417	01/17/23	01/20/23	EPA 6020B	
Barium	123	0.433	"	"	"	"	"	"	
Cadmium	0.128	0.216	"	"	"	"	"	"	
Copper	11.4	0.433	"	"	"	"	"	"	
Lead	6.14	0.216	"	"	"	"	"	"	
Nickel	47.7	0.433	"	"	"	"	"	"	
Selenium	0.615	0.281	"	"	"	"	"	"	
Silver	0.0275	0.0216	"	"	"	"	"	"	
Zinc	30.4	0.433	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0392	01/17/23	01/17/23	EPA 7196A	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	403	0.0541	mg/L dry	1	BGA0372	01/16/23	01/18/23	EPA 6020B	
Magnesium	365	0.0541	"	"	"	"	"	"	
Sodium	313	0.0541	"	"	"	"	"	"	

**Calculated Analysis**

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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

**BKG01@7.0**  
**2301274-05 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.72	0.00100	units	1	BGA0447	01/18/23	01/18/23	Calculation	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.4		%	1	BGA0390	01/17/23	01/17/23	Calculation	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.98	0.0100	mmhos/cm	1	BGA0388	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/16/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.76		pH Units	1	BGA0389	01/17/23	01/17/23	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

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

#### Summit Scientific

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

#### Batch BGA0370 - EPA 5030 Soil MS

##### Blank (BGA0370-BLK1)

Prepared: 01/16/23 Analyzed: 01/17/23

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	0.0527		"	0.0400		132	50-150			
Surrogate: Toluene-d8	0.0378		"	0.0400		94.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0400		101	50-150			

##### LCS (BGA0370-BS1)

Prepared: 01/16/23 Analyzed: 01/17/23

Benzene	0.0835	0.0020	mg/kg	0.100		83.5	70-130			
Toluene	0.0811	0.0050	"	0.100		81.1	70-130			
Ethylbenzene	0.108	0.0050	"	0.100		108	70-130			
m,p-Xylene	0.204	0.010	"	0.200		102	70-130			
o-Xylene	0.102	0.0050	"	0.100		102	70-130			
1,2,4-Trimethylbenzene	0.0977	0.0050	"	0.100		97.7	70-130			
1,3,5-Trimethylbenzene	0.0958	0.0050	"	0.100		95.8	70-130			
Naphthalene	0.108	0.0038	"	0.100		108	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0530		"	0.0400		133	50-150			
Surrogate: Toluene-d8	0.0380		"	0.0400		95.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		95.9	50-150			

##### Matrix Spike (BGA0370-MS1)

Source: 2301278-01

Prepared: 01/16/23 Analyzed: 01/17/23

Benzene	0.0839	0.0020	mg/kg	0.100	ND	83.9	70-130			
Toluene	0.0828	0.0050	"	0.100	ND	82.8	70-130			
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130			
m,p-Xylene	0.208	0.010	"	0.200	ND	104	70-130			
o-Xylene	0.103	0.0050	"	0.100	ND	103	70-130			
1,2,4-Trimethylbenzene	0.0967	0.0050	"	0.100	ND	96.7	70-130			
1,3,5-Trimethylbenzene	0.0936	0.0050	"	0.100	ND	93.6	70-130			
Naphthalene	0.0996	0.0038	"	0.100	ND	99.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0539		"	0.0400		135	50-150			
Surrogate: Toluene-d8	0.0387		"	0.0400		96.7	50-150			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.1	50-150			

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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

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

**Summit Scientific**

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

**Batch BGA0370 - EPA 5030 Soil MS**

Matrix Spike Dup (BGA0370-MSD1)	Source: 2301278-01			Prepared: 01/16/23 Analyzed: 01/17/23						
Benzene	0.0847	0.0020	mg/kg	0.100	ND	84.7	70-130	0.925	30	
Toluene	0.0842	0.0050	"	0.100	ND	84.2	70-130	1.65	30	
Ethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130	5.32	30	
m,p-Xylene	0.242	0.010	"	0.200	ND	121	70-130	15.4	30	
o-Xylene	0.106	0.0050	"	0.100	ND	106	70-130	3.56	30	
1,2,4-Trimethylbenzene	0.121	0.0050	"	0.100	ND	121	70-130	22.5	30	
1,3,5-Trimethylbenzene	0.123	0.0050	"	0.100	ND	123	70-130	27.0	30	
Naphthalene	0.123	0.0038	"	0.100	ND	123	70-130	20.7	30	
Surrogate: 1,2-Dichloroethane-d4	0.0560		"	0.0400		140	50-150			
Surrogate: Toluene-d8	0.0379		"	0.0400		94.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.4	50-150			

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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

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

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

**Batch BGA0371 - EPA 3550A**

**Blank (BGA0371-BLK1)**

Prepared: 01/16/23 Analyzed: 01/17/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	7.96		"	12.5		63.7	30-150				

**LCS (BGA0371-BS1)**

Prepared: 01/16/23 Analyzed: 01/17/23

C10-C28 (DRO)	415	50	mg/kg	500		83.0	70-130				
Surrogate: <i>o</i> -Terphenyl	7.45		"	12.5		59.6	30-150				

**Matrix Spike (BGA0371-MS1)**

Source: 2301278-01

Prepared: 01/16/23 Analyzed: 01/17/23

C10-C28 (DRO)	398	50	mg/kg	500	ND	79.6	70-130				
Surrogate: <i>o</i> -Terphenyl	8.16		"	12.5		65.3	30-150				

**Matrix Spike Dup (BGA0371-MSD1)**

Source: 2301278-01

Prepared: 01/16/23 Analyzed: 01/17/23

C10-C28 (DRO)	423	50	mg/kg	500	ND	84.6	70-130	6.04	20		
Surrogate: <i>o</i> -Terphenyl	7.70		"	12.5		61.6	30-150				

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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

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

**Summit Scientific**

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

**Batch BGA0373 - EPA 5030 Soil MS**

**Blank (BGA0373-BLK1)**

Prepared & Analyzed: 01/17/23

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0315</i>		"	<i>0.0333</i>		<i>94.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0349</i>		"	<i>0.0333</i>		<i>105</i>	<i>40-150</i>			

