

FREMONT ENVIRONMENTAL INC.

August 8, 2023

Mr. Daniel Peterson
Noble Energy Inc.
2115 117th Avenue
Greeley, CO 80634

Subject: **Facility Closure Data Submittal**
Dinnel C 26-21D,18
NENW Sec. 26, T4N, R64W
Weld County, Colorado
Fremont Project No. C022-213
Facility # 447063, Remediation #27791

Dear Mr. Peterson:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted Facility Closure activities for the Noble Energy Inc. (Noble) Dinnel C 26-21D,18 tank battery. Organic soil impacts were not encountered during abandonment activities. Details of the Dinnel C 26-21D,18 facility closure activities are documented in the attached Closure Report. Groundwater was not encountered during the facility abandonment activities.

Please contact me at (603) 477-6907 if you require any additional information. Fremont appreciates the opportunity to provide this service.

Sincerely,

FREMONT ENVIRONMENTAL INC.



Ethan D. Black, P.G.
Geologist

Attachments:

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

<i>Third Party Removal Date</i>									
<i>Sample taken? Location/ Sample</i>									
<i>PID Readings</i>									
<i>Photo Number(s)</i>									

Other Facility Equipment

<i>Equipment type</i>					
<i>Equipment Condition Age</i>					
<i>Soil impacts</i>					
<i>PID Readings</i>					
<i>Sample taken? Location/ Sample</i>					
<i>Photo Number(s)</i>					

Other observations regarding other facility or third party equipment:

Summary

<i>Was impacted soil identified?</i>	
No	Yes - less than 10 cubic yards
Yes - more than 10 cubic yards	
<i>Total number of samples field screened:</i>	<i>Total number of samples collected:</i>
<i>Highest PID Reading:</i>	<i>Total number of samples submitted to lab for analysis:</i>
<i>If more than 10 cubic yards of impacted soil were observed:</i>	
<i>Vertical extent:</i>	<i>Estimated spill volume:</i>
<i>Lateral extent:</i>	<i>Volume of soil removed:</i>
<i>Is additional investigation required?</i>	
<i>Was groundwater encountered during the investigation?</i>	
No	Yes - not impacted or in contact with impacted soils
Yes - groundwater impacted and/or in contact with impacted soils	
<i>Measured depth to groundwater:</i>	<i>Was remedial groundwater removal conducted? Yes No</i>
<i>Date Groundwater was encountered:</i>	<i>Commencement date of removal:</i>
<i>Sheen on groundwater? Yes No</i>	<i>Volume of groundwater removed prior to sampling:</i>
<i>Free product observed? Yes No</i>	<i>Volume of groundwater removed post sampling:</i>
<i>Total number of samples collected:</i>	<i>Total Volume of groundwater removed:</i>
<i>Total number of samples submitted to lab for analysis:</i>	

Buried or Partially Buried Vessel Closure Checklist

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

Additional attachments (optional):		Pit Closure		Wellhead Closure		Flowline Closure		Tank Battery Closure	
Site Name & COGCC Facility Number:		Date:						Remediation Project #:	
Associated Wells:		Age of Site:						Number of Photos Attached:	
Location: (GPS coordinates of vault or southeastern tank berm for multiple)							Estimated Facility Size (acres):		
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)									
USCS Soil Type:				Estimated Depth to Groundwater:					
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)									
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)									
Buried or Partially Buried Vessels									
Tank Contents									
Size (barrels)									
Age									
Construction Material									
Visual Integrity of Tank									
Condition of tank Foundation									
PID Readings									
Condition of Jumps Lines									
PID Readings									
Sample taken? Location/Sample ID#									
Photo Number(s)									
Other observations regarding partially buried vessels:									
Summary									
Was impacted soil identified? <div style="display: flex; justify-content: space-around;"> No Yes - less than 10 cubic yards Yes - more than 10 cubic yards </div>									
Total number of samples field screened:				Total number of samples collected:					
Highest PID Reading:				Total number of samples submitted to lab for analysis:					
If more than 10 cubic yards of impacted soil were observed:									
Vertical extent:				Estimated spill volume:					
Lateral extent:				Volume of soil removed:					
Is additional investigation required?									
Was groundwater encountered during the investigation? <div style="display: flex; justify-content: space-around;"> No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils </div>									
Measured depth to groundwater:				Was remedial groundwater removal conducted? Yes No					
Date Groundwater was encountered:				Commencement date of removal:					
Sheen on groundwater? Yes No				Volume of groundwater removed prior to sampling:					
Free product observed? Yes No				Volume of groundwater removed post sampling:					
Total number of samples collected:				Total Volume of groundwater removed:					
Total number of samples submitted to lab for analysis:									

TABLE 1
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
DINNEL C 26-21D, 18 (TANK BATTERY), WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-213

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)
ECMC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500**		
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500**		
AST N CEN. SURF	08/03/2023	Surface	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
AST S CEN. SURF	08/03/2023	Surface	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
DL FLOOR 3FT	08/03/2023	3	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
FL Combi Riser 3FT	08/03/2023	3	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	66	<50
PWV N FLOOR 5FT	08/03/2023	5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
PWV S FLOOR 5FT	08/03/2023	5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50

Bold faced values exceed the ECMC Table 915-1 concentrations

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

* Indicates laboratory minimum detection limit in excess of SSL

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

NA - Not analyzed

TABLE 2
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
DINNEL C 26-21D, 18 (TANK BATTERY), WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-213

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)
ECMC 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
ECMC 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
AST N CEN. SURF	08/03/2023	Surface	<0.0020	<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
AST S CEN. SURF	08/03/2023	Surface	<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
DL FLOOR 3FT	08/03/2023	3	<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
FL Combi Riser 3FT	08/03/2023	3	<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
PWV N FLOOR 5FT	08/03/2023	5	<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
PWV S FLOOR 5FT	08/03/2023	5	<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 ECMC Table 915-1 concentrations

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

* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed

TABLE 3
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE ENERGY INC.
DINNEL C 26-21D, 18 (TANK BATTERY), WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-213

Sample ID	Sample Date	Depth (ft)	pH	EC (mmhos/cm)	SAR	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
AST N CEN. SURF	08/03/2023	Surface	7.49	0.888	1.44	0.499
AST S CEN. SURF	08/03/2023	Surface	7.60	0.64	0.942	0.397
DL FLOOR 3FT	08/03/2023	3	7.20	0.73	1.09	0.433
FL Combi Riser 3FT	08/03/2023	3	7.74	0.347	0.0867	0.319
PWV N FLOOR 5FT	08/03/2023	5	7.44	0.706	0.89	0.284
PWV S FLOOR 5FT	08/03/2023	5	7.47	0.649	1.7	0.449
BKG-1 3FT	08/03/2023	3	8.03	0.331	0.154	1.05
BKG-2 3FT	08/03/2023	3	7.85	0.236	8.96	1.45
BKG-3 3FT	08/03/2023	3	7.59	0.444	0.645	1.37
BKG-4 3FT	08/03/2023	3	8.16	0.374	0.144	1.39
BKG-5 3FT	08/03/2023	3	8.20	0.394	0.2	1.29
BKG-1 5FT	08/03/2023	5	8.19	0.347	0.17	1.01
BKG-3 5FT	08/03/2023	5	7.29	0.617	0.656	1.41
BKG-4 5FT	08/03/2023	5	7.49	0.327	0.126	1.13
BKG-5 5FT	08/03/2023	5	7.56	0.299	0.0938	1.11

