

# **FREMONT ENVIRONMENTAL INC.**

January 26, 2023

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

Subject:           **Flowline Closure Data Submittal**  
Frenzel B 15-25  
API # 05-123-24009  
NWSW Sec. 15, T5N, R64W  
Weld County, Colorado  
Fremont Project No. C022-196  
Facility # 285641, Remediation #24600

Dear Mr. Peterson:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted Flowline Closure activities for the Noble Energy Inc. (Noble) Frenzel B 15-25. Impacted soil was encountered during removal activities at FL02@2.5' and FL04@2.5'. Details of the Frenzel B 15-25 flowline closure activities are documented in the attached Closure Report. Groundwater was encountered at two different locations, at a depth of 3.0 feet and 3.5 feet below ground surface, during flowline removal activities.

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. Henehan, P.E.  
Senior Consultant

Attachments:

- Facility Closure Checklist
- Tables
- Figures
- Photos
- Laboratory Reports

**1759 REDWING LANE, BROOMFIELD, CO 80020**  
**(303) 956-8714 (DIRECT)**

## Flowline Closure Checklist

### COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form

Additional Attachments:		Tank Battery Closure		Wellhead Closure		Pit Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number: FRENZEL B-65N64W 15NWSW Facility: 333049		Date: 12/07/2022			Remediation Project #: 24600			
Associated Wells: Frenzel B 15-25 Facility ID: 285641 API: 05-123-24009		Age of Site: 2008			Number of Photos Attached: 12 Photos			
Starting point: (GPS coordinates and descriptions) 40.395925, -104.540770								
End point: (GPS coordinates and descriptions) 40.397750, -104.541326								
USCS Soil Type: SW					Estimated Depth to Groundwater: 3-3.5 Feet			
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) Impacted soil was discovered at FL02@2.5' and FL04@2.5'. Refer to the polycyclic hydrocarbon soil chemistry table (Table 2) for reference. Impacts were left in place and additional investigation is required.								
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) <b>None observed</b>								
Flowlines								
Flowline type	2" Steel							
Depth	Roughly 2.5-4ft							
Age	2008							
Length	742ft							
Construction Material	Non ACM / 2" Steel							
Were flowlines pulled?	Yes							
Visual Integrity of lines	No Damage							
Visual impacts if trenched	N/A							
PID Readings if trenched	High @ 60.1ppm							
Sample taken? Location/Sample ID#	FL01@2.5' FL04@2.5' FL05@3.0' FL10@4.5'							
Photo Number(s)	Photo 1A-1L							
Other observations regarding on location flowlines: <b>90 degree joints found at FL04@2.5' and FL05@3.0'</b>								
Summary								
Was impacted soil identified? No <span style="background-color: yellow;">Yes - less than 10 cubic yards</span> Yes - more than 10 cubic yards								
Total number of samples field screened: 6 samples					Total number of samples collected: 10 samples			
Highest PID Reading: High @ 1.6ppm (FL02@4.0')					Total number of samples submitted to lab for analysis: 4 Samples			
If more than 10 cubic yards of impacted soil were observed:								
Vertical extent: N/A					Estimated spill volume: N/A			
Lateral extent: N/A					Volume of soil removed: N/A			
Is additional investigation required? N/A								
Was groundwater encountered during the investigation? No <span style="background-color: yellow;">Yes - not impacted or in contact with impacted soils</span> Yes - groundwater impacted and/or in contact with impacted soils								
Measured depth to groundwater: 3.0 Feet at FL02@2.5' 3.5 Feet at FL07@3.5'					Was remedial groundwater removal conducted? Yes <span style="background-color: yellow;">No</span>			
Date Groundwater was encountered: 12/07/2022					Commencement date of removal: N/A			
Sheen on groundwater? Yes <span style="background-color: yellow;">No</span>					Volume of groundwater removed prior to sampling: N/A			
Free product observed? Yes <span style="background-color: yellow;">No</span>					Volume of groundwater removed post sampling: N/A			
Total number of samples collected: 2 Samples (GW01 & GW02)					Total Volume of groundwater removed: N/A			
Total number of samples submitted to lab for analysis: 2 Samples								

**TABLE 1**  
**SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**FRENZEL B 15-25, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C022-196**

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		
FL01@2.5'	12/7/2022	2.5 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
FL02@2.5'	12/7/2022	2.5 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
FL04@2.5'	12/7/2022	2.5 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	74	<50
FL05@3.0'	12/7/2022	3.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
FL10@4.5'	12/7/2022	4.5 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.  
FRENZEL B 15-25, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C022-196

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
FL01@2.5'	12/7/2022	2.5 Ft	<0.00500	<0.00500	0.00642	0.00563	0.00868	<0.00500	0.00792	<0.00500	0.0115	<0.00500	0.0172	<0.00500	<0.00500	<0.00500
FL02@2.5'	12/7/2022	2.5 Ft	0.130	0.206	<b>0.182</b>	0.109	0.148	0.0592	0.185	0.0173	0.619	0.148	0.0806	0.363	<b>0.0132</b>	<b>0.0319</b>
FL04@2.5'	12/7/2022	2.5 Ft	<b>1.14</b>	1.61	<b>1.60</b>	<b>0.974</b>	<b>1.37</b>	0.562	1.58	0.0878	4.23	<b>1.34</b>	0.717	<b>3.04</b>	<b>0.0841</b>	<b>0.164</b>
FL05@3.0'	12/7/2022	3.0 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
FL10@4.5'	12/7/2022	4.5 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 SOIL SUITABILITY FOR RECLAMATION  
NOBLE ENERGY INC.  
FRENZEL B 15-25, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C022-196**