**LCS (BGA0373-BS1)**

Prepared & Analyzed: 01/17/23

Acenaphthene	0.0375	0.00500	mg/kg	0.0333		112	31-137			
Anthracene	0.0371	0.00500	"	0.0333		111	30-120			
Benzo (a) anthracene	0.0345	0.00500	"	0.0333		104	30-120			
Benzo (a) pyrene	0.0354	0.00500	"	0.0333		106	30-120			
Benzo (b) fluoranthene	0.0363	0.00500	"	0.0333		109	30-120			
Benzo (k) fluoranthene	0.0372	0.00500	"	0.0333		112	30-120			
Chrysene	0.0356	0.00500	"	0.0333		107	30-120			
Dibenz (a,h) anthracene	0.0328	0.00500	"	0.0333		98.5	30-120			
Fluoranthene	0.0318	0.00500	"	0.0333		95.3	30-120			
Fluorene	0.0374	0.00500	"	0.0333		112	30-120			
Indeno (1,2,3-cd) pyrene	0.0354	0.00500	"	0.0333		106	30-120			
Pyrene	0.0264	0.00500	"	0.0333		79.3	35-142			
1-Methylnaphthalene	0.0369	0.00500	"	0.0333		111	35-142			
2-Methylnaphthalene	0.0366	0.00500	"	0.0333		110	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0304</i>		"	<i>0.0333</i>		<i>91.2</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0387</i>		"	<i>0.0333</i>		<i>116</i>	<i>40-150</i>			

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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

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

**Summit Scientific**

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

**Batch BGA0373 - EPA 5030 Soil MS**

<b>Matrix Spike (BGA0373-MS1)</b>	<b>Source: 2301241-01</b>			<b>Prepared &amp; Analyzed: 01/17/23</b>							
Acenaphthene	0.0237	0.00500	mg/kg	0.0333	ND	71.1	31-137				
Anthracene	0.0239	0.00500	"	0.0333	ND	71.6	30-120				
Benzo (a) anthracene	0.0245	0.00500	"	0.0333	ND	73.5	30-120				
Benzo (a) pyrene	0.0249	0.00500	"	0.0333	0.00186	69.0	30-120				
Benzo (b) fluoranthene	0.0262	0.00500	"	0.0333	ND	78.7	30-120				
Benzo (k) fluoranthene	0.0239	0.00500	"	0.0333	0.00206	65.7	30-120				
Chrysene	0.0244	0.00500	"	0.0333	ND	73.2	30-120				
Dibenz (a,h) anthracene	0.0187	0.00500	"	0.0333	ND	56.1	30-120				
Fluoranthene	0.0207	0.00500	"	0.0333	ND	62.0	30-120				
Fluorene	0.0237	0.00500	"	0.0333	ND	71.1	30-120				
Indeno (1,2,3-cd) pyrene	0.0238	0.00500	"	0.0333	0.00197	65.5	30-120				
Pyrene	0.0188	0.00500	"	0.0333	ND	56.3	35-142				
1-Methylnaphthalene	0.0257	0.00500	"	0.0333	ND	77.1	15-130				
2-Methylnaphthalene	0.0273	0.00500	"	0.0333	ND	81.8	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0242</i>		<i>"</i>	<i>0.0333</i>		<i>72.6</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0252</i>		<i>"</i>	<i>0.0333</i>		<i>75.5</i>	<i>40-150</i>				

<b>Matrix Spike Dup (BGA0373-MSD1)</b>	<b>Source: 2301241-01</b>			<b>Prepared &amp; Analyzed: 01/17/23</b>							
Acenaphthene	0.0236	0.00500	mg/kg	0.0333	ND	70.9	31-137	0.282	30		
Anthracene	0.0233	0.00500	"	0.0333	ND	69.8	30-120	2.54	30		
Benzo (a) anthracene	0.0247	0.00500	"	0.0333	ND	74.1	30-120	0.809	30		
Benzo (a) pyrene	0.0235	0.00500	"	0.0333	0.00186	64.8	30-120	5.71	30		
Benzo (b) fluoranthene	0.0251	0.00500	"	0.0333	ND	75.2	30-120	4.57	30		
Benzo (k) fluoranthene	0.0234	0.00500	"	0.0333	0.00206	64.0	30-120	2.29	30		
Chrysene	0.0244	0.00500	"	0.0333	ND	73.2	30-120	0.0464	30		
Dibenz (a,h) anthracene	0.0184	0.00500	"	0.0333	ND	55.2	30-120	1.57	30		
Fluoranthene	0.0196	0.00500	"	0.0333	ND	58.7	30-120	5.48	30		
Fluorene	0.0237	0.00500	"	0.0333	ND	71.0	30-120	0.186	30		
Indeno (1,2,3-cd) pyrene	0.0229	0.00500	"	0.0333	0.00197	62.8	30-120	3.89	30		
Pyrene	0.0187	0.00500	"	0.0333	ND	56.0	35-142	0.693	30		
1-Methylnaphthalene	0.0242	0.00500	"	0.0333	ND	72.7	15-130	5.89	50		
2-Methylnaphthalene	0.0261	0.00500	"	0.0333	ND	78.2	15-130	4.58	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0217</i>		<i>"</i>	<i>0.0333</i>		<i>65.2</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0254</i>		<i>"</i>	<i>0.0333</i>		<i>76.3</i>	<i>40-150</i>				

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 - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

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

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

**Batch BGA0386 - EPA 3050B**

**Blank (BGA0386-BLK1)**

Prepared: 01/17/23 Analyzed: 01/20/23

Boron ND 0.0100 mg/L

**LCS (BGA0386-BS1)**

Prepared: 01/17/23 Analyzed: 01/20/23

Boron 5.83 0.0100 mg/L 5.00 117 80-120

**Duplicate (BGA0386-DUP1)**

**Source: 2301274-01**

Prepared: 01/17/23 Analyzed: 01/20/23

Boron 0.709 0.0100 mg/L 0.689 2.76 20

**Matrix Spike (BGA0386-MS1)**

**Source: 2301274-01**

Prepared: 01/17/23 Analyzed: 01/20/23

Boron 5.16 0.0100 mg/L 5.00 0.689 89.5 75-125

**Matrix Spike Dup (BGA0386-MSD1)**

**Source: 2301274-01**

Prepared: 01/17/23 Analyzed: 01/20/23

Boron 5.08 0.0100 mg/L 5.00 0.689 87.8 75-125 1.64 25

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

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

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

**Batch BGA0417 - EPA 3050B**

**Blank (BGA0417-BLK1)**

Prepared: 01/17/23 Analyzed: 01/20/23

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Cadmium	ND	0.200	"							
Copper	0.108	0.400	"							
Lead	ND	0.200	"							
Nickel	ND	0.400	"							
Selenium	ND	0.260	"							
Silver	ND	0.0200	"							
Zinc	ND	0.400	"							

**LCS (BGA0417-BS1)**

Prepared: 01/17/23 Analyzed: 01/20/23

Arsenic	47.0	0.200	mg/kg wet	40.0		118	80-120			
Barium	42.8	0.400	"	40.0		107	80-120			
Cadmium	2.13	0.200	"	2.00		107	80-120			
Copper	43.0	0.400	"	40.0		107	80-120			
Lead	19.8	0.200	"	20.0		99.1	80-120			
Nickel	42.9	0.400	"	40.0		107	80-120			
Selenium	4.38	0.260	"	4.00		109	80-120			
Silver	2.10	0.0200	"	2.00		105	80-120			
Zinc	44.3	0.400	"	40.0		111	80-120			