Bold faced values exceed the ECMC Table 915-1 concentrations

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

NA - Not analyzed

TABLE 4
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
DINNEL C 26-21D, 18 (TANK BATTERY), WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-213

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)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15000	71	0.3	3100	400	1500	390	390	23000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
125% Max. Background Concentration			1.15	-	-	-	-	-	-	-	-	-
AST N CEN. SURF	08/03/2023	Surface	1.37	50	<0.200	<0.30	5.48	4.23	3.37	<0.260	<0.0200	19.0
AST S CEN. SURF	08/03/2023	Surface	1.25	51.4	<0.200	<0.30	4.18	4.10	3.05	<0.260	<0.0200	14.7
DL FLOOR 3FT	08/03/2023	3	0.936	24.1	<0.200	<0.30	3.79	3.41	2.38	<0.260	<0.0200	13.2
FL Combi Riser 3FT	08/03/2023	3	0.906	27.4	<0.200	<0.30	4.34	3.01	2.4	<0.260	<0.0200	15
PWV N FLOOR 5FT	08/03/2023	5	1.51	59.4	<0.200	<0.30	4.47	4.56	4	<0.260	<0.0200	17.6
PWV S FLOOR 5FT	08/03/2023	5	1.7	65.9	<0.200	<0.30	5.74	5.59	3.91	<0.260	0.0243	23.8
BKG-1 3FT	08/03/2023	3	0.74	55.5	<0.200	<0.30	1.76	4.43	1.64	<0.260	<0.0200	10.8
BKG-2 3FT	08/03/2023	3	0.918	112	<0.200	<0.30	4.07	7.68	2.23	0.26	0.0297	15.6
BKG-3 3FT	08/03/2023	3	0.71	139	0.358	<0.30	3.26	13.2	2.24	<0.260	0.0965	12.9
BKG-4 3FT	08/03/2023	3	0.817	59	<0.200	<0.30	2.13	4.67	1.66	<0.260	<0.0200	7.06
BKG-5 3FT	08/03/2023	3	0.705	46.9	<0.200	<0.30	1.73	4.19	1.39	<0.260	<0.0200	5.95
BKG-1 5FT	08/03/2023	5	0.628	43.6	<0.200	<0.30	1.51	3.36	1.39	<0.260	<0.0200	9.88
BKG-3 5FT	08/03/2023	5	0.693	115	0.324	<0.30	3	24	2.04	<0.260	0.0729	13.5
BKG-4 5FT	08/03/2023	5	0.532	68.2	<0.200	<0.30	1.34	2.65	1.03	<0.260	<0.0200	5.6
BKG-5 5FT	08/03/2023	5	0.542	102	<0.200	<0.30	1.35	2.99	1.1	<0.260	<0.0200	5.39

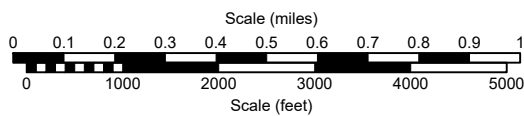
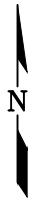
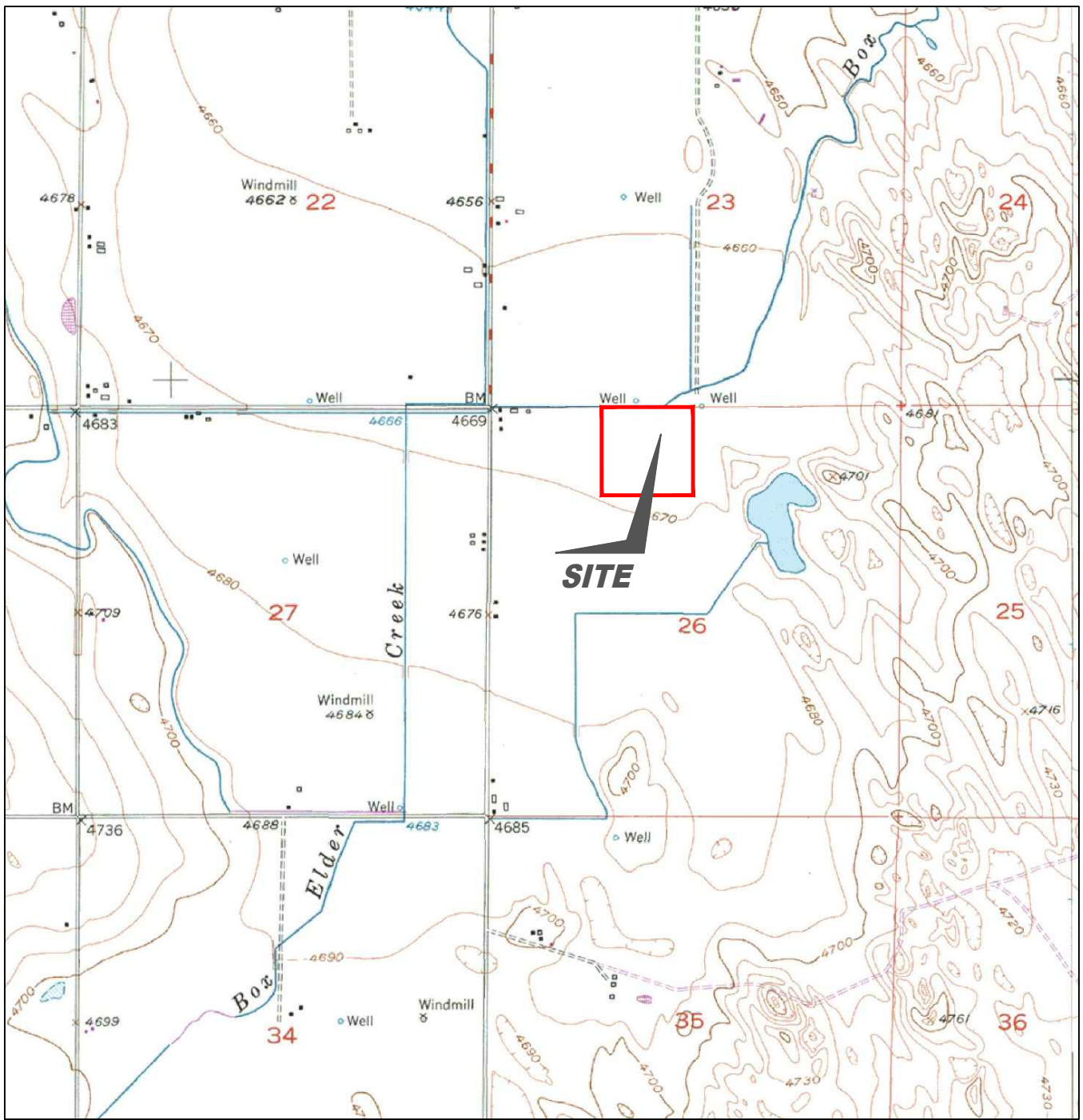
Bold faced values exceed the ECMC Table 915-1 concentrations

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

Orange highlighted 915-1 samples indicate concentrations greater than the maximum background concentration

* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed



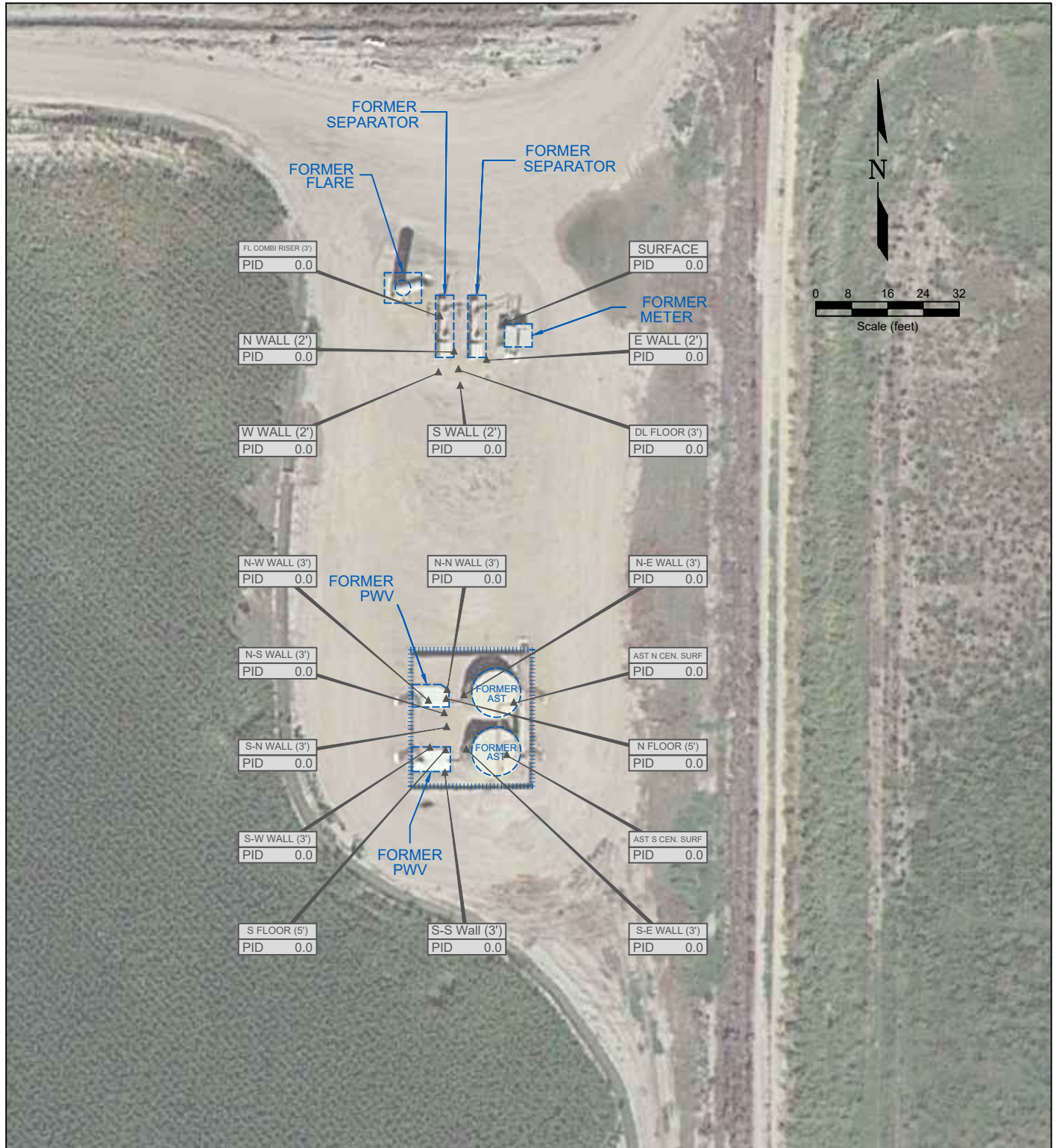
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

NOBLE ENERGY INC - DINNEL C26-18,21D
 NENW Sec. 26, T4N, R64W, 6th PM
 Weld County, Colorado
 40.290255°, -104.518347°

Project # CO23-213	API #	Facility # 447063
Date 10/25/2023	Remediation # 27791	Filename 23214T





LEGEND

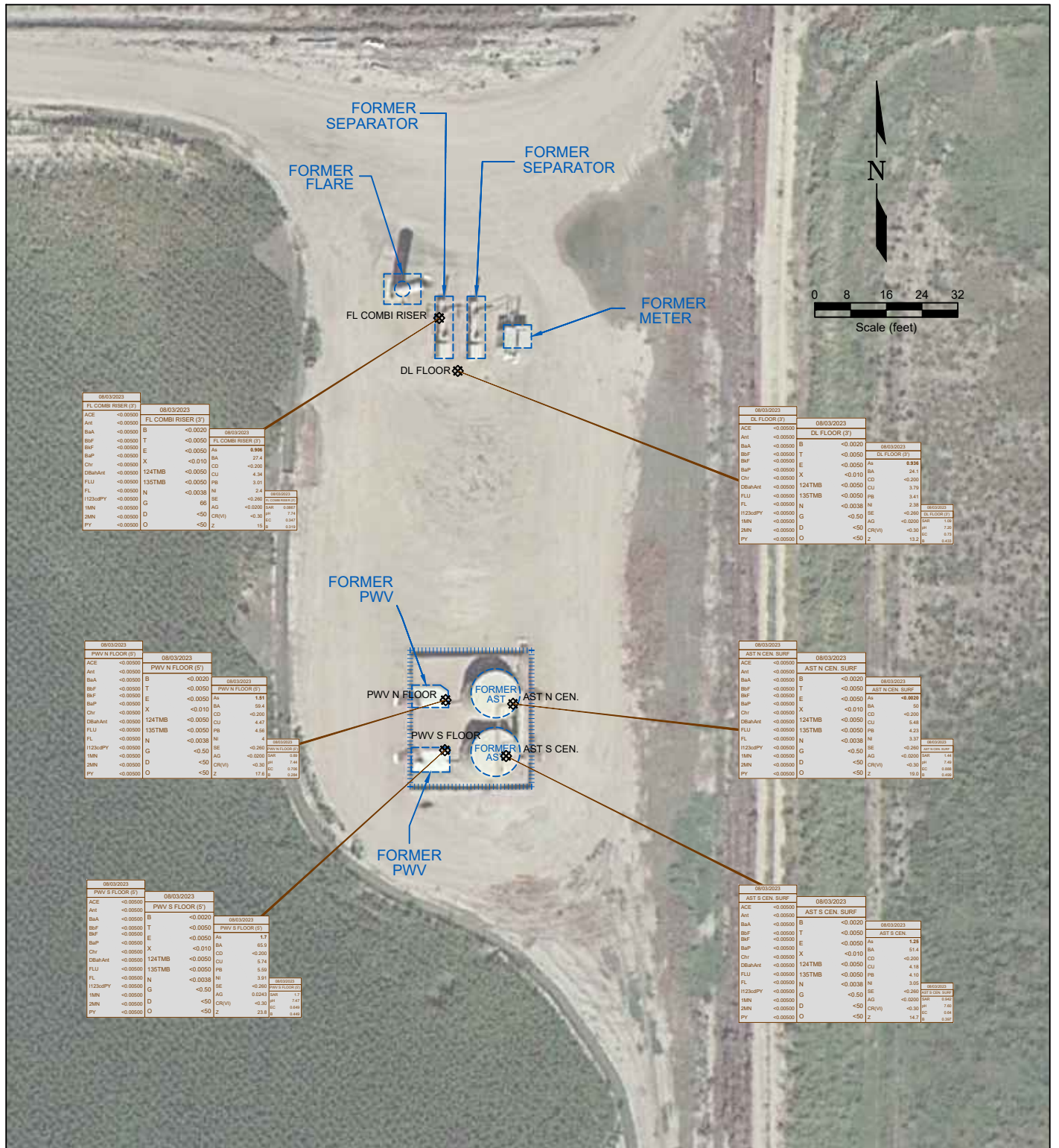
- WELLHEAD LOCATION
 - ▲ PID READING LOCATION
 - ABOVE GROUND STORAGE TANK
 - FORMER FORMER FACILITY
 - CONTAINMENT BERM
 - FENCE LINE
- FL01 PID READING LOCATION IDENTIFICATION
PID 0.1 PHOTO IONIZATION DETECTION (ppm)

