

FREMONT ENVIRONMENTAL INC.

May 4, 2023

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

Subject: **Wellhead & Flowline Closure Data Submittal**
Wells Ranch AA 21-06
API # 05-123-26812
SENW Sec. 21, T6N, R63W
Weld County, Colorado
Fremont Project No. C023-107
Facility # 296512, Remediation #25990

Dear Mr. Peterson:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted Wellhead and Flowline Closure activities for the Noble Energy Inc. (Noble) Well Ranch AA 21-06. Impacted soil encountered during abandonment activities. Details of the Wells Ranch AA 21-06 wellhead and flowline closure activities are documented in the attached Closure Report. Groundwater was not encountered during flowline abandonment 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)

Wellhead Closure Checklist

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

Additional attachments (optional):		Pit Closure		Tank Battery Closure	X	Flowline Closure		Partially Buried Vault Closure	
Site Name & COGCC Facility Number: WELLS RANCH AA T6N-R63N-S21 L01 Facility ID: 467649		Date: 04/13/2023			Remediation Project #: 25990				
Associated Wells: Wells Ranch AA 21-06 Facility ID: 296512 API: 05-123-26812		Age of Site: 2008			Number of Photos Attached: 6 Photos				
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple)					40.474192, -104.444680		Estimated Facility Size (acres): ~1 Acre		
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.) Good Housekeeping. General Condition of wellhead looked fine. Staining and odor noted at the wellhead cut and cap excavation									
USCS Soil Type: SC					Estimated Depth to Groundwater: N/A				
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) An exceedance in 1,2,4-Trimethyl-Benzene (4.1mg/kg), 1,3,5-Trimethyl-Benzene (1.4mg/kg), Naphthalene (0.29mg/kg), 1-Methyl-Naphthalene (0.194mg/kg) and 2-Methyl-Naphthalene (0.251mg/kg) was discovered at the floor of the wellhead cut and cap excavation. Impacts extend to an unknown length, width and depth. Impacts were left in place. 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) None Observed									
Wellhead(s)									
Well API	05-123-26812								
Age	2008								
Condition of surface around wellhead	No Impacts Noted								
PID Readings	N/A								
Condition of subsurface (staining present)	Staining and Odor Present								
PID Readings	High @ 370.1ppm WellB01 @5.5'								
Sample taken? Location/Sample ID#	WellB01 @5.5' WellNW01 @5.0'								
Photo Number(s)	Photos 1A-1E								
Other observations regarding wellheads: The northeastern sidewall was the flowline tie-in point of the wellhead. An exceedance in pH (8.57) was discovered at the floor of the wellhead cut and cap excavation (WellB01 @5.5'). Refer to the inorganic soil chemistry table (Table 3) for reference.									
Summary									
Was impacted soil identified? No Yes - less than 10 cubic yards Yes - more than 10 cubic yards									
Total number of samples field screened: 3 Samples					Total number of samples collected: 6 Samples				
Highest PID Reading: High @ 370.1ppm (WellB01 @5.5')					Total number of samples submitted to lab for analysis: 3 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 Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils									
Measured depth to groundwater: N/A					Was remedial groundwater removal conducted? Yes No				
Date Groundwater was encountered: N/A					Commencement date of removal: N/A				
Sheen on groundwater? Yes No					Volume of groundwater removed prior to sampling: N/A				
Free product observed? Yes No					Volume of groundwater removed post sampling: N/A				
Total number of samples collected: N/A					Total Volume of groundwater removed: N/A				
Total number of samples submitted to lab for analysis: N/A									

Flowline Closure Checklist

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

Additional Attachments:		Tank Battery Closure	X	Wellhead Closure		Pit Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number: <small>Wells Ranch AA T6N-R63W-S21 L01 Facility: 467649</small>		Date: 04/13/2023			Remediation Project #: 25990			
Associated Wells: <small>Wells Ranch AA 21-06 Facility ID: 296512 API: 05-123-26812</small>		Age of Site: 2008			Number of Photos Attached: 2 Photos			