**Duplicate (BGA0417-DUP1)**

Source: 2301217-06

Prepared: 01/17/23 Analyzed: 01/20/23

Arsenic	0.270	0.208	mg/kg dry	0.399		38.5	20		QR-03
Barium	11.6	0.416	"	14.1		19.7	20		
Cadmium	0.0200	0.208	"	0.0253		23.6	20		QR-01
Copper	1.46	0.416	"	2.37		47.4	20		QR-03
Lead	1.38	0.208	"	2.01		37.3	20		QR-03
Nickel	0.996	0.416	"	1.18		17.1	20		
Selenium	0.187	0.271	"	0.219		16.0	20		
Silver	0.00834	0.0208	"	0.0108		25.3	20		QR-01
Zinc	5.94	0.416	"	7.73		26.2	20		QR-03

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

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

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

**Batch BGA0417 - EPA 3050B**

**Matrix Spike (BGA0417-MS1)**

Source: 2301217-06

Prepared: 01/17/23 Analyzed: 01/20/23

Arsenic	51.9	0.208	mg/kg dry	41.6	0.399	124	75-125			
Barium	59.4	0.416	"	41.6	14.1	109	75-125			
Cadmium	2.37	0.208	"	2.08	0.0253	113	75-125			
Copper	47.8	0.416	"	41.6	2.37	109	75-125			
Lead	23.0	0.208	"	20.8	2.01	101	75-125			
Nickel	47.8	0.416	"	41.6	1.18	112	75-125			
Selenium	4.97	0.271	"	4.16	0.219	114	75-125			
Silver	2.28	0.0208	"	2.08	0.0108	109	75-125			
Zinc	55.1	0.416	"	41.6	7.73	114	75-125			

**Matrix Spike Dup (BGA0417-MSD1)**

Source: 2301217-06

Prepared: 01/17/23 Analyzed: 01/20/23

Arsenic	50.7	0.208	mg/kg dry	41.6	0.399	121	75-125	2.28	25
Barium	60.7	0.416	"	41.6	14.1	112	75-125	2.20	25
Cadmium	2.33	0.208	"	2.08	0.0253	111	75-125	1.87	25
Copper	47.1	0.416	"	41.6	2.37	107	75-125	1.41	25
Lead	22.6	0.208	"	20.8	2.01	98.7	75-125	1.98	25
Nickel	47.1	0.416	"	41.6	1.18	110	75-125	1.46	25
Selenium	4.62	0.271	"	4.16	0.219	106	75-125	7.25	25
Silver	2.27	0.0208	"	2.08	0.0108	109	75-125	0.483	25
Zinc	53.5	0.416	"	41.6	7.73	110	75-125	2.85	25

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

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

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

**Batch BGA0392 - 3060A Mod**

**Blank (BGA0392-BLK1)**

Prepared & Analyzed: 01/17/23

Chromium, Hexavalent      ND      0.30 mg/kg wet

**LCS (BGA0392-BS1)**

Prepared & Analyzed: 01/17/23

Chromium, Hexavalent      20.8      0.30 mg/kg wet      25.0      83.0      80-120

**Duplicate (BGA0392-DUP1)**

**Source: 2301274-02**

Prepared & Analyzed: 01/17/23

Chromium, Hexavalent      ND      0.30 mg/kg dry      ND      20

**Matrix Spike (BGA0392-MS1)**

**Source: 2301274-02**

Prepared & Analyzed: 01/17/23

Chromium, Hexavalent      25.4      0.30 mg/kg dry      29.0      ND      87.4      75-125

**Matrix Spike Dup (BGA0392-MSD1)**

**Source: 2301274-02**

Prepared & Analyzed: 01/17/23

Chromium, Hexavalent      27.5      0.30 mg/kg dry      29.0      ND      94.8      75-125      8.12      20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

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

**Summit Scientific**

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

**Batch BGA0372 - General Preparation**

**Blank (BGA0372-BLK1)**

Prepared: 01/16/23 Analyzed: 01/18/23

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

**LCS (BGA0372-BS1)**

Prepared: 01/16/23 Analyzed: 01/18/23

Calcium	4.82	0.0500	mg/L wet	5.00		96.3	70-130			
Magnesium	5.65	0.0500	"	5.00		113	70-130			
Sodium	5.78	0.0500	"	5.00		116	70-130			

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

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

**Summit Scientific**

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

**Batch BGA0390 - General Preparation**

**Duplicate (BGA0390-DUP1)**

**Source: 2301274-01**

Prepared & Analyzed: 01/17/23

% Solids	83.0		%		83.3			0.319	20	
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Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

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

**Summit Scientific**

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

**Batch BGA0388 - General Preparation**

**Blank (BGA0388-BLK1)**

Prepared & Analyzed: 01/17/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGA0388-BS1)**

Prepared & Analyzed: 01/17/23

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

**Duplicate (BGA0388-DUP1)**

Source: 2301274-01

Prepared & Analyzed: 01/17/23

Specific Conductance (EC) 1.22 0.0100 mmhos/cm 1.25 2.51 20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:15

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

**Summit Scientific**

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

**Batch BGA0389 - General Preparation**

**LCS (BGA0389-BS1)**

Prepared & Analyzed: 01/17/23

pH	9.15	pH Units	9.18	99.7	95-105
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**Duplicate (BGA0389-DUP1)**

Source: 2301274-01

Prepared & Analyzed: 01/17/23

pH	8.47	pH Units	8.72	2.91	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:15

### Notes and Definitions

- QR-03     The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QR-01     Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- 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

January 23, 2023

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549

RE: Noble - Beeler 22-12, 13

Work Order #2301292

Enclosed are the results of analyses for samples received by Summit Scientific on 01/17/23 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Scott Sheely For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B03@7.0'	2301292-01	Soil	01/17/23 00:00	01/17/23 16:30
B04@7.0'	2301292-02	Soil	01/17/23 00:00	01/17/23 16:30
NW03@6.0'	2301292-03	Soil	01/17/23 00:00	01/17/23 16:30
NW04@6.0'	2301292-04	Soil	01/17/23 00:00	01/17/23 16:30
NE02@6.0'	2301292-05	Soil	01/17/23 00:00	01/17/23 16:30
SW02@6.0'	2301292-06	Soil	01/17/23 00:00	01/17/23 16:30
SE03@6.0'	2301292-07	Soil	01/17/23 00:00	01/17/23 16:30
SE04@6.0'	2301292-08	Soil	01/17/23 00:00	01/17/23 16:30

Summit Scientific

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# SUMMIT SCIENTIFIC

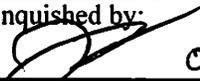
4653 Table Mountain Drive  
Golden, CO 80403  
303-277-9310