**Figure 2
SITE MAP**

NOBLE ENERGY INC - DINNEL C26-18,21D
 NENW Sec. 26, T4N, R64W, 6th PM
 Weld County, Colorado
 40.290255°, -104.518347°

Project # CO23-213	API #	Facility # 447063
Date 10/25/2023	Remediation # 27791	Filename 23214Q





LEGEND

- WELLHEAD LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- CONTAINMENT BERM

DATE SAMPLED	FLU1 (F1)	DATE SAMPLED	FLU1 (F1)	DATE SAMPLED	FLU1 (F1)
4/7/2023	ACE <-0.0050	4/7/2023	ACE <-0.0050	4/7/2023	ACE <-0.0050
4/7/2023	Ant <-0.0050	4/7/2023	Ant <-0.0050	4/7/2023	Ant <-0.0050
4/7/2023	BaA <-0.0050	4/7/2023	BaA <-0.0050	4/7/2023	BaA <-0.0050
4/7/2023	BbF <-0.0050	4/7/2023	BbF <-0.0050	4/7/2023	BbF <-0.0050
4/7/2023	BaP <-0.0050	4/7/2023	BaP <-0.0050	4/7/2023	BaP <-0.0050
4/7/2023	Chr <-0.0050	4/7/2023	Chr <-0.0050	4/7/2023	Chr <-0.0050
4/7/2023	DBaA <-0.0050	4/7/2023	DBaA <-0.0050	4/7/2023	DBaA <-0.0050
4/7/2023	FLU <-0.0050	4/7/2023	FLU <-0.0050	4/7/2023	FLU <-0.0050
4/7/2023	1123aPPY <-0.0050	4/7/2023	1123aPPY <-0.0050	4/7/2023	1123aPPY <-0.0050
4/7/2023	1MN <-0.0050	4/7/2023	1MN <-0.0050	4/7/2023	1MN <-0.0050
4/7/2023	2MN <-0.0050	4/7/2023	2MN <-0.0050	4/7/2023	2MN <-0.0050
4/7/2023	PY <-0.0050	4/7/2023	PY <-0.0050	4/7/2023	PY <-0.0050

Figure 3
SOIL CHEMISTRY MAP

NOBLE ENERGY INC - DINNELL C26-18,21D
NENW Sec. 26, T4N, R64W, 6th PM
Weld County, Colorado
40.290255° , -104.518347°

Project #	API #	Facility #
CO23-213		447063
Date	Remediation #	Filename
10/25/2023	27791	23214Q

Photo Log



Description:

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Photo Log



Description:

--

Photo Log



Description:

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Photo Log



Description:

Photo Log



Description:

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Photo Log



Description:

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 28, 2023

Paul Henchan
Fremont Environmental
PO Box 1289
Wellington, CO 80549

RE: Noble - Dinnel C26-21D, 18'

Work Order #2308180

Enclosed are the results of analyses for samples received by Summit Scientific on 08/08/23 01:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a distinct "W".

Jacob Wood For Paul Shrewsbury
President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL Combi Riser 3FT	2308180-01	Soil	08/03/23 00:00	08/08/23 01:30
DL FLOOR 3FT	2308180-02	Soil	08/03/23 00:00	08/08/23 01:30
PWV N FLOOR 5FT	2308180-03	Soil	08/03/23 00:00	08/08/23 01:30
PWV S FLOOR 5FT	2308180-04	Soil	08/03/23 00:00	08/08/23 01:30
AST N CEN. SURF	2308180-05	Soil	08/03/23 00:00	08/08/23 01:30
AST S CEN. SURF	2308180-06	Soil	08/03/23 00:00	08/08/23 01:30

Summit Scientific

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

SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2308180	

Send Data To:		Send Invoice To:	
Client: Fremont Environmental, Inc.	Project Manager:	Company: <u>Chewon</u>	
Address: 8305 6th St.,	E-Mail: Fremont Distribution List	Project Name/Location:	
City/State/Zip: Wellington, CO, 80549		AFE#:	
Phone: 603-477-6907	Project Name: <u>Noble - Dinnel C26-20, 18 (TB)</u>	PO/Billing Codes: <u>UWRWE - A2438 - ARN</u>	
Sampler Name: Ethan Black	Project Number:	Contact: <u>DAN Peterson</u>	

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, Naphthalene, TMBs	TPH (C6-C36)	PAH	SAR, EC, pH, Boron	
1	FL Combi. Rise 3FT	8/3/23		2			X			X			X	X	X	X	
2	DL FLOOR 3FT																
3	PWV N FLOOR 5FT																
4	PWV S FLOOR 5FT																
5	AST N CEN. SURF.																
6	AST S CEN. SURF.																
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

Relinquished by: <u>Ethan Black</u>	Date/Time: <u>8/8/23 9:54</u>	Received by: <u>[Signature] S2</u>	Date/Time: <u>8/8/23 9:54</u>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <u>S2</u>	Date/Time: <u>8/8/23 11:30</u>	Received by: <u>[Signature]</u>	Date/Time: <u>8/8/23 11:30</u>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by: <u>[Signature]</u>	Date/Time: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Date/Time: <u>[Signature]</u>	3 Days	Field Temp.	
				Standard	<input checked="" type="checkbox"/> Field Turb.	
Temperature Upon Receipt: <u>9.7</u>	Corrected Temperature: <u>9</u>	IR gun #: <u>1</u>	HNO3 lot #: <u></u>			

S₂

Sample Receipt Checklist

S2 Work Order# 2308180

Client: Fremont Client Project ID: Noble-Dinnel C26-20,18 TO

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? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			
If custody seals are present, are they intact? ⁽¹⁾	-			one of
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen		-		
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	-			
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	-			
Were all samples received intact? ⁽¹⁾	✓			
Was adequate sample volume provided? ⁽¹⁾	✓			
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	✓			
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾		✓		Sample # 2 Labeled DL Ex Floor
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	Sample # 2 bottles DL Ex Floor JS
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			✓	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

Josh

Custodian Printed Name

08/08/23

Date/Time



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

FL Combi Riser 3FT
2308180-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGH0345	08/09/23	08/10/23	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: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0260	64.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	97.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	99.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	66	50	mg/kg	1	BGH0349	08/09/23	08/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/03/23 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

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

FL Combi Riser 3FT
2308180-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0465	08/11/23	08/12/23	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: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0144	43.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0138	41.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.319	0.0100	mg/L	1	BGH0533	08/14/23	08/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/03/23 00:00**

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

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

**FL Combi Riser 3FT
2308180-01 (Soil)**

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.906	0.200	mg/kg dry	1	BGH0363	08/09/23	08/10/23	EPA 6020B	
Barium	27.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.34	0.400	"	"	"	"	"	"	
Lead	3.01	0.200	"	"	"	"	"	"	
Nickel	2.40	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	15.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 08/03/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0461	08/11/23	08/11/23	EPA 7196A	

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

Date Sampled: 08/03/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	34.5	0.0557	mg/L dry	1	BGH0435	08/10/23	08/11/23	EPA 6020B	
Magnesium	7.59	0.0557	"	"	"	"	"	"	
Sodium	2.16	0.0557	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 08/03/23 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0867	0.00100	units	1	BGH0579	08/15/23	08/15/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