Sample ID	Sample Date	Depth (ft)	EC (mmhos/cm)	pH	SAR	Boron (mg/L)
COGCC Table 915-1 Soil Suitability Limits			<4	6 - 8.3	<6	2
Site Specific Background Concentration/Value						
FL01@2.5'	12/7/2022	2.5 Ft	2.73	7.66	2.63	0.538
FL02@2.5'	12/7/2022	2.5 Ft	0.485	8.26	2.15	0.199
FL04@2.5'	12/7/2022	2.5 Ft	1.71	7.66	3.70	0.257
FL05@3.0'	12/7/2022	3.0 Ft	1.09	7.97	4.15	0.149
FL10@4.5'	12/7/2022	4.5 Ft	0.319	8.01	0.643	0.461

Bold faced values exceed the COGCC Table 915-1 concentrations

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

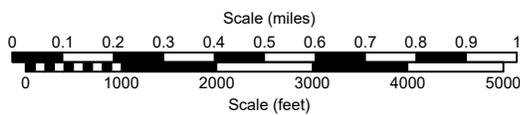
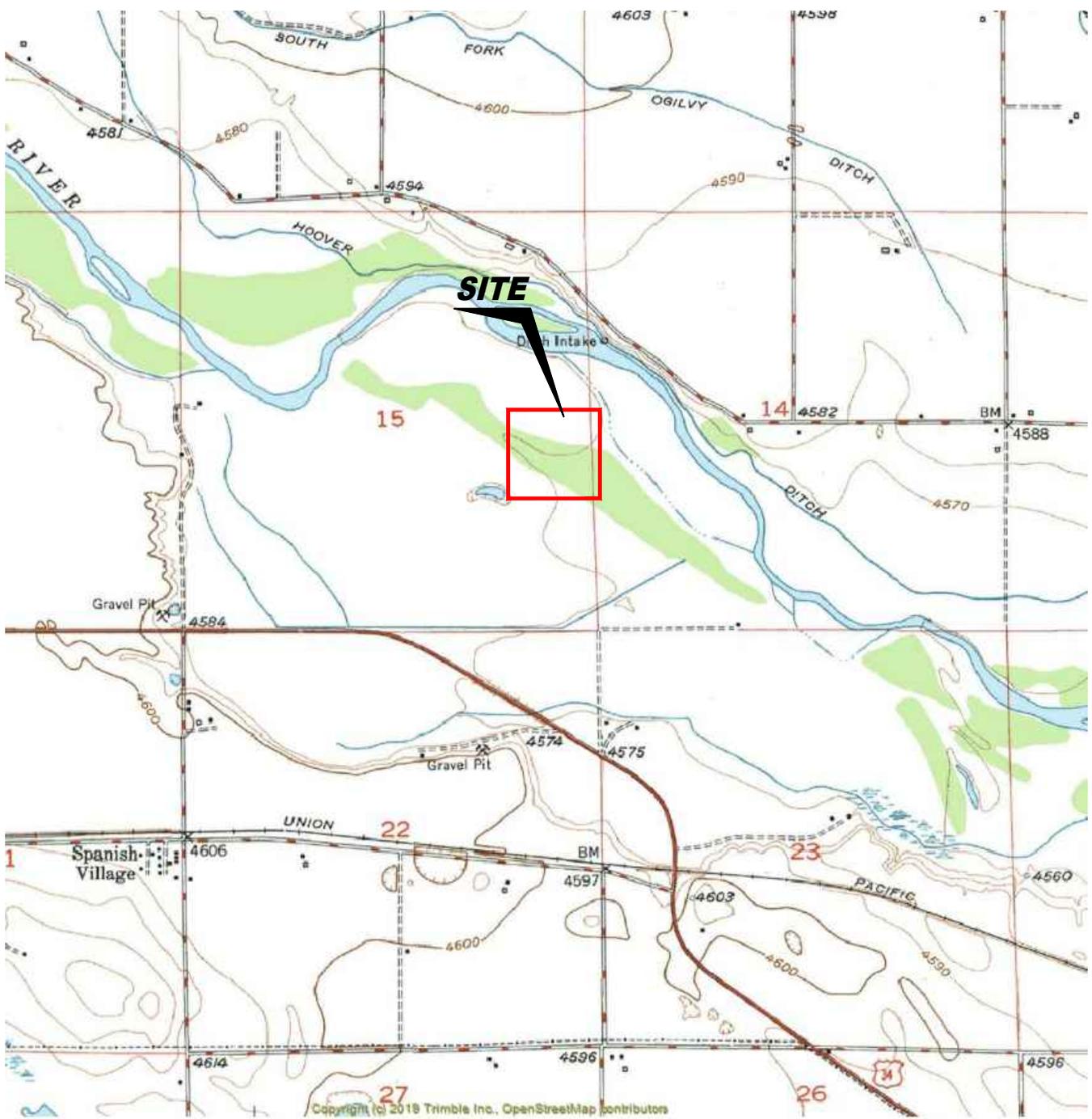
TABLE 4  
SUMMARY OF GROUNDWATER ELEVATION DATA AND ORGANIC CHEMISTRY DATA  
NOBLE ENERGY INC.  
FRENZEL B 15-25, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C022-196