2301292

Lab ID	Page 1 of 1
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Send Data To:		Send Invoice To:	
Client: Fremont Env	Project Manager: Paul Henchan	Company: Noble	
Address:	E-Mail: Paulh@fremontenv.com	Project Name/Location:	
City/State/Zip:	jeffg@fremontenv.com Ethanb@fremontenv.com	AFE#:	
Phone:	Project Name: Beeler 22-12,13	PO/Billing Codes:	
Sampler Name: J6	Project Number:	Contact:	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX+N	TMBs (915)	DRO,ORO,6RO	PAHs (915)	EC,PH,SAR Seron		Metals (915)
1	B03@7.0'	01/17/23		2			X			X			X	X	X	X	X	X	
2	B04@7.0'						X			X									
3	NW03@6.0'						X			X									
4	NW04@6.0'						X			X									
5	NE02@6.0'						X			X									
6	SW03@6.0'						X			X									
7	SE03@6.0'						X			X									
8	SE04@6.0'						X			X									
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: 	Date/Time: 01/17/23	Received by: SZ	Date/Time: 11723	TAT Business Days	Field DO	Notes:  Bill to Noble
Relinquished by: SZ	Date/Time: 11723 1630	Received by: 	Date/Time: 11723 11030	Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: 7.0	Corrected Temperature: 	IR gun #: 1	HNO3 lot #:	Standard	Field Turb.	

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2301292

Client: Fremont Client Project ID: Becker 22-12,13

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other  Airbill #: \_\_\_\_\_

-

Matrix (Check all that apply) Air  Soil/Solid  Water  Other

Temp (°C) 7.8 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> NOTE: 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 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 type="checkbox"/>	<input checked="" 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.

[Signature]  
Custodian Printed Name

1-17-23  
Date/Time



Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

**B03@7.0'**  
**2301292-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGA0418	01/17/23	01/17/23	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: **01/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0528	132 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0375	93.7 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0407	102 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0419	01/17/23	01/17/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	14.8	118 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

**B03@7.0'**  
**2301292-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0422	01/18/23	01/18/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0142	42.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0175	52.5 %	40-150		"	"	"	"	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.218</b>	0.0100	mg/L	1	BGA0428	01/18/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/17/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**B03@7.0'**  
**2301292-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.70	0.240	mg/kg dry	1	BGA0430	01/18/23	01/20/23	EPA 6020B
Barium	9.90	0.481	"	"	"	"	"	"
Cadmium	0.0951	0.240	"	"	"	"	"	"
Copper	4.28	0.481	"	"	"	"	"	"
Lead	6.42	0.240	"	"	"	"	"	"
Nickel	4.69	0.481	"	"	"	"	"	"
Selenium	ND	0.312	"	"	"	"	"	"
Silver	0.0125	0.0240	"	"	"	"	"	"
Zinc	22.2	0.481	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0467	01/19/23	01/19/23	EPA 7196A	

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

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	61.3	0.0601	mg/L dry	1	BGA0420	01/17/23	01/19/23	EPA 6020B	
Magnesium	109	0.0601	"	"	"	"	"	"	
Sodium	151	0.0601	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.67	0.00100	units	1	BGA0502	01/20/23	01/20/23	Calculation	

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

Date Sampled: 01/17/23 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 - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

**B03@7.0'**  
**2301292-01 (Soil)**

**Summit Scientific**

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

% Solids	83.2	%	1	BGA0441	01/18/23	01/18/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.73	0.0100	mmhos/cm	1	BGA0446	01/18/23	01/18/23	EPA 120.1	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.88		pH Units	1	BGA0445	01/18/23	01/18/23	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**B04@7.0'**  
**2301292-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0418	01/17/23	01/17/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0530	133 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0377	94.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0400	100 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0419	01/17/23	01/17/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.2	122 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**B04@7.0'**  
**2301292-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0422	01/18/23	01/18/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0135	40.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0221	66.3 %	40-150		"	"	"	"	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.308</b>	0.0100	mg/L	1	BGA0428	01/18/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/17/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**B04@7.0'**  
**2301292-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	10.1	0.245	mg/kg dry	1	BGA0430	01/18/23	01/20/23	EPA 6020B	
Barium	19.6	0.491	"	"	"	"	"	"	
Cadmium	0.153	0.245	"	"	"	"	"	"	
Copper	6.88	0.491	"	"	"	"	"	"	
Lead	10.2	0.245	"	"	"	"	"	"	
Nickel	6.83	0.491	"	"	"	"	"	"	
Selenium	ND	0.319	"	"	"	"	"	"	
Silver	0.0339	0.0245	"	"	"	"	"	"	
Zinc	31.4	0.491	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0467	01/19/23	01/19/23	EPA 7196A	

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

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	357	0.0613	mg/L dry	1	BGA0420	01/17/23	01/19/23	EPA 6020B	
Magnesium	216	0.0613	"	"	"	"	"	"	
Sodium	92.5	0.0613	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.954	0.00100	units	1	BGA0502	01/20/23	01/20/23	Calculation	

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

Date Sampled: 01/17/23 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 - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

**B04@7.0'**  
**2301292-02 (Soil)**

**Summit Scientific**

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

% Solids	81.5	%	1	BGA0441	01/18/23	01/18/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.28	0.0100	mmhos/cm	1	BGA0446	01/18/23	01/18/23	EPA 120.1	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.49		pH Units	1	BGA0445	01/18/23	01/18/23	EPA 9045D	

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**NW03@6.0'**  
**2301292-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0418	01/17/23	01/17/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0547	137 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0381	95.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0420	105 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0419	01/17/23	01/17/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.5	124 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**NW03@6.0'**  
**2301292-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0422	01/18/23	01/18/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0140	41.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0170	51.0 %	40-150		"	"	"	"	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0645</b>	0.0100	mg/L	1	BGA0428	01/18/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/17/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**NW03@6.0'**  
**2301292-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.34	0.227	mg/kg dry	1	BGA0430	01/18/23	01/20/23	EPA 6020B	
Barium	107	0.454	"	"	"	"	"	"	
Cadmium	0.139	0.227	"	"	"	"	"	"	
Copper	4.03	0.454	"	"	"	"	"	"	
Lead	8.73	0.227	"	"	"	"	"	"	
Nickel	5.83	0.454	"	"	"	"	"	"	
Selenium	ND	0.295	"	"	"	"	"	"	
Silver	0.0322	0.0227	"	"	"	"	"	"	
Zinc	22.9	0.454	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0467	01/19/23	01/19/23	EPA 7196A	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	149	0.0567	mg/L dry	1	BGA0420	01/17/23	01/19/23	EPA 6020B	
Magnesium	86.2	0.0567	"	"	"	"	"	"	
Sodium	51.2	0.0567	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.826	0.00100	units	1	BGA0502	01/20/23	01/20/23	Calculation	

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

Date Sampled: **01/17/23 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 - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