**FL Combi Riser 3FT
 2308180-01 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.8		%	1	BGH0489	08/11/23	08/14/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.347	0.0100	mmhos/cm	1	BGH0505	08/11/23	08/11/23	EPA 120.1	

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

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.74		pH Units	1	BGH0504	08/11/23	08/11/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

DL FLOOR 3FT
2308180-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BGH0345	08/09/23	08/10/23	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: **08/03/23 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0229	57.2 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0364	90.9 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BGH0349	08/09/23	08/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	12.1	97.1 %	30-150	"	"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

DL FLOOR 3FT
2308180-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0465	08/11/23	08/12/23	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: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0186	55.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0144	43.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.433	0.0100	mg/L	1	BGH0533	08/14/23	08/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/03/23 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 - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

DL FLOOR 3FT
2308180-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.936	0.200	mg/kg dry	1	BGH0363	08/09/23	08/10/23	EPA 6020B	
Barium	24.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.79	0.400	"	"	"	"	"	"	
Lead	3.41	0.200	"	"	"	"	"	"	
Nickel	2.38	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	13.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0461	08/11/23	08/11/23	EPA 7196A	

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

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	47.8	0.0570	mg/L dry	1	BGH0435	08/10/23	08/11/23	EPA 6020B	
Magnesium	14.1	0.0570	"	"	"	"	"	"	
Sodium	33.3	0.0570	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.09	0.00100	units	1	BGH0579	08/15/23	08/15/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Dinnel C26-21D, 18'
 Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

**DL FLOOR 3FT
 2308180-02 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.8		%	1	BGH0489	08/11/23	08/14/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.730	0.0100	mmhos/cm	1	BGH0505	08/11/23	08/11/23	EPA 120.1	

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

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.20		pH Units	1	BGH0504	08/11/23	08/11/23	EPA 9045D	

Summit Scientific

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PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

PWV N FLOOR 5FT
2308180-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BGH0345	08/09/23	08/10/23	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: **08/03/23 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0294	73.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0368	92.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BGH0349	08/09/23	08/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	12.4	99.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

PWV N FLOOR 5FT
2308180-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0465	08/11/23	08/12/23	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: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0141	42.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0142	42.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.284	0.0100	mg/L	1	BGH0533	08/14/23	08/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/03/23 00:00**

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

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

**PWV N FLOOR 5FT
2308180-03 (Soil)**

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.51	0.200	mg/kg dry	1	BGH0363	08/09/23	08/10/23	EPA 6020B
Barium	59.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.47	0.400	"	"	"	"	"	"
Lead	4.56	0.200	"	"	"	"	"	"
Nickel	4.00	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	17.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0461	08/11/23	08/11/23	EPA 7196A	

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

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	52.4	0.0599	mg/L dry	1	BGH0435	08/10/23	08/11/23	EPA 6020B	
Magnesium	12.1	0.0599	"	"	"	"	"	"	
Sodium	27.5	0.0599	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.890	0.00100	units	1	BGH0579	08/15/23	08/15/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

PWV N FLOOR 5FT
2308180-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.5		%	1	BGH0489	08/11/23	08/14/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.706	0.0100	mmhos/cm	1	BGH0505	08/11/23	08/11/23	EPA 120.1	

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

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.44		pH Units	1	BGH0504	08/11/23	08/11/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

PWV S FLOOR 5FT
2308180-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGH0345	08/09/23	08/10/23	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: **08/03/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0300	75.1 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0411	103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0363	90.8 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGH0349	08/09/23	08/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.4	90.9 %		30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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Fremont Environmental
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 Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

PWV S FLOOR 5FT
2308180-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	0.449	0.0100	mg/L	1	BGH0533	08/14/23	08/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.70	0.200	mg/kg dry	1	BGH0363	08/09/23	08/10/23	EPA 6020B	
Barium	65.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.74	0.400	"	"	"	"	"	"	
Lead	5.59	0.200	"	"	"	"	"	"	
Nickel	3.91	0.400	"	"	"	"	"	"	
Silver	0.0243	0.0200	"	"	"	"	"	"	
Zinc	23.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0461	08/11/23	08/11/23	EPA 7196A	

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

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	39.1	0.0596	mg/L dry	1	BGH0435	08/10/23	08/11/23	EPA 6020B	
Magnesium	11.4	0.0596	"	"	"	"	"	"	
Sodium	47.0	0.0596	"	"	"	"	"	"	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'
Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

PWV S FLOOR 5FT
2308180-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.70	0.00100	units	1	BGH0579	08/15/23	08/15/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.9		%	1	BGH0489	08/11/23	08/14/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.649	0.0100	mmhos/cm	1	BGH0505	08/11/23	08/11/23	EPA 120.1	

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

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.47		pH Units	1	BGH0504	08/11/23	08/11/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

PWV S FLOOR 5FT
2308180-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

I-04

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0862	08/11/23	08/22/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	"
Benzo (a) anthracene	0.00648	0.00500	"	"	"	"	"	"	"
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	"
Benzo (b) fluoranthene	0.00578	0.00500	"	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	"
Chrysene	0.00706	0.00500	"	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	"
Fluoranthene	0.00842	0.00500	"	"	"	"	"	"	"
Fluorene	ND	0.00500	"	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	"
Pyrene	0.0171	0.00500	"	"	"	"	"	"	"
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	"
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	"

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0344	103 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0328	98.4 %	40-150		"	"	"	"	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

AST N CEN. SURF
2308180-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGH0345	08/09/23	08/10/23	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: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0273	68.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0362	90.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGH0349	08/09/23	08/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.2	97.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

AST N CEN. SURF
2308180-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0465	08/11/23	08/12/23	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: **08/03/23 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	0.0137	41.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.499	0.0100	mg/L	1	BGH0533	08/14/23	08/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/03/23 00:00**

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

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PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

AST N CEN. SURF
2308180-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.37	0.200	mg/kg dry	1	BGH0363	08/09/23	08/10/23	EPA 6020B
Barium	50.0	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.48	0.400	"	"	"	"	"	"
Lead	4.23	0.200	"	"	"	"	"	"
Nickel	3.37	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	19.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0461	08/11/23	08/11/23	EPA 7196A	

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

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	49.4	0.0601	mg/L dry	1	BGH0435	08/10/23	08/11/23	EPA 6020B	
Magnesium	18.3	0.0601	"	"	"	"	"	"	
Sodium	46.7	0.0601	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.44	0.00100	units	1	BGH0579	08/15/23	08/15/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

AST N CEN. SURF
2308180-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.2		%	1	BGH0489	08/11/23	08/14/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.888	0.0100	mmhos/cm	1	BGH0505	08/11/23	08/11/23	EPA 120.1	

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

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.49		pH Units	1	BGH0504	08/11/23	08/11/23	EPA 9045D	

Summit Scientific

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Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

AST S CEN. SURF
2308180-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGH0345	08/09/23	08/10/23	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: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0244	61.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0393	98.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0352	87.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGH0349	08/09/23	08/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.9	87.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
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Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

AST S CEN. SURF
2308180-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0465	08/11/23	08/12/23	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: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0136	40.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0166	49.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.397	0.0100	mg/L	1	BGH0533	08/14/23	08/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/03/23 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 - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

AST S CEN. SURF
2308180-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.25	0.200	mg/kg dry	1	BGH0363	08/09/23	08/10/23	EPA 6020B	
Barium	51.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.18	0.400	"	"	"	"	"	"	
Lead	4.10	0.200	"	"	"	"	"	"	
Nickel	3.05	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	14.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0461	08/11/23	08/11/23	EPA 7196A	