Starting point: (GPS coordinates and descriptions) **40.474204, -104.444661**

End point: (GPS coordinates and descriptions) **40.476701, -104.449929**

USCS Soil Type: **SC** Estimated Depth to Groundwater: **N/A**

Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)
None observed

Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)
None observed

Flowlines

Flowline type	2" Steel							
Depth	Roughly 3-4ft							
Age	2008							
Length	1,716ft							
Construction Material	Green TGF							
Were flowlines pulled?	Abandoned-in-place							
Visual Integrity of lines	No Damage							
Visual impacts if trenched	N/A							
PID Readings if trenched	High @ 0.4ppm							
Sample taken? Location/Sample ID#	FL01@4.0' FL02@4.0'							
Photo Number(s)	Photo 3A-3B							

Other observations regarding on location flowlines:

Summary

Was impacted soil identified?		No	Yes - less than 10 cubic yards	Yes - more than 10 cubic yards
Total number of samples field screened: 0 samples		Total number of samples collected: 2 samples		
Highest PID Reading: High @ 0.4ppm (FL01@4.0')		Total number of samples submitted to lab for analysis: 2 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		Yes - not impacted or in contact with impacted soils		Yes - groundwater impacted and/or in contact with impacted soils
Measured depth to groundwater: N/A		Was remedial groundwater removal conducted? Yes No		
Date Groundwater was encountered: N/A		Commencement date of removal: N/A		
Sheen on groundwater? Yes No		Volume of groundwater removed prior to sampling: N/A		
Free product observed? Yes No		Volume of groundwater removed post sampling: N/A		
Total number of samples collected: N/A		Total Volume of groundwater removed: N/A		
Total number of samples submitted to lab for analysis: N/A				

TABLE 1
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
WELLS RANCH AA 21-06, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-107

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		
WellB01@5.5'	4/13/2023	5.5 Ft	<0.0020	<0.0050	0.52	2.4	4.1	1.4	0.29	120	<50	<50
WellNW01@5.0'	4/13/2023	5.0 Ft	<0.0020	<0.00500	<0.00500	<0.010	<0.00500	<0.00500	<0.0038	<0.50	<50	<50
FL01@4.0'	4/13/2023	4.0 Ft	<0.0020	<0.00500	<0.00500	<0.010	<0.00500	<0.00500	<0.0038	<0.50	<50	<50
FL02@4.0'	4/14/2023	4.0 Ft	<0.0020	<0.00500	<0.00500	<0.010	<0.00500	<0.00500	<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.
WELLS RANCH AA 21-06, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-107

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
WellB01@5.5'	4/13/2023	5.5 Ft	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0219	<0.00500	<0.00500	0.194	0.251
WellNW01@5.0'	4/13/2023	5.0 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
FL01@4.0'	4/13/2023	4.0 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
FL02@4.0'	4/14/2023	4.0 Ft	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00571	<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.
WELLS RANCH AA 21-06, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-107

Sample ID	Sample Date	Depth (ft)	pH	EC (mmhos/cm)	SAR	Boron (mg/L)
COGCC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
WellB01@5.5'	4/13/2023	5.5 Ft	8.57	0.436	1.57	0.449
WellNW01@5.0'	4/13/2023	5.0 Ft	7.50	1.30	3.82	0.335
FL01@4.0'	4/13/2023	4.0 Ft	7.54	1.90	2.45	0.242
FL02@4.0'	4/14/2023	4.0 Ft	8.04	0.328	0.506	0.169
BKG01@6.0"	4/13/2023	0.5 Ft	7.73	0.934	2.47	0.266

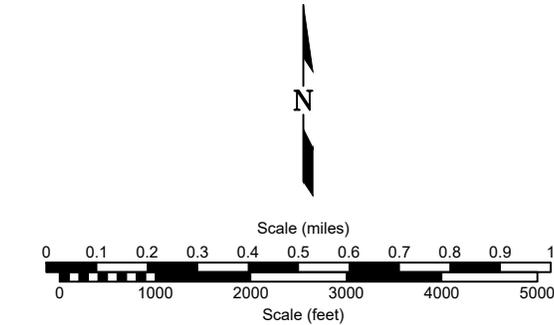