**NW03@6.0'**  
**2301292-03 (Soil)**

**Summit Scientific**

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

% Solids	88.2	%	1	BGA0441	01/18/23	01/18/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.64	0.0100	mmhos/cm	1	BGA0446	01/18/23	01/18/23	EPA 120.1	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.74		pH Units	1	BGA0445	01/18/23	01/18/23	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**NW04@6.0'**  
**2301292-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0418	01/17/23	01/17/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0555	139 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0380	94.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0413	103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0419	01/17/23	01/17/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.6	109 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**NW04@6.0'**  
**2301292-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0422	01/18/23	01/18/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0144	43.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0194	58.3 %	40-150		"	"	"	"	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.188</b>	0.0100	mg/L	1	BGA0428	01/18/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/17/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**NW04@6.0'**  
**2301292-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.92	0.239	mg/kg dry	1	BGA0430	01/18/23	01/20/23	EPA 6020B	
Barium	14.3	0.478	"	"	"	"	"	"	
Cadmium	0.0956	0.239	"	"	"	"	"	"	
Copper	4.10	0.478	"	"	"	"	"	"	
Lead	6.28	0.239	"	"	"	"	"	"	
Nickel	5.38	0.478	"	"	"	"	"	"	
Selenium	ND	0.311	"	"	"	"	"	"	
Silver	0.0167	0.0239	"	"	"	"	"	"	
Zinc	27.1	0.478	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0467	01/19/23	01/19/23	EPA 7196A	

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

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	478	0.0598	mg/L dry	1	BGA0420	01/17/23	01/19/23	EPA 6020B	
Magnesium	234	0.0598	"	"	"	"	"	"	
Sodium	47.0	0.0598	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.441	0.00100	units	1	BGA0502	01/20/23	01/20/23	Calculation	

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

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
 PO Box 1289  
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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

**NW04@6.0'**  
**2301292-04 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>83.7</b>	<b>%</b>	<b>1</b>	<b>BGA0441</b>	<b>01/18/23</b>	<b>01/18/23</b>	<b>Calculation</b>
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>3.66</b>	<b>0.0100</b>	<b>mmhos/cm</b>	<b>1</b>	<b>BGA0446</b>	<b>01/18/23</b>	<b>01/18/23</b>	<b>EPA 120.1</b>	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.55</b>		<b>pH Units</b>	<b>1</b>	<b>BGA0445</b>	<b>01/18/23</b>	<b>01/18/23</b>	<b>EPA 9045D</b>	

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Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**NE02@6.0'**  
**2301292-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0418	01/17/23	01/17/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0547	137 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0380	95.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0412	103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0419	01/17/23	01/17/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.9	119 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

**NE02@6.0'**  
**2301292-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0422	01/18/23	01/18/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0159	47.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0239	71.7 %	40-150		"	"	"	"	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.183</b>	0.0100	mg/L	1	BGA0428	01/18/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/17/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**NE02@6.0'**  
**2301292-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.77	0.241	mg/kg dry	1	BGA0430	01/18/23	01/20/23	EPA 6020B	
Barium	37.2	0.482	"	"	"	"	"	"	
Cadmium	0.115	0.241	"	"	"	"	"	"	
Copper	5.75	0.482	"	"	"	"	"	"	
Lead	8.76	0.241	"	"	"	"	"	"	
Nickel	5.05	0.482	"	"	"	"	"	"	
Selenium	ND	0.313	"	"	"	"	"	"	
Silver	0.0304	0.0241	"	"	"	"	"	"	
Zinc	36.3	0.482	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0467	01/19/23	01/19/23	EPA 7196A	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	501	0.0603	mg/L dry	1	BGA0420	01/17/23	01/19/23	EPA 6020B	
Magnesium	295	0.0603	"	"	"	"	"	"	
Sodium	25.5	0.0603	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.223	0.00100	units	1	BGA0502	01/20/23	01/20/23	Calculation	

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

Date Sampled: **01/17/23 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 - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

**NE02@6.0'**  
**2301292-05 (Soil)**

**Summit Scientific**

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

% Solids	83.0	%	1	BGA0441	01/18/23	01/18/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.86	0.0100	mmhos/cm	1	BGA0446	01/18/23	01/18/23	EPA 120.1	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.55		pH Units	1	BGA0445	01/18/23	01/18/23	EPA 9045D	

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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**SW02@6.0'**  
**2301292-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0418	01/17/23	01/17/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0540	135 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0376	94.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0419	01/17/23	01/17/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.6	124 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**SW02@6.0'**  
**2301292-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0422	01/18/23	01/18/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0168	50.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0265	79.5 %	40-150		"	"	"	"	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.525</b>	0.0100	mg/L	1	BGA0428	01/18/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/17/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**SW02@6.0'**  
**2301292-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	11.9	0.250	mg/kg dry	1	BGA0430	01/18/23	01/20/23	EPA 6020B	
Barium	34.3	0.499	"	"	"	"	"	"	
Cadmium	0.123	0.250	"	"	"	"	"	"	
Copper	6.75	0.499	"	"	"	"	"	"	
Lead	9.53	0.250	"	"	"	"	"	"	
Nickel	6.60	0.499	"	"	"	"	"	"	
Selenium	ND	0.325	"	"	"	"	"	"	
Silver	0.0295	0.0250	"	"	"	"	"	"	
Zinc	27.6	0.499	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0467	01/19/23	01/19/23	EPA 7196A	

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

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	191	0.0624	mg/L dry	1	BGA0420	01/17/23	01/19/23	EPA 6020B	
Magnesium	234	0.0624	"	"	"	"	"	"	
Sodium	227	0.0624	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.60	0.00100	units	1	BGA0502	01/20/23	01/20/23	Calculation	

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

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

**SW02@6.0'**  
**2301292-06 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>80.1</b>	%	1	BGA0441	01/18/23	01/18/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>3.39</b>	0.0100	mmhos/cm	1	BGA0446	01/18/23	01/18/23	EPA 120.1	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.64</b>		pH Units	1	BGA0445	01/18/23	01/18/23	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**SE03@6.0'**  
**2301292-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0418	01/17/23	01/17/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0532	133 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0376	94.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0419	01/17/23	01/17/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.4	123 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**SE03@6.0'**  
**2301292-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0422	01/18/23	01/18/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0140	42.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0169	50.7 %	40-150		"	"	"	"	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.201</b>	0.0100	mg/L	1	BGA0428	01/18/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/17/23 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 - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**SE03@6.0'**  
**2301292-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	14.7	0.244	mg/kg dry	1	BGA0430	01/18/23	01/20/23	EPA 6020B	
Barium	44.6	0.488	"	"	"	"	"	"	
Cadmium	0.166	0.244	"	"	"	"	"	"	
Copper	11.1	0.488	"	"	"	"	"	"	
Lead	15.3	0.244	"	"	"	"	"	"	
Nickel	8.00	0.488	"	"	"	"	"	"	
Selenium	ND	0.317	"	"	"	"	"	"	
Silver	0.0332	0.0244	"	"	"	"	"	"	
Zinc	36.8	0.488	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0467	01/19/23	01/19/23	EPA 7196A	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	416	0.0610	mg/L dry	1	BGA0420	01/17/23	01/19/23	EPA 6020B	
Magnesium	276	0.0610	"	"	"	"	"	"	
Sodium	31.3	0.0610	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.293	0.00100	units	1	BGA0502	01/20/23	01/20/23	Calculation	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