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

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	38.2	0.0601	mg/L dry	1	BGH0435	08/10/23	08/11/23	EPA 6020B	
Magnesium	13.2	0.0601	"	"	"	"	"	"	
Sodium	26.5	0.0601	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.942	0.00100	units	1	BGH0579	08/15/23	08/15/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
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 Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'
 Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

AST S CEN. SURF
2308180-06 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.1		%	1	BGH0489	08/11/23	08/14/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.640	0.0100	mmhos/cm	1	BGH0505	08/11/23	08/11/23	EPA 120.1	

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

Date Sampled: **08/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.60		pH Units	1	BGH0504	08/11/23	08/11/23	EPA 9045D	

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Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

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 BGH0345 - EPA 5030 Soil MS

Blank (BGH0345-BLK1)

Prepared & Analyzed: 08/09/23

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>	0.0329		"	0.0400		82.4	50-150			
<i>Surrogate: Toluene-d8</i>	0.0400		"	0.0400		100	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0372		"	0.0400		93.0	50-150			

LCS (BGH0345-BS1)

Prepared & Analyzed: 08/09/23

Benzene	0.0969	0.0020	mg/kg	0.100		96.9	70-130			
Toluene	0.104	0.0050	"	0.100		104	70-130			
Ethylbenzene	0.101	0.0050	"	0.100		101	70-130			
m,p-Xylene	0.218	0.010	"	0.200		109	70-130			
o-Xylene	0.108	0.0050	"	0.100		108	70-130			
1,2,4-Trimethylbenzene	0.112	0.0050	"	0.100		112	70-130			
1,3,5-Trimethylbenzene	0.111	0.0050	"	0.100		111	70-130			
Naphthalene	0.101	0.0038	"	0.100		101	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0380		"	0.0400		94.9	50-150			
<i>Surrogate: Toluene-d8</i>	0.0403		"	0.0400		101	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0379		"	0.0400		94.8	50-150			

Matrix Spike (BGH0345-MS1)

Source: 2308174-02

Prepared & Analyzed: 08/09/23

Benzene	0.105	0.0020	mg/kg	0.100	ND	105	70-130			
Toluene	0.106	0.0050	"	0.100	ND	106	70-130			
Ethylbenzene	0.0926	0.0050	"	0.100	ND	92.6	70-130			
m,p-Xylene	0.230	0.010	"	0.200	ND	115	70-130			
o-Xylene	0.105	0.0050	"	0.100	ND	105	70-130			
1,2,4-Trimethylbenzene	0.118	0.0050	"	0.100	ND	118	70-130			
1,3,5-Trimethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130			
Naphthalene	0.115	0.0038	"	0.100	ND	115	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0335		"	0.0400		83.8	50-150			
<i>Surrogate: Toluene-d8</i>	0.0398		"	0.0400		99.5	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0385		"	0.0400		96.2	50-150			

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

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 BGH0345 - EPA 5030 Soil MS

Matrix Spike Dup (BGH0345-MSD1)	Source: 2308174-02			Prepared & Analyzed: 08/09/23						
Benzene	0.112	0.0020	mg/kg	0.100	ND	112	70-130	6.46	30	
Toluene	0.113	0.0050	"	0.100	ND	113	70-130	7.15	30	
Ethylbenzene	0.0993	0.0050	"	0.100	ND	99.3	70-130	6.94	30	
m,p-Xylene	0.238	0.010	"	0.200	ND	119	70-130	3.33	30	
o-Xylene	0.103	0.0050	"	0.100	ND	103	70-130	2.39	30	
1,2,4-Trimethylbenzene	0.119	0.0050	"	0.100	ND	119	70-130	0.608	30	
1,3,5-Trimethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	5.98	30	
Naphthalene	0.118	0.0038	"	0.100	ND	118	70-130	1.86	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0378</i>		<i>"</i>	<i>0.0400</i>		<i>94.5</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0411</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0403</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'
Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

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 BGH0465 - EPA 5030 Soil MS

Blank (BGH0465-BLK1)

Prepared: 08/11/23 Analyzed: 08/12/23

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>0.0199</i>		"	<i>0.0333</i>		<i>59.7</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0209</i>		"	<i>0.0333</i>		<i>62.6</i>	<i>40-150</i>			

LCS (BGH0465-BS1)

Prepared: 08/11/23 Analyzed: 08/12/23

Acenaphthene	0.0213	0.00500	mg/kg	0.0333		63.9	31-137			
Anthracene	0.0216	0.00500	"	0.0333		64.8	30-120			
Benzo (a) anthracene	0.0183	0.00500	"	0.0333		54.8	30-120			
Benzo (a) pyrene	0.0208	0.00500	"	0.0333		62.5	30-120			
Benzo (b) fluoranthene	0.0206	0.00500	"	0.0333		61.7	30-120			
Benzo (k) fluoranthene	0.0201	0.00500	"	0.0333		60.4	30-120			
Chrysene	0.0228	0.00500	"	0.0333		68.3	30-120			
Dibenz (a,h) anthracene	0.0218	0.00500	"	0.0333		65.4	30-120			
Fluoranthene	0.0212	0.00500	"	0.0333		63.7	30-120			
Fluorene	0.0214	0.00500	"	0.0333		64.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0218	0.00500	"	0.0333		65.3	30-120			
Pyrene	0.0248	0.00500	"	0.0333		74.5	35-142			
1-Methylnaphthalene	0.0183	0.00500	"	0.0333		54.9	35-142			
2-Methylnaphthalene	0.0221	0.00500	"	0.0333		66.3	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0228</i>		"	<i>0.0333</i>		<i>68.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0234</i>		"	<i>0.0333</i>		<i>70.2</i>	<i>40-150</i>			

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

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 BGH0465 - EPA 5030 Soil MS

Matrix Spike (BGH0465-MS1)

Source: 2308180-01

Prepared: 08/11/23 Analyzed: 08/12/23

Acenaphthene	0.0150	0.00500	mg/kg	0.0333	ND	45.1	31-137		
Anthracene	0.0156	0.00500	"	0.0333	ND	46.9	30-120		
Benzo (a) anthracene	0.0153	0.00500	"	0.0333	ND	45.9	30-120		
Benzo (a) pyrene	0.0156	0.00500	"	0.0333	ND	46.9	30-120		
Benzo (b) fluoranthene	0.0159	0.00500	"	0.0333	ND	47.6	30-120		
Benzo (k) fluoranthene	0.0161	0.00500	"	0.0333	ND	48.4	30-120		
Chrysene	0.0167	0.00500	"	0.0333	ND	50.0	30-120		
Dibenz (a,h) anthracene	0.0156	0.00500	"	0.0333	ND	46.7	30-120		
Fluoranthene	0.0159	0.00500	"	0.0333	ND	47.8	30-120		
Fluorene	0.0162	0.00500	"	0.0333	ND	48.6	30-120		
Indeno (1,2,3-cd) pyrene	0.0162	0.00500	"	0.0333	ND	48.7	30-120		
Pyrene	0.0176	0.00500	"	0.0333	ND	52.8	35-142		
1-Methylnaphthalene	0.0149	0.00500	"	0.0333	ND	44.8	15-130		
2-Methylnaphthalene	0.0163	0.00500	"	0.0333	ND	48.8	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0179		"	0.0333		53.8	40-150		
Surrogate: Fluoranthene-d10	0.0178		"	0.0333		53.3	40-150		

Matrix Spike Dup (BGH0465-MSD1)