Sample ID	Sample Date	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)	TOC Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	LNAPL Thickness (ft)
COGCC Table 915-1 Limits		5.0	560	700.0	1400	140	67	67				
GW01	12/7/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	N/A	N/A	N/A	N/A
GW02	12/7/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	N/A	N/A	N/A	N/A

Bold face values exceed the COGCC limits

NP - No measureable LNAPL

DES - Destroyed



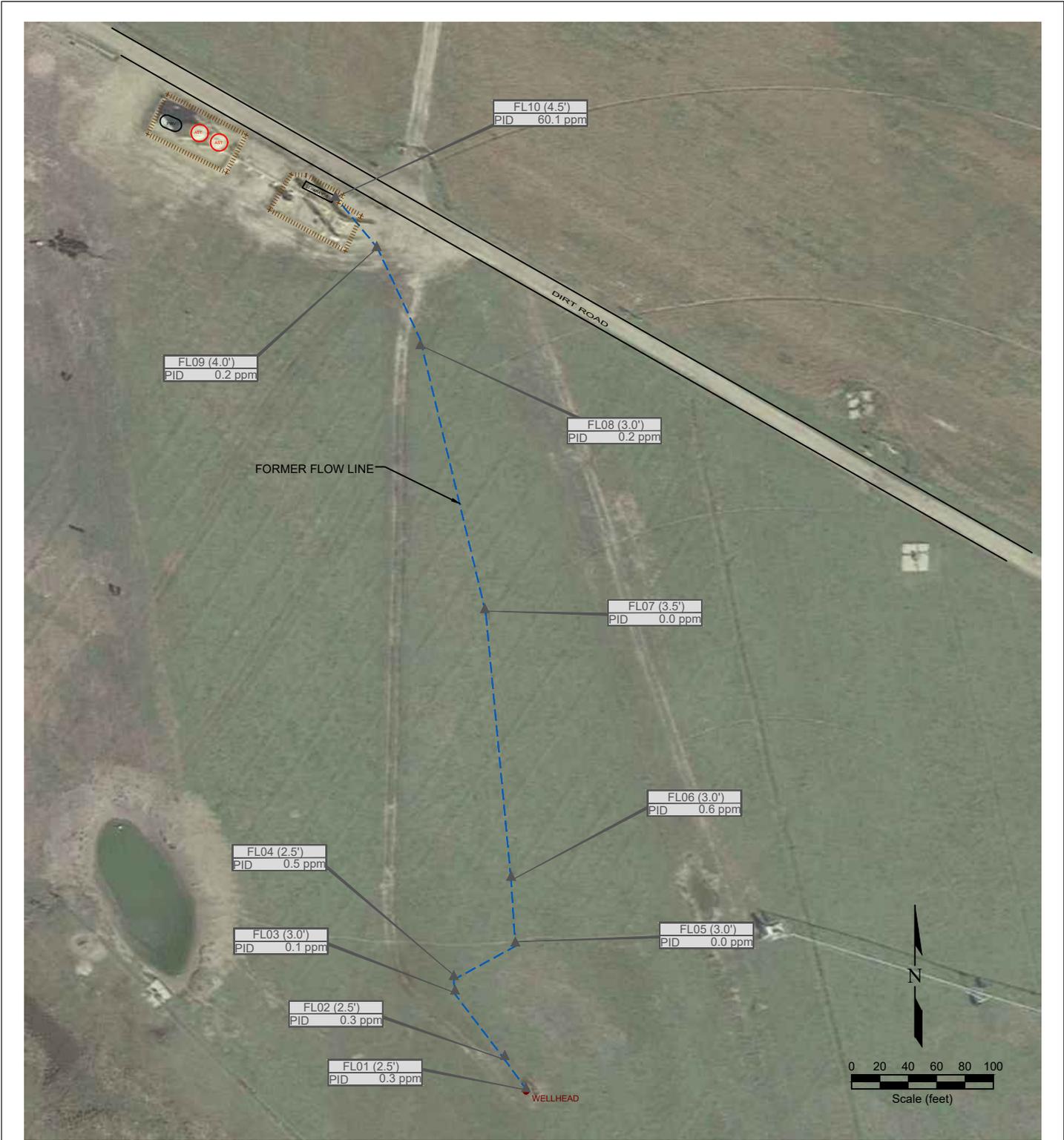
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1  
SITE LOCATION MAP

**NOBLE ENERGY, INC. ~ FRENZEL B15-25**  
 NWSW Sec. 15, T5N, R64W, 6th PM  
 Weld County, Colorado  
 40.395921 °, -104.540770°

Project # <b>C022-196</b>	API # <b>05-123-24009</b>	Facility # <b>285641</b>
Date <b>1/25/23</b>	Remediation # <b>24600</b>	Filename <b>22196T</b>





**LEGEND**

- WELL HEAD LOCATION
- ▲ PID READING LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- CONTAINMENT WALL FENCE LINE
- FLOW LINE
- PID READING LOCATION IDENTIFICATION PHOTO IONIZATION DETECTION (ppm)

**Figure 2  
SITE MAP**

**NOBLE ENERGY, INC. ~ FRENZEL B 15-25**  
 NWSW Sec.15, T5N, R64W, 6th PM  
 Weld County, Colorado  
 40.395921 °, -104.540770°

Project No. <b>C022-196</b>	API # <b>05-123-24009</b>	Facility # <b>285641</b>
Date <b>1/25/23</b>	Remediation # <b>24600</b>	Filename <b>22191Q1</b>