**SE03@6.0'**  
**2301292-07 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>82.0</b>	%	1	BGA0441	01/18/23	01/18/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>3.43</b>	0.0100	mmhos/cm	1	BGA0446	01/18/23	01/18/23	EPA 120.1	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.52</b>		pH Units	1	BGA0445	01/18/23	01/18/23	EPA 9045D	

Summit Scientific

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Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**SE04@6.0'**  
**2301292-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGA0418	01/17/23	01/17/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0553	138 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0380	95.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0411	103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGA0419	01/17/23	01/18/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.9	119 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**SE04@6.0'**  
**2301292-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGA0422	01/18/23	01/18/23	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: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0158	47.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0202	60.5 %	40-150		"	"	"	"	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.464</b>	0.0100	mg/L	1	BGA0428	01/18/23	01/20/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

**SE04@6.0'**  
**2301292-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	9.08	0.248	mg/kg dry	1	BGA0430	01/18/23	01/20/23	EPA 6020B	
Barium	59.5	0.497	"	"	"	"	"	"	
Cadmium	0.162	0.248	"	"	"	"	"	"	
Copper	7.87	0.497	"	"	"	"	"	"	
Lead	11.6	0.248	"	"	"	"	"	"	
Nickel	6.67	0.497	"	"	"	"	"	"	
Selenium	0.220	0.323	"	"	"	"	"	"	
Silver	0.0407	0.0248	"	"	"	"	"	"	
Zinc	32.8	0.497	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGA0467	01/19/23	01/19/23	EPA 7196A	

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

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	38.7	0.0621	mg/L dry	1	BGA0420	01/17/23	01/19/23	EPA 6020B	
Magnesium	66.9	0.0621	"	"	"	"	"	"	
Sodium	12.9	0.0621	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.291	0.00100	units	1	BGA0502	01/20/23	01/20/23	Calculation	

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

Date Sampled: 01/17/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

**SE04@6.0'**  
**2301292-08 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>80.6</b>	%	1	BGA0441	01/18/23	01/18/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>0.769</b>	0.0100	mmhos/cm	1	BGA0446	01/18/23	01/18/23	EPA 120.1	

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

Date Sampled: **01/17/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.96</b>		pH Units	1	BGA0445	01/18/23	01/18/23	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

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

#### Summit Scientific

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

#### Batch BGA0418 - EPA 5030 Soil MS

##### Blank (BGA0418-BLK1)

Prepared: 01/17/23 Analyzed: 01/18/23

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0510</i>		<i>"</i>	<i>0.0400</i>		<i>128</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0376</i>		<i>"</i>	<i>0.0400</i>		<i>94.0</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			

##### LCS (BGA0418-BS1)

Prepared: 01/17/23 Analyzed: 01/18/23

Benzene	0.106	0.0020	mg/kg	0.100		106	70-130			
Toluene	0.114	0.0050	"	0.100		114	70-130			
Ethylbenzene	0.104	0.0050	"	0.100		104	70-130			
m,p-Xylene	0.211	0.010	"	0.200		105	70-130			
o-Xylene	0.104	0.0050	"	0.100		104	70-130			
1,2,4-Trimethylbenzene	0.0988	0.0050	"	0.100		98.8	70-130			
1,3,5-Trimethylbenzene	0.102	0.0050	"	0.100		102	70-130			
Naphthalene	0.111	0.0038	"	0.100		111	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0497</i>		<i>"</i>	<i>0.0400</i>		<i>124</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0377</i>		<i>"</i>	<i>0.0400</i>		<i>94.2</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			

##### Matrix Spike (BGA0418-MS1)

Source: 2301292-01

Prepared: 01/17/23 Analyzed: 01/18/23

Benzene	0.114	0.0020	mg/kg	0.100	ND	114	70-130			
Toluene	0.103	0.0050	"	0.100	ND	103	70-130			
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130			
m,p-Xylene	0.209	0.010	"	0.200	ND	105	70-130			
o-Xylene	0.103	0.0050	"	0.100	ND	103	70-130			
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130			
1,3,5-Trimethylbenzene	0.0996	0.0050	"	0.100	ND	99.6	70-130			
Naphthalene	0.106	0.0038	"	0.100	ND	106	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0521</i>		<i>"</i>	<i>0.0400</i>		<i>130</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0382</i>		<i>"</i>	<i>0.0400</i>		<i>95.5</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0414</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>50-150</i>			

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 PO Box 1289  
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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

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

**Summit Scientific**

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

**Batch BGA0418 - EPA 5030 Soil MS**

Matrix Spike Dup (BGA0418-MSD1)	Source: 2301292-01			Prepared: 01/17/23 Analyzed: 01/18/23						
Benzene	0.115	0.0020	mg/kg	0.100	ND	115	70-130	0.210	30	
Toluene	0.104	0.0050	"	0.100	ND	104	70-130	0.843	30	
Ethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130	3.87	30	
m,p-Xylene	0.211	0.010	"	0.200	ND	105	70-130	0.614	30	
o-Xylene	0.105	0.0050	"	0.100	ND	105	70-130	2.28	30	
1,2,4-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130	4.17	30	
1,3,5-Trimethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130	2.65	30	
Naphthalene	0.0994	0.0038	"	0.100	ND	99.4	70-130	6.06	30	
Surrogate: 1,2-Dichloroethane-d4	0.0519		"	0.0400		130	50-150			
Surrogate: Toluene-d8	0.0380		"	0.0400		94.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0416		"	0.0400		104	50-150			

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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

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

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

**Batch BGA0419 - EPA 3550A**

**Blank (BGA0419-BLK1)**

Prepared: 01/17/23 Analyzed: 01/18/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.0		"	12.5	104	30-150					

**LCS (BGA0419-BS1)**

Prepared: 01/17/23 Analyzed: 01/18/23

C10-C28 (DRO)	506	50	mg/kg	500	101	70-130					
Surrogate: <i>o</i> -Terphenyl	12.7		"	12.5	102	30-150					

**Matrix Spike (BGA0419-MS1)**

Source: 2301292-01

Prepared: 01/17/23 Analyzed: 01/18/23

C10-C28 (DRO)	480	50	mg/kg	500	10.8	93.7	70-130				
Surrogate: <i>o</i> -Terphenyl	12.7		"	12.5	101	30-150					