Source: 2308180-01

Prepared: 08/11/23 Analyzed: 08/12/23

Acenaphthene	0.0133	0.00500	mg/kg	0.0333	ND	40.0	31-137	11.9	30
Anthracene	0.0145	0.00500	"	0.0333	ND	43.4	30-120	7.60	30
Benzo (a) anthracene	0.0148	0.00500	"	0.0333	ND	44.3	30-120	3.51	30
Benzo (a) pyrene	0.0145	0.00500	"	0.0333	ND	43.5	30-120	7.57	30
Benzo (b) fluoranthene	0.0148	0.00500	"	0.0333	ND	44.4	30-120	6.97	30
Benzo (k) fluoranthene	0.0158	0.00500	"	0.0333	ND	47.5	30-120	1.86	30
Chrysene	0.0151	0.00500	"	0.0333	ND	45.4	30-120	9.70	30
Dibenz (a,h) anthracene	0.0134	0.00500	"	0.0333	ND	40.3	30-120	14.8	30
Fluoranthene	0.0142	0.00500	"	0.0333	ND	42.5	30-120	11.8	30
Fluorene	0.0152	0.00500	"	0.0333	ND	45.5	30-120	6.52	30
Indeno (1,2,3-cd) pyrene	0.0144	0.00500	"	0.0333	ND	43.3	30-120	11.7	30
Pyrene	0.0142	0.00500	"	0.0333	ND	42.7	35-142	21.2	30
1-Methylnaphthalene	0.0160	0.00500	"	0.0333	ND	47.9	15-130	6.80	50
2-Methylnaphthalene	0.0152	0.00500	"	0.0333	ND	45.7	15-130	6.61	50
Surrogate: 2-Methylnaphthalene-d10	0.0137		"	0.0333		41.1	40-150		
Surrogate: Fluoranthene-d10	0.0149		"	0.0333		44.8	40-150		

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Fremont Environmental
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Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

PAH by EPA Method 8270D SIM - Quality Control

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

Batch BGH0862 - EPA 5030 Soil MS

Blank (BGH0862-BLK1)

Prepared & Analyzed: 08/22/23

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>	0.0248		"	0.0333		74.3	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0248		"	0.0333		74.4	40-150			

LCS (BGH0862-BS1)

Prepared & Analyzed: 08/22/23

Acenaphthene	0.0325	0.00500	mg/kg	0.0333		97.6	31-137			
Anthracene	0.0318	0.00500	"	0.0333		95.3	30-120			
Benzo (a) anthracene	0.0308	0.00500	"	0.0333		92.3	30-120			
Benzo (a) pyrene	0.0296	0.00500	"	0.0333		88.8	30-120			
Benzo (b) fluoranthene	0.0324	0.00500	"	0.0333		97.2	30-120			
Benzo (k) fluoranthene	0.0329	0.00500	"	0.0333		98.6	30-120			
Chrysene	0.0317	0.00500	"	0.0333		95.1	30-120			
Dibenz (a,h) anthracene	0.0130	0.00500	"	0.0333		39.1	30-120			
Fluoranthene	0.0328	0.00500	"	0.0333		98.5	30-120			
Fluorene	0.0316	0.00500	"	0.0333		94.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0368	0.00500	"	0.0333		110	30-120			
Pyrene	0.0429	0.00500	"	0.0333		129	35-142			
1-Methylnaphthalene	0.0308	0.00500	"	0.0333		92.5	35-142			
2-Methylnaphthalene	0.0319	0.00500	"	0.0333		95.6	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0267		"	0.0333		80.0	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0270		"	0.0333		81.0	40-150			

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

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 BGH0862 - EPA 5030 Soil MS

Matrix Spike (BGH0862-MS1)	Source: 2308430-01			Prepared & Analyzed: 08/22/23						
Acenaphthene	0.0169	0.00500	mg/kg	0.0333	ND	50.6	31-137			
Anthracene	0.0189	0.00500	"	0.0333	ND	56.8	30-120			
Benzo (a) anthracene	0.0169	0.00500	"	0.0333	ND	50.7	30-120			
Benzo (a) pyrene	0.0157	0.00500	"	0.0333	ND	47.1	30-120			
Benzo (b) fluoranthene	0.0171	0.00500	"	0.0333	ND	51.2	30-120			
Benzo (k) fluoranthene	0.0176	0.00500	"	0.0333	ND	52.7	30-120			
Chrysene	0.0177	0.00500	"	0.0333	ND	53.1	30-120			
Dibenz (a,h) anthracene	0.0210	0.00500	"	0.0333	ND	62.9	30-120			
Fluoranthene	0.0150	0.00500	"	0.0333	ND	45.1	30-120			
Fluorene	0.0132	0.00500	"	0.0333	ND	39.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0125	0.00500	"	0.0333	ND	37.5	30-120			
Pyrene	0.0226	0.00500	"	0.0333	ND	67.8	35-142			
1-Methylnaphthalene	0.0174	0.00500	"	0.0333	ND	52.3	15-130			
2-Methylnaphthalene	0.0170	0.00500	"	0.0333	ND	51.0	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0137</i>		<i>"</i>	<i>0.0333</i>		<i>41.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0159</i>		<i>"</i>	<i>0.0333</i>		<i>47.7</i>	<i>40-150</i>			

Matrix Spike Dup (BGH0862-MSD1)	Source: 2308430-01			Prepared & Analyzed: 08/22/23						
Acenaphthene	0.0161	0.00500	mg/kg	0.0333	ND	48.3	31-137	4.72	30	
Anthracene	0.0219	0.00500	"	0.0333	ND	65.6	30-120	14.4	30	
Benzo (a) anthracene	0.0179	0.00500	"	0.0333	ND	53.7	30-120	5.66	30	
Benzo (a) pyrene	0.0166	0.00500	"	0.0333	ND	49.7	30-120	5.36	30	
Benzo (b) fluoranthene	0.0177	0.00500	"	0.0333	ND	53.2	30-120	3.92	30	
Benzo (k) fluoranthene	0.0186	0.00500	"	0.0333	ND	55.8	30-120	5.75	30	
Chrysene	0.0188	0.00500	"	0.0333	ND	56.4	30-120	6.00	30	
Dibenz (a,h) anthracene	0.0235	0.00500	"	0.0333	ND	70.4	30-120	11.3	30	
Fluoranthene	0.0184	0.00500	"	0.0333	ND	55.1	30-120	20.0	30	
Fluorene	0.0136	0.00500	"	0.0333	ND	40.7	30-120	2.92	30	
Indeno (1,2,3-cd) pyrene	0.0126	0.00500	"	0.0333	ND	37.8	30-120	0.590	30	
Pyrene	0.0237	0.00500	"	0.0333	ND	71.0	35-142	4.62	30	
1-Methylnaphthalene	0.0171	0.00500	"	0.0333	ND	51.2	15-130	2.10	50	
2-Methylnaphthalene	0.0163	0.00500	"	0.0333	ND	49.0	15-130	4.07	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0155</i>		<i>"</i>	<i>0.0333</i>		<i>46.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0182</i>		<i>"</i>	<i>0.0333</i>		<i>54.5</i>	<i>40-150</i>			

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

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 BGH0533 - EPA 3050B

Blank (BGH0533-BLK1)

Prepared: 08/14/23 Analyzed: 08/15/23

Boron ND 0.0100 mg/L

LCS (BGH0533-BS1)

Prepared: 08/14/23 Analyzed: 08/15/23

Boron 5.22 0.0100 mg/L 5.00 104 80-120

Duplicate (BGH0533-DUP1)

Source: 2308180-01

Prepared: 08/14/23 Analyzed: 08/15/23

Boron 0.273 0.0100 mg/L 0.319 15.3 20

Matrix Spike (BGH0533-MS1)