***Description:***

# Photo Log



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# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 15, 2022

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Frenzel B15-25  
Work Order #2212151

Enclosed are the results of analyses for samples received by Summit Scientific on 12/07/22 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01@2.5'	2212151-01	Soil	12/07/22 00:00	12/07/22 16:00
FL02@2.5'	2212151-02	Soil	12/07/22 00:00	12/07/22 16:00
FL04@2.5'	2212151-03	Soil	12/07/22 00:00	12/07/22 16:00
FL05@3.0'	2212151-04	Soil	12/07/22 00:00	12/07/22 16:00
FL10@4.5'	2212151-05	Soil	12/07/22 00:00	12/07/22 16:00
GW01	2212151-06	Water	12/07/22 00:00	12/07/22 16:00
GW02	2212151-07	Water	12/07/22 00:00	12/07/22 16:00

Summit Scientific

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

# Summit Scientific

S<sub>2</sub>

2212151

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

Page 1 of 1

Client: Fremont Env

Project Manager: Paul Henehan

Address:

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

City/State/Zip:

Ethanb@fremontenv.com

Phone:

Project Name: Frenzel B15-25

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	TMBs (915)	DRG, ORP, GRO	PAHs (915)	ECM, SAR, Boron	Metals (915)		
1	FL01@2.5'	12/07/22		1			X			X				X	X	X	X	X		
2	FL02@2.5'	↓		1																
3	FL04@2.5'	↓		1																
4	FL05@3.0'	↓		1																
5	FL10@4.5'	↓		2						X					X	X	X			
6	GW01	↓		3					X											
7	GW02	↓		3					X											
8																				
9																				
10																				

Relinquished by: <u>[Signature]</u>	Date/Time: <u>12/07/22</u>	Received by: <u>[Signature]</u>	Date/Time: <u>12/7/22</u>	Turn Around Time (Check)	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <input type="checkbox"/>	72 hours <input type="checkbox"/>
				24 hours <input type="checkbox"/>	Standard <input checked="" type="checkbox"/>
				48 hours <input type="checkbox"/>	
Temperature Upon Receipt: <u>19.2</u>	Corrected Temperature <u>—</u>	HNO3 lot # <u>—</u>	Sample Integrity:	Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Bill to Noble
IR gun correction: <u>—</u>	IR gun #: <u>2</u>				

S<sub>2</sub>

S2 Work Order# 2212151

Sample Receipt Checklist

Client: Fremont Env Client Project ID: Frenzel BIS-25

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

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

Temp (°C) 9.2 Thermometer # 2

	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"/>	o-ile
If custody seals are present, are they intact? <sup>(1)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

Jmo  
Custodian Printed Name

12/7/22  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL01@2.5'**  
**2212151-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFL0239	12/09/22	12/11/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0402	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0389	97.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0402	100 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFL0242	12/09/22	12/10/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.8	102 %	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 - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL01@2.5'**  
**2212151-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFL0237	12/09/22	12/09/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.00642</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.00563</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.00868</b>	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.00792</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.0115</b>	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0172</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0212	63.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0228	68.5 %	40-150		"	"	"	"	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.538</b>	0.0100	mg/L	1	BFL0245	12/09/22	12/11/22	EPA 6020B	

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

Date Sampled: **12/07/22 00:00**

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

Project: Noble - Frenzel B15-25

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 12/15/22 08:56

**FL01@2.5'**  
**2212151-01 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	282	0.0565	mg/L dry	1	BFL0283	12/11/22	12/13/22	EPA 6020B	
Magnesium	111	0.0565	"	"	"	"	"	"	
Sodium	206	0.0565	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.63	0.00100	units	1	BFL0323	12/13/22	12/13/22	Calculation	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.4		%	1	BFL0292	12/12/22	12/12/22	Calculation	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.73	0.0100	mmhos/cm	1	BFL0294	12/12/22	12/12/22	EPA 120.1	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.66		pH Units	1	BFL0295	12/12/22	12/12/22	EPA 9045D	

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL02@2.5'**  
**2212151-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFL0239	12/09/22	12/11/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0403	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0389	97.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0409	102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFL0242	12/09/22	12/10/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.3	106 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL02@2.5'**  
**2212151-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.130	0.00500	mg/kg	1	BFL0237	12/09/22	12/09/22	EPA 8270D SIM	
Anthracene	0.131	0.00500	"	"	"	"	12/15/22	"	
Benzo (a) anthracene	0.143	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0928	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.130	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.0538	0.00500	"	"	"	"	"	"	
Chrysene	0.134	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	0.0140	0.00500	"	"	"	"	"	"	
Fluoranthene	0.414	0.00500	"	"	"	"	"	"	E
Fluorene	0.118	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.0663	0.00500	"	"	"	"	"	"	
Pyrene	0.308	0.00500	"	"	"	"	"	"	E
1-Methylnaphthalene	0.0124	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0238	0.00500	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0345	104 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0334	100 %	40-150		"	"	"	"	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.199	0.0100	mg/L	1	BFL0245	12/09/22	12/11/22	EPA 6020B	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	57.2	0.0617	mg/L dry	1	BFL0283	12/11/22	12/13/22	EPA 6020B	