**Matrix Spike Dup (BGA0419-MSD1)**

Source: 2301292-01

Prepared: 01/17/23 Analyzed: 01/18/23

C10-C28 (DRO)	454	50	mg/kg	500	10.8	88.6	70-130	5.49	20		
Surrogate: <i>o</i> -Terphenyl	12.3		"	12.5	98.5	30-150					

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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

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

**Summit Scientific**

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

**Batch BGA0422 - EPA 5030 Soil MS**

**Blank (BGA0422-BLK1)**

Prepared & Analyzed: 01/18/23

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0224</i>		"	<i>0.0333</i>		<i>67.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0388</i>		"	<i>0.0333</i>		<i>116</i>	<i>40-150</i>			

**LCS (BGA0422-BS1)**

Prepared & Analyzed: 01/18/23

Acenaphthene	0.0364	0.00500	mg/kg	0.0333	109	31-137
Anthracene	0.0350	0.00500	"	0.0333	105	30-120
Benzo (a) anthracene	0.0299	0.00500	"	0.0333	89.7	30-120
Benzo (a) pyrene	0.0306	0.00500	"	0.0333	91.7	30-120
Benzo (b) fluoranthene	0.0323	0.00500	"	0.0333	96.8	30-120
Benzo (k) fluoranthene	0.0368	0.00500	"	0.0333	110	30-120
Chrysene	0.0364	0.00500	"	0.0333	109	30-120
Dibenz (a,h) anthracene	0.0283	0.00500	"	0.0333	84.9	30-120
Fluoranthene	0.0357	0.00500	"	0.0333	107	30-120
Fluorene	0.0360	0.00500	"	0.0333	108	30-120
Indeno (1,2,3-cd) pyrene	0.0309	0.00500	"	0.0333	92.8	30-120
Pyrene	0.0345	0.00500	"	0.0333	104	35-142
1-Methylnaphthalene	0.0285	0.00500	"	0.0333	85.5	35-142
2-Methylnaphthalene	0.0229	0.00500	"	0.0333	68.6	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0306</i>		"	<i>0.0333</i>	<i>91.7</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0364</i>		"	<i>0.0333</i>	<i>109</i>	<i>40-150</i>

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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

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

**Summit Scientific**

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

**Batch BGA0422 - EPA 5030 Soil MS**

<b>Matrix Spike (BGA0422-MS1)</b>	<b>Source: 2301193-07</b>			<b>Prepared &amp; Analyzed: 01/18/23</b>								
Acenaphthene	0.0223	0.00500	mg/kg	0.0333	ND	66.9	31-137					
Anthracene	0.0226	0.00500	"	0.0333	ND	67.8	30-120					
Benzo (a) anthracene	0.0226	0.00500	"	0.0333	ND	67.8	30-120					
Benzo (a) pyrene	0.0199	0.00500	"	0.0333	ND	59.6	30-120					
Benzo (b) fluoranthene	0.0196	0.00500	"	0.0333	ND	58.8	30-120					
Benzo (k) fluoranthene	0.0207	0.00500	"	0.0333	ND	62.1	30-120					
Chrysene	0.0221	0.00500	"	0.0333	ND	66.3	30-120					
Dibenz (a,h) anthracene	0.0200	0.00500	"	0.0333	ND	59.9	30-120					
Fluoranthene	0.0230	0.00500	"	0.0333	ND	69.0	30-120					
Fluorene	0.0227	0.00500	"	0.0333	ND	68.2	30-120					
Indeno (1,2,3-cd) pyrene	0.0208	0.00500	"	0.0333	ND	62.3	30-120					
Pyrene	0.0232	0.00500	"	0.0333	ND	69.7	35-142					
1-Methylnaphthalene	0.0215	0.00500	"	0.0333	ND	64.5	15-130					
2-Methylnaphthalene	0.0191	0.00500	"	0.0333	ND	57.3	15-130					
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0233</i>		<i>"</i>	<i>0.0333</i>		<i>69.9</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0248</i>		<i>"</i>	<i>0.0333</i>		<i>74.4</i>	<i>40-150</i>					

<b>Matrix Spike Dup (BGA0422-MSD1)</b>	<b>Source: 2301193-07</b>			<b>Prepared &amp; Analyzed: 01/18/23</b>								
Acenaphthene	0.0177	0.00500	mg/kg	0.0333	ND	53.2	31-137	22.8	30			
Anthracene	0.0174	0.00500	"	0.0333	ND	52.3	30-120	25.8	30			
Benzo (a) anthracene	0.0172	0.00500	"	0.0333	ND	51.5	30-120	27.3	30			
Benzo (a) pyrene	0.0189	0.00500	"	0.0333	ND	56.7	30-120	5.01	30			
Benzo (b) fluoranthene	0.0149	0.00500	"	0.0333	ND	44.8	30-120	27.0	30			
Benzo (k) fluoranthene	0.0157	0.00500	"	0.0333	ND	47.0	30-120	27.5	30			
Chrysene	0.0170	0.00500	"	0.0333	ND	51.0	30-120	26.0	30			
Dibenz (a,h) anthracene	0.0146	0.00500	"	0.0333	ND	43.8	30-120	31.1	30			QR-02
Fluoranthene	0.0180	0.00500	"	0.0333	ND	54.0	30-120	24.4	30			
Fluorene	0.0178	0.00500	"	0.0333	ND	53.5	30-120	24.2	30			
Indeno (1,2,3-cd) pyrene	0.0156	0.00500	"	0.0333	ND	46.7	30-120	28.7	30			
Pyrene	0.0174	0.00500	"	0.0333	ND	52.1	35-142	28.9	30			
1-Methylnaphthalene	0.0182	0.00500	"	0.0333	ND	54.6	15-130	16.7	50			
2-Methylnaphthalene	0.0179	0.00500	"	0.0333	ND	53.8	15-130	6.38	50			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0185</i>		<i>"</i>	<i>0.0333</i>		<i>55.5</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0186</i>		<i>"</i>	<i>0.0333</i>		<i>55.7</i>	<i>40-150</i>					

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 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

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

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

**Batch BGA0428 - EPA 3050B**

**Blank (BGA0428-BLK1)**

Prepared: 01/18/23 Analyzed: 01/20/23

Boron ND 0.0100 mg/L

**LCS (BGA0428-BS1)**

Prepared: 01/18/23 Analyzed: 01/20/23

Boron 5.83 0.0100 mg/L 5.00 117 80-120

**Duplicate (BGA0428-DUP1)**

Source: 2301246-01

Prepared: 01/18/23 Analyzed: 01/20/23

Boron 0.154 0.0100 mg/L 0.164 6.57 20

**Matrix Spike (BGA0428-MS1)**

Source: 2301246-01

Prepared: 01/18/23 Analyzed: 01/20/23

Boron 6.31 0.0100 mg/L 5.00 0.164 123 75-125

**Matrix Spike Dup (BGA0428-MSD1)**

Source: 2301246-01

Prepared: 01/18/23 Analyzed: 01/20/23

Boron 6.20 0.0100 mg/L 5.00 0.164 121 75-125 1.83 25

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 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