Source: 2308180-01

Prepared: 08/14/23 Analyzed: 08/15/23

Boron 5.22 0.0100 mg/L 5.00 0.319 98.1 75-125

Matrix Spike Dup (BGH0533-MSD1)

Source: 2308180-01

Prepared: 08/14/23 Analyzed: 08/15/23

Boron 5.38 0.0100 mg/L 5.00 0.319 101 75-125 3.03 25

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

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 BGH0363 - EPA 3050B

Blank (BGH0363-BLK1)

Prepared: 08/09/23 Analyzed: 08/10/23

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	"							
Silver	ND	0.0200	"							
Zinc	ND	0.400	"							
Selenium	ND	0.260	"							

LCS (BGH0363-BS1)

Prepared: 08/09/23 Analyzed: 08/10/23

Arsenic	34.9	0.200	mg/kg wet	40.0	87.2	80-120
Barium	35.4	0.400	"	40.0	88.4	80-120
Cadmium	1.81	0.200	"	2.00	90.7	80-120
Copper	38.3	0.400	"	40.0	95.7	80-120
Lead	17.9	0.200	"	20.0	89.3	80-120
Nickel	37.9	0.400	"	40.0	94.6	80-120
Silver	1.79	0.0200	"	2.00	89.6	80-120
Zinc	37.9	0.400	"	40.0	94.8	80-120

Duplicate (BGH0363-DUP1)

Source: 2308165-01

Prepared: 08/09/23 Analyzed: 08/10/23

Arsenic	5.87	0.200	mg/kg dry	4.09	35.7	20	QR-04
Barium	14.3	0.400	"	12.4	13.8	20	
Cadmium	0.0924	0.200	"	0.0759	19.6	20	
Copper	3.01	0.400	"	2.50	18.5	20	
Lead	5.98	0.200	"	4.64	25.3	20	QR-04
Nickel	3.96	0.400	"	3.31	17.9	20	
Silver	0.0473	0.0200	"	0.0369	24.8	20	QR-01
Zinc	19.2	0.400	"	16.1	17.4	20	
Selenium	ND	0.260	"	ND		200	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

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 BGH0363 - EPA 3050B

Matrix Spike (BGH0363-MS1)

Source: 2308165-01

Prepared: 08/09/23 Analyzed: 08/10/23

Arsenic	52.3	0.200	mg/kg dry	55.0	4.09	87.7	75-125			
Barium	61.2	0.400	"	55.0	12.4	88.6	75-125			
Cadmium	2.52	0.200	"	2.75	0.0759	88.8	75-125			
Copper	39.1	0.400	"	55.0	2.50	66.5	75-125			QM-07
Lead	29.2	0.200	"	27.5	4.64	89.4	75-125			
Nickel	40.3	0.400	"	55.0	3.31	67.2	75-125			QM-07
Silver	2.46	0.0200	"	2.75	0.0369	87.9	75-125			
Zinc	55.7	0.400	"	55.0	16.1	71.9	75-125			QM-07

Matrix Spike Dup (BGH0363-MSD1)

Source: 2308165-01

Prepared: 08/09/23 Analyzed: 08/10/23

Arsenic	55.7	0.200	mg/kg dry	55.0	4.09	93.8	75-125	6.20	25	
Barium	62.5	0.400	"	55.0	12.4	91.0	75-125	2.11	25	
Cadmium	2.80	0.200	"	2.75	0.0759	98.9	75-125	10.4	25	
Copper	42.8	0.400	"	55.0	2.50	73.2	75-125	9.03	25	QM-07
Lead	31.7	0.200	"	27.5	4.64	98.5	75-125	8.26	25	
Nickel	44.1	0.400	"	55.0	3.31	74.2	75-125	9.18	25	QM-07
Silver	2.72	0.0200	"	2.75	0.0369	97.4	75-125	10.1	25	
Zinc	58.8	0.400	"	55.0	16.1	77.5	75-125	5.43	25	

Post Spike (BGH0363-PS1)

Source: 2308165-01

Prepared: 08/09/23 Analyzed: 08/10/23

Arsenic	7.64		ug/l	100	7.43	0.205	75-125			QM-07
Barium	23.1		"	100	22.6	0.517	75-125			QM-07
Cadmium	0.127		"	5.00	0.138	NR	75-125			QM-07
Copper	4.54		"	100	4.54	NR	75-125			QM-07
Lead	8.54		"	50.0	8.43	0.208	75-125			QM-07
Nickel	6.03		"	100	6.02	0.0150	75-125			QM-07
Silver	0.0640		"	5.00	0.0670	NR	75-125			QM-07
Zinc	29.3		"	100	29.3	NR	75-125			QM-07

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

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 BGH0461 - 3060A Mod

Blank (BGH0461-BLK1)

Prepared & Analyzed: 08/11/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGH0461-BS1)

Prepared & Analyzed: 08/11/23

Chromium, Hexavalent 23.8 0.30 mg/kg wet 25.0 95.2 80-120

Duplicate (BGH0461-DUP1)

Source: 2308180-01

Prepared & Analyzed: 08/11/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGH0461-MS1)

Source: 2308180-01

Prepared & Analyzed: 08/11/23

Chromium, Hexavalent 26.0 0.30 mg/kg dry 27.8 ND 93.4 75-125

Matrix Spike Dup (BGH0461-MSD1)

Source: 2308180-01

Prepared & Analyzed: 08/11/23

Chromium, Hexavalent 26.3 0.30 mg/kg dry 27.8 ND 94.6 75-125 1.28 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

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 BGH0435 - General Preparation

Blank (BGH0435-BLK1)

Prepared: 08/10/23 Analyzed: 08/11/23

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

LCS (BGH0435-BS1)

Prepared: 08/10/23 Analyzed: 08/11/23

Calcium	5.08	0.0500	mg/L wet	5.00	102	70-130				
Magnesium	5.89	0.0500	"	5.00	118	70-130				
Sodium	6.15	0.0500	"	5.00	123	70-130				

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

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

Summit Scientific

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

Batch BGH0489 - General Preparation

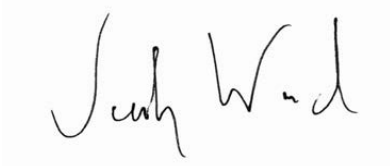
Duplicate (BGH0489-DUP1)

Source: 2308180-01

Prepared: 08/11/23 Analyzed: 08/14/23

% Solids	89.6		%		89.8			0.228	20	
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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

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 BGH0505 - General Preparation

Blank (BGH0505-BLK1)

Prepared & Analyzed: 08/11/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGH0505-BS1)

Prepared & Analyzed: 08/11/23

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BGH0505-DUP1)

Source: 2308130-01

Prepared & Analyzed: 08/11/23

Specific Conductance (EC) 0.440 0.0100 mmhos/cm 0.440 0.00 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
 Project Manager: Paul Henchan

Reported:
 08/28/23 12:00

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 BGH0504 - General Preparation

LCS (BGH0504-BS1)

Prepared & Analyzed: 08/11/23

pH	9.02	pH Units	9.18	98.3	95-105
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Duplicate (BGH0504-DUP1)

Source: 2308130-01

Prepared & Analyzed: 08/11/23

pH	7.17	pH Units	7.11	0.840	20
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Summit Scientific



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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Dinnel C26-21D, 18'

Project Number: UWRWE-A2438-ABN
Project Manager: Paul Henchan

Reported:
08/28/23 12:00

Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. 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.
- 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.
- I-04 Sample was analyzed out of recommended holding time per clients request.
- 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