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL02@2.5'**  
**2212151-02 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	19.7	0.0617	mg/L dry	1	BFL0283	12/11/22	12/13/22	EPA 6020B	
Sodium	74.1	0.0617	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.15	0.00100	units	1	BFL0323	12/13/22	12/13/22	Calculation	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.1		%	1	BFL0292	12/12/22	12/12/22	Calculation	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.485	0.0100	mmhos/cm	1	BFL0294	12/12/22	12/12/22	EPA 120.1	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.26		pH Units	1	BFL0295	12/12/22	12/12/22	EPA 9045D	

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL04@2.5'**  
**2212151-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFL0239	12/09/22	12/11/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0396	99.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0406	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>74</b>	50	mg/kg	1	BFL0242	12/09/22	12/10/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.7	102 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL04@2.5'**  
**2212151-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.609	0.00500	mg/kg	1	BFL0237	12/09/22	12/15/22	EPA 8270D SIM	E
Anthracene	0.816	0.00500	"	"	"	"	"	"	E
Benzo (a) anthracene	0.852	0.00500	"	"	"	"	"	"	E
Benzo (a) pyrene	0.726	0.00500	"	"	"	"	"	"	E
Benzo (b) fluoranthene	1.02	0.00500	"	"	"	"	"	"	E
Benzo (k) fluoranthene	0.385	0.00500	"	"	"	"	"	"	E
Chrysene	0.766	0.00500	"	"	"	"	"	"	E
Dibenz (a,h) anthracene	0.110	0.00500	"	"	"	"	"	"	E
Fluoranthene	2.52	0.00500	"	"	"	"	"	"	E
Fluorene	0.730	0.00500	"	"	"	"	"	"	E
Indeno (1,2,3-cd) pyrene	0.514	0.00500	"	"	"	"	"	"	E
Pyrene	1.75	0.00500	"	"	"	"	"	"	E
1-Methylnaphthalene	0.0977	0.00500	"	"	"	"	"	"	E
2-Methylnaphthalene	0.174	0.00500	"	"	"	"	"	"	E

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0358	107 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0371	111 %	40-150		"	"	"	"	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.257	0.0100	mg/L	1	BFL0245	12/09/22	12/11/22	EPA 6020B	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	84.8	0.0560	mg/L dry	1	BFL0283	12/11/22	12/13/22	EPA 6020B	

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL04@2.5'**  
**2212151-03 (Soil)**

**Summit Scientific**

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

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Magnesium	63.7	0.0560	mg/L dry	1	BFL0283	12/11/22	12/13/22	EPA 6020B
Sodium	185	0.0560	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.70	0.00100	units	1	BFL0323	12/13/22	12/13/22	Calculation	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.2		%	1	BFL0292	12/12/22	12/12/22	Calculation	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.71	0.0100	mmhos/cm	1	BFL0294	12/12/22	12/12/22	EPA 120.1	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.66		pH Units	1	BFL0295	12/12/22	12/12/22	EPA 9045D	

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL05@3.0'**  
**2212151-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFL0239	12/09/22	12/11/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0411	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFL0242	12/09/22	12/10/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.1	96.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
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Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL05@3.0'**  
**2212151-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFL0237	12/09/22	12/09/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0241	72.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0231	69.3 %	40-150		"	"	"	"	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.149</b>	0.0100	mg/L	1	BFL0245	12/09/22	12/11/22	EPA 6020B	

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

Date Sampled: **12/07/22 00:00**

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

Project: Noble - Frenzel B15-25

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 12/15/22 08:56

**FL05@3.0'**  
**2212151-04 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	54.3	0.0622	mg/L dry	1	BFL0283	12/11/22	12/13/22	EPA 6020B	
Magnesium	40.8	0.0622	"	"	"	"	"	"	
Sodium	166	0.0622	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.15	0.00100	units	1	BFL0323	12/13/22	12/13/22	Calculation	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.4		%	1	BFL0292	12/12/22	12/12/22	Calculation	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.09	0.0100	mmhos/cm	1	BFL0294	12/12/22	12/12/22	EPA 120.1	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.97		pH Units	1	BFL0295	12/12/22	12/12/22	EPA 9045D	

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL10@4.5'**  
**2212151-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFL0239	12/09/22	12/11/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0391	97.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0387	96.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	99.1 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFL0242	12/09/22	12/10/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.5	100 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL10@4.5'**  
**2212151-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFL0237	12/09/22	12/09/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0228	68.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0232	69.7 %	40-150		"	"	"	"	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.461</b>	0.0100	mg/L	1	BFL0245	12/09/22	12/11/22	EPA 6020B	

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

Date Sampled: **12/07/22 00:00**

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

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**FL10@4.5'**  
**2212151-05 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	80.4	0.0618	mg/L dry	1	BFL0283	12/11/22	12/13/22	EPA 6020B	
Magnesium	28.9	0.0618	"	"	"	"	"	"	
Sodium	26.4	0.0618	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.643	0.00100	units	1	BFL0323	12/13/22	12/13/22	Calculation	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.9		%	1	BFL0292	12/12/22	12/12/22	Calculation	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.319	0.0100	mmhos/cm	1	BFL0294	12/12/22	12/12/22	EPA 120.1	

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.01		pH Units	1	BFL0295	12/12/22	12/12/22	EPA 9045D	

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Project: Noble - Frenzel B15-25

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 12/15/22 08:56

**GW01**  
**2212151-06 (Water)**

**Summit Scientific**

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFL0227	12/09/22	12/12/22	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	13.3	99.9 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	13.1	98.3 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	12.7	95.1 %		21-167		"	"	"	"	

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Project: Noble - Frenzel B15-25

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 12/15/22 08:56

**GW02**  
**2212151-07 (Water)**

**Summit Scientific**

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

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BFL0227	12/09/22	12/12/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **12/07/22 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	13.6	102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	13.0	97.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.0	97.4 %	21-167		"	"	"	"	

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Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

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

#### Summit Scientific

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

#### Batch BFL0227 - EPA 5030 Water MS

##### Blank (BFL0227-BLK1)

Prepared: 12/09/22 Analyzed: 12/12/22

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.1		"	13.3		98.2	23-173			
<i>Surrogate: Toluene-d8</i>	13.0		"	13.3		97.1	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.9		"	13.3		96.9	21-167			

##### LCS (BFL0227-BS1)

Prepared: 12/09/22 Analyzed: 12/12/22

Benzene	44.1	1.0	ug/l	41.7		106	51-132			
Toluene	41.3	1.0	"	41.7		99.2	51-138			
Ethylbenzene	43.7	1.0	"	41.7		105	58-146			
m,p-Xylene	86.5	2.0	"	83.3		104	57-144			
o-Xylene	41.8	1.0	"	41.7		100	53-146			
Naphthalene	40.2	1.0	"	41.7		96.5	70-130			
1,2,4-Trimethylbenzene	45.2	1.0	"	41.7		108	70-130			
1,3,5-Trimethylbenzene	46.2	1.0	"	41.7		111	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.2		"	13.3		98.6	23-173			
<i>Surrogate: Toluene-d8</i>	12.9		"	13.3		96.7	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.7		"	13.3		95.4	21-167			

##### Matrix Spike (BFL0227-MS1)

Source: 2212082-01

Prepared: 12/09/22 Analyzed: 12/12/22

Benzene	45.0	1.0	ug/l	41.7	ND	108	34-141			
Toluene	42.7	1.0	"	41.7	ND	103	27-151			
Ethylbenzene	44.8	1.0	"	41.7	ND	108	29-160			
m,p-Xylene	88.8	2.0	"	83.3	ND	107	20-166			
o-Xylene	43.0	1.0	"	41.7	ND	103	33-159			
Naphthalene	43.6	1.0	"	41.7	ND	105	70-130			
1,2,4-Trimethylbenzene	46.2	1.0	"	41.7	ND	111	70-130			
1,3,5-Trimethylbenzene	47.2	1.0	"	41.7	ND	113	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.3		"	13.3		99.6	23-173			
<i>Surrogate: Toluene-d8</i>	12.9		"	13.3		96.6	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.6		"	13.3		94.1	21-167			

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Fremont Environmental  
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Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**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 BFL0227 - EPA 5030 Water MS**

**Matrix Spike Dup (BFL0227-MSD1)**

Source: 2212082-01

Prepared: 12/09/22 Analyzed: 12/12/22

Benzene	45.1	1.0	ug/l	41.7	ND	108	34-141	0.155	30	
Toluene	42.2	1.0	"	41.7	ND	101	27-151	1.18	30	
Ethylbenzene	44.8	1.0	"	41.7	ND	108	29-160	0.00	30	
m,p-Xylene	89.5	2.0	"	83.3	ND	107	20-166	0.763	30	
o-Xylene	43.0	1.0	"	41.7	ND	103	33-159	0.0233	30	
Naphthalene	47.5	1.0	"	41.7	ND	114	70-130	8.63	30	
1,2,4-Trimethylbenzene	45.8	1.0	"	41.7	ND	110	70-130	0.869	30	
1,3,5-Trimethylbenzene	47.2	1.0	"	41.7	ND	113	70-130	0.00	30	
Surrogate: 1,2-Dichloroethane-d4	13.7		"	13.3		103	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.2	20-170			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.4	21-167			

**Batch BFL0239 - EPA 5030 Soil MS**

**Blank (BFL0239-BLK1)**

Prepared: 12/09/22 Analyzed: 12/10/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0409		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	50-150			

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**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 BFL0239 - EPA 5030 Soil MS**

**LCS (BFL0239-BS1)**

Prepared: 12/09/22 Analyzed: 12/10/22

Benzene	0.144	0.0020	mg/kg	0.125		115	70-130			
Toluene	0.144	0.0050	"	0.125		115	70-130			
Ethylbenzene	0.156	0.0050	"	0.125		125	70-130			
m,p-Xylene	0.309	0.010	"	0.250		124	70-130			
o-Xylene	0.144	0.0050	"	0.125		115	70-130			
1,2,4-Trimethylbenzene	0.154	0.0050	"	0.125		123	70-130			
1,3,5-Trimethylbenzene	0.158	0.0050	"	0.125		126	70-130			
Naphthalene	0.135	0.0038	"	0.125		108	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0399		"	0.0400		99.8	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		99.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0375		"	0.0400		93.7	50-150			

**Matrix Spike (BFL0239-MS1)**

Source: 2212127-01

Prepared: 12/09/22 Analyzed: 12/10/22

Benzene	0.142	0.0020	mg/kg	0.125	ND	113	70-130			
Toluene	0.144	0.0050	"	0.125	ND	115	70-130			
Ethylbenzene	0.162	0.0050	"	0.125	ND	130	70-130			
m,p-Xylene	0.316	0.010	"	0.250	ND	126	70-130			
o-Xylene	0.148	0.0050	"	0.125	ND	118	70-130			
1,2,4-Trimethylbenzene	0.159	0.0050	"	0.125	ND	128	70-130			
1,3,5-Trimethylbenzene	0.151	0.0050	"	0.125	ND	121	70-130			
Naphthalene	0.148	0.0038	"	0.125	ND	118	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0403		"	0.0400		101	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.3	50-150			

**Matrix Spike Dup (BFL0239-MSD1)**

Source: 2212127-01

Prepared: 12/09/22 Analyzed: 12/10/22

Benzene	0.142	0.0020	mg/kg	0.125	ND	113	70-130	0.0846	30	
Toluene	0.144	0.0050	"	0.125	ND	115	70-130	0.313	30	
Ethylbenzene	0.159	0.0050	"	0.125	ND	127	70-130	2.22	30	
m,p-Xylene	0.313	0.010	"	0.250	ND	125	70-130	0.916	30	
o-Xylene	0.145	0.0050	"	0.125	ND	116	70-130	1.92	30	
1,2,4-Trimethylbenzene	0.157	0.0050	"	0.125	ND	126	70-130	1.31	30	
1,3,5-Trimethylbenzene	0.159	0.0050	"	0.125	ND	127	70-130	4.80	30	
Naphthalene	0.154	0.0038	"	0.125	ND	123	70-130	3.92	30	
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.6	50-150			

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 12/15/22 08:56

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

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

**Batch BFL0242 - EPA 3550A**

**Blank (BFL0242-BLK1)**

Prepared: 12/09/22 Analyzed: 12/10/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	12.3		"	12.5		98.6	30-150			

**LCS (BFL0242-BS1)**

Prepared: 12/09/22 Analyzed: 12/10/22

C10-C28 (DRO)	406	50	mg/kg	500		81.2	70-130			
Surrogate: <i>o</i> -Terphenyl	11.7		"	12.5		93.8	30-150			

**Matrix Spike (BFL0242-MS1)**

Source: 2212127-01

Prepared: 12/09/22 Analyzed: 12/10/22

C10-C28 (DRO)	399	50	mg/kg	500	13.3	77.1	70-130			
Surrogate: <i>o</i> -Terphenyl	5.75		"	12.5		46.0	30-150			

**Matrix Spike Dup (BFL0242-MSD1)**

Source: 2212127-01

Prepared: 12/09/22 Analyzed: 12/10/22

C10-C28 (DRO)	394	50	mg/kg	500	13.3	76.2	70-130	1.12	20	
Surrogate: <i>o</i> -Terphenyl	6.03		"	12.5		48.2	30-150			

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**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 BFL0237 - EPA 5030 Soil MS**

**Blank (BFL0237-BLK1)**

Prepared & Analyzed: 12/09/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0281		"	0.0333		84.4	40-150			
Surrogate: Fluoranthene-d10	0.0288		"	0.0333		86.4	40-150			

**LCS (BFL0237-BS1)**

Prepared & Analyzed: 12/09/22

Acenaphthene	0.0267	0.00500	mg/kg	0.0333		80.1	31-137			
Anthracene	0.0276	0.00500	"	0.0333		82.9	30-120			
Benzo (a) anthracene	0.0269	0.00500	"	0.0333		80.6	30-120			
Benzo (a) pyrene	0.0256	0.00500	"	0.0333		76.9	30-120			
Benzo (b) fluoranthene	0.0267	0.00500	"	0.0333		80.0	30-120			
Benzo (k) fluoranthene	0.0261	0.00500	"	0.0333		78.2	30-120			
Chrysene	0.0286	0.00500	"	0.0333		85.9	30-120			
Dibenz (a,h) anthracene	0.0238	0.00500	"	0.0333		71.5	30-120			
Fluoranthene	0.0273	0.00500	"	0.0333		81.8	30-120			
Fluorene	0.0269	0.00500	"	0.0333		80.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0271	0.00500	"	0.0333		81.3	30-120			
Pyrene	0.0282	0.00500	"	0.0333		84.5	35-142			
1-Methylnaphthalene	0.0247	0.00500	"	0.0333		74.0	35-142			
2-Methylnaphthalene	0.0275	0.00500	"	0.0333		82.4	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0241		"	0.0333		72.2	40-150			
Surrogate: Fluoranthene-d10	0.0280		"	0.0333		84.1	40-150			

Summit Scientific

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Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

**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 BFL0237 - EPA 5030 Soil MS**

**Matrix Spike (BFL0237-MS1)**

Source: 2212151-01

Prepared & Analyzed: 12/09/22

Acenaphthene	0.0195	0.00500	mg/kg	0.0333	0.000794	56.0	31-137			
Anthracene	0.0234	0.00500	"	0.0333	0.00130	66.2	30-120			
Benzo (a) anthracene	0.0200	0.00500	"	0.0333	0.00642	40.7	30-120			
Benzo (a) pyrene	0.0168	0.00500	"	0.0333	0.00563	33.6	30-120			
Benzo (b) fluoranthene	0.0275	0.00500	"	0.0333	0.00868	56.6	30-120			
Benzo (k) fluoranthene	0.0193	0.00500	"	0.0333	0.00397	46.1	30-120			
Chrysene	0.0201	0.00500	"	0.0333	0.00792	36.4	30-120			
Dibenz (a,h) anthracene	0.0170	0.00500	"	0.0333	ND	51.1	30-120			
Fluoranthene	0.0240	0.00500	"	0.0333	0.0115	37.3	30-120			
Fluorene	0.0208	0.00500	"	0.0333	0.00168	57.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0170	0.00500	"	0.0333	0.00467	37.1	30-120			
Pyrene	0.0296	0.00500	"	0.0333	0.0172	37.2	35-142			
1-Methylnaphthalene	0.0211	0.00500	"	0.0333	ND	63.2	15-130			
2-Methylnaphthalene	0.0173	0.00500	"	0.0333	ND	51.8	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0224</i>		"	<i>0.0333</i>		<i>67.2</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0185</i>		"	<i>0.0333</i>		<i>55.6</i>	<i>40-150</i>			

**Matrix Spike Dup (BFL0237-MSD1)**

Source: 2212151-01

Prepared & Analyzed: 12/09/22

Acenaphthene	0.0237	0.00500	mg/kg	0.0333	0.000794	68.8	31-137	19.8	30	
Anthracene	0.0267	0.00500	"	0.0333	0.00130	76.3	30-120	13.4	30	
Benzo (a) anthracene	0.0310	0.00500	"	0.0333	0.00642	73.8	30-120	43.3	30	QR-02
Benzo (a) pyrene	0.0241	0.00500	"	0.0333	0.00563	55.3	30-120	35.5	30	QR-02
Benzo (b) fluoranthene	0.0266	0.00500	"	0.0333	0.00868	53.7	30-120	3.59	30	QR-02
Benzo (k) fluoranthene	0.0206	0.00500	"	0.0333	0.00397	50.0	30-120	6.60	30	
Chrysene	0.0302	0.00500	"	0.0333	0.00792	66.9	30-120	40.4	30	QR-02
Dibenz (a,h) anthracene	0.0159	0.00500	"	0.0333	ND	47.8	30-120	6.52	30	
Fluoranthene	0.0475	0.00500	"	0.0333	0.0115	108	30-120	65.8	30	QR-02
Fluorene	0.0265	0.00500	"	0.0333	0.00168	74.5	30-120	24.3	30	
Indeno (1,2,3-cd) pyrene	0.0223	0.00500	"	0.0333	0.00467	52.8	30-120	26.7	30	
Pyrene	0.0579	0.00500	"	0.0333	0.0172	122	35-142	64.7	30	QR-02
1-Methylnaphthalene	0.0237	0.00500	"	0.0333	ND	71.0	15-130	11.6	50	
2-Methylnaphthalene	0.0189	0.00500	"	0.0333	ND	56.8	15-130	9.30	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0217</i>		"	<i>0.0333</i>		<i>65.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0188</i>		"	<i>0.0333</i>		<i>56.4</i>	<i>40-150</i>			

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 12/15/22 08:56

**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 BFL0245 - EPA 3050B**

**Blank (BFL0245-BLK1)**

Prepared: 12/09/22 Analyzed: 12/11/22

Boron ND 0.0100 mg/L

**LCS (BFL0245-BS1)**

Prepared: 12/09/22 Analyzed: 12/11/22

Boron 4.30 0.0100 mg/L 5.00 85.9 80-120

**Duplicate (BFL0245-DUP1)**

Source: 2212124-01

Prepared: 12/09/22 Analyzed: 12/11/22

Boron 0.0541 0.0100 mg/L 0.0587 8.19 20

**Matrix Spike (BFL0245-MS1)**

Source: 2212124-01

Prepared: 12/09/22 Analyzed: 12/11/22

Boron 4.49 0.0100 mg/L 5.00 0.0587 88.5 75-125

**Matrix Spike Dup (BFL0245-MSD1)**

Source: 2212124-01

Prepared: 12/09/22 Analyzed: 12/11/22

Boron 4.21 0.0100 mg/L 5.00 0.0587 83.1 75-125 6.29 25

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Fremont Environmental  
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 Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 12/15/22 08:56

**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 BFL0283 - General Preparation**

**Blank (BFL0283-BLK1)**

Prepared: 12/11/22 Analyzed: 12/13/22

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

**LCS (BFL0283-BS1)**

Prepared: 12/11/22 Analyzed: 12/13/22

Calcium	4.52	0.0500	mg/L wet	5.00	90.4	70-130				
Magnesium	5.35	0.0500	"	5.00	107	70-130				
Sodium	5.03	0.0500	"	5.00	101	70-130				

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 12/15/22 08:56

**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 BFL0292 - General Preparation**

**Duplicate (BFL0292-DUP1)**

**Source: 2212127-01**

**Prepared & Analyzed: 12/12/22**

% Solids	87.9		%		88.5			0.591	20	
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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 12/15/22 08:56

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

**Summit Scientific**

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

**Batch BFL0294 - General Preparation**

**Blank (BFL0294-BLK1)**

Prepared & Analyzed: 12/12/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFL0294-BS1)**

Prepared & Analyzed: 12/12/22

Specific Conductance (EC) 0.147 0.0100 mmhos/cm 0.150 98.1 95-105

**Duplicate (BFL0294-DUP1)**

Source: 2212151-01

Prepared & Analyzed: 12/12/22

Specific Conductance (EC) 2.71 0.0100 mmhos/cm 2.73 0.551 20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 12/15/22 08:56

**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 BFL0295 - General Preparation**

**LCS (BFL0295-BS1)**

Prepared & Analyzed: 12/12/22

pH	9.06	pH Units	9.18	98.7	95-105
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**Duplicate (BFL0295-DUP1)**

Source: 2212151-01

Prepared & Analyzed: 12/12/22

pH	7.63	pH Units	7.66	0.392	20
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Frenzel B15-25

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
12/15/22 08:56

### Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- 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