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

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

**Batch BGA0430 - EPA 3050B**

**Blank (BGA0430-BLK1)**

Prepared: 01/18/23 Analyzed: 01/20/23

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 (BGA0430-BS1)**

Prepared: 01/18/23 Analyzed: 01/20/23

Arsenic	32.2	0.200	mg/kg wet	40.0	80.4	80-120
Barium	33.5	0.400	"	40.0	83.7	80-120
Cadmium	2.00	0.200	"	2.00	99.9	80-120
Copper	33.3	0.400	"	40.0	83.1	80-120
Lead	19.7	0.200	"	20.0	98.3	80-120
Nickel	32.8	0.400	"	40.0	82.0	80-120
Selenium	4.50	0.260	"	4.00	112	80-120
Silver	1.62	0.0200	"	2.00	81.0	80-120
Zinc	32.4	0.400	"	40.0	81.0	80-120

**Duplicate (BGA0430-DUP1)**

Source: 2301292-01

Prepared: 01/18/23 Analyzed: 01/20/23

Arsenic	3.79	0.240	mg/kg dry	3.70	2.49	20
Barium	9.65	0.481	"	9.90	2.55	20
Cadmium	0.0923	0.240	"	0.0951	3.08	20
Copper	4.32	0.481	"	4.28	0.938	20
Lead	5.96	0.240	"	6.42	7.30	20
Nickel	8.73	0.481	"	4.69	60.3	20
Selenium	ND	0.312	"	ND		20
Silver	0.0125	0.0240	"	0.0125	0.00	20
Zinc	22.4	0.481	"	22.2	1.03	20

QR-03

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Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

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

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

**Batch BGA0430 - EPA 3050B**

**Matrix Spike (BGA0430-MS1)**

Source: 2301292-01

Prepared: 01/18/23 Analyzed: 01/20/23

Arsenic	46.6	0.240	mg/kg dry	48.1	3.70	89.2	75-125			
Barium	58.7	0.481	"	48.1	9.90	102	75-125			
Cadmium	1.98	0.240	"	2.40	0.0951	78.4	75-125			
Copper	31.4	0.481	"	48.1	4.28	56.3	75-125			QM-05
Lead	26.2	0.240	"	24.0	6.42	82.1	75-125			
Nickel	31.7	0.481	"	48.1	4.69	56.2	75-125			QM-05
Selenium	5.88	0.312	"	4.81	ND	122	75-125			
Silver	1.89	0.0240	"	2.40	0.0125	78.3	75-125			
Zinc	50.9	0.481	"	48.1	22.2	59.7	75-125			QM-05

**Matrix Spike Dup (BGA0430-MSD1)**

Source: 2301292-01

Prepared: 01/18/23 Analyzed: 01/20/23

Arsenic	47.5	0.240	mg/kg dry	48.1	3.70	91.2	75-125	2.06	25	
Barium	63.5	0.481	"	48.1	9.90	112	75-125	7.89	25	
Cadmium	2.19	0.240	"	2.40	0.0951	87.2	75-125	10.1	25	
Copper	32.1	0.481	"	48.1	4.28	57.8	75-125	2.27	25	QM-05
Lead	28.5	0.240	"	24.0	6.42	91.8	75-125	8.48	25	
Nickel	32.4	0.481	"	48.1	4.69	57.7	75-125	2.20	25	QM-05
Selenium	5.74	0.312	"	4.81	ND	119	75-125	2.46	25	
Silver	2.09	0.0240	"	2.40	0.0125	86.4	75-125	9.82	25	
Zinc	51.7	0.481	"	48.1	22.2	61.3	75-125	1.51	25	QM-05

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 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

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

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

**Batch BGA0467 - 3060A Mod**

**Blank (BGA0467-BLK1)**

Prepared & Analyzed: 01/19/23

Chromium, Hexavalent      ND      0.30    mg/kg wet

**LCS (BGA0467-BS1)**

Prepared & Analyzed: 01/19/23

Chromium, Hexavalent      20.2      0.30    mg/kg wet      25.0      80.6      80-120

**Duplicate (BGA0467-DUP1)**

**Source: 2301292-01**

Prepared & Analyzed: 01/19/23

Chromium, Hexavalent      ND      0.30    mg/kg dry      ND      20

**Matrix Spike (BGA0467-MS1)**

**Source: 2301292-01**

Prepared & Analyzed: 01/19/23

Chromium, Hexavalent      24.9      0.30    mg/kg dry      30.0      ND      82.8      75-125

**Matrix Spike Dup (BGA0467-MSD1)**

**Source: 2301292-01**

Prepared & Analyzed: 01/19/23

Chromium, Hexavalent      25.5      0.30    mg/kg dry      30.0      ND      85.0      75-125      2.62      20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

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

**Summit Scientific**

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

**Batch BGA0420 - General Preparation**

**Blank (BGA0420-BLK1)**

Prepared: 01/17/23 Analyzed: 01/19/23

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

**LCS (BGA0420-BS1)**

Prepared: 01/17/23 Analyzed: 01/19/23

Calcium	5.21	0.0500	mg/L wet	5.00		104	70-130			
Magnesium	4.78	0.0500	"	5.00		95.5	70-130			
Sodium	5.05	0.0500	"	5.00		101	70-130			

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

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

**Summit Scientific**

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

**Batch BGA0441 - General Preparation**

**Duplicate (BGA0441-DUP1)**

**Source: 2301292-01**

Prepared & Analyzed: 01/18/23

% Solids	82.7		%		83.2			0.677		20	
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Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

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

**Summit Scientific**

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

**Batch BGA0446 - General Preparation**

**Blank (BGA0446-BLK1)**

Prepared & Analyzed: 01/18/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGA0446-BS1)**

Prepared & Analyzed: 01/18/23

Specific Conductance (EC) 0.146 0.0100 mmhos/cm 0.150 97.3 95-105

**Duplicate (BGA0446-DUP1)**

Source: 2301292-01

Prepared & Analyzed: 01/18/23

Specific Conductance (EC) 1.72 0.0100 mmhos/cm 1.73 0.406 20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 01/23/23 10:19

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

**Summit Scientific**

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

**Batch BGA0445 - General Preparation**

**LCS (BGA0445-BS1)**

Prepared & Analyzed: 01/18/23

pH 9.08 pH Units 9.18 98.9 95-105

**Duplicate (BGA0445-DUP1)**

Source: 2301292-01

Prepared & Analyzed: 01/18/23

pH 7.99 pH Units 7.88 1.39 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Beeler 22-12, 13

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
01/23/23 10:19

### Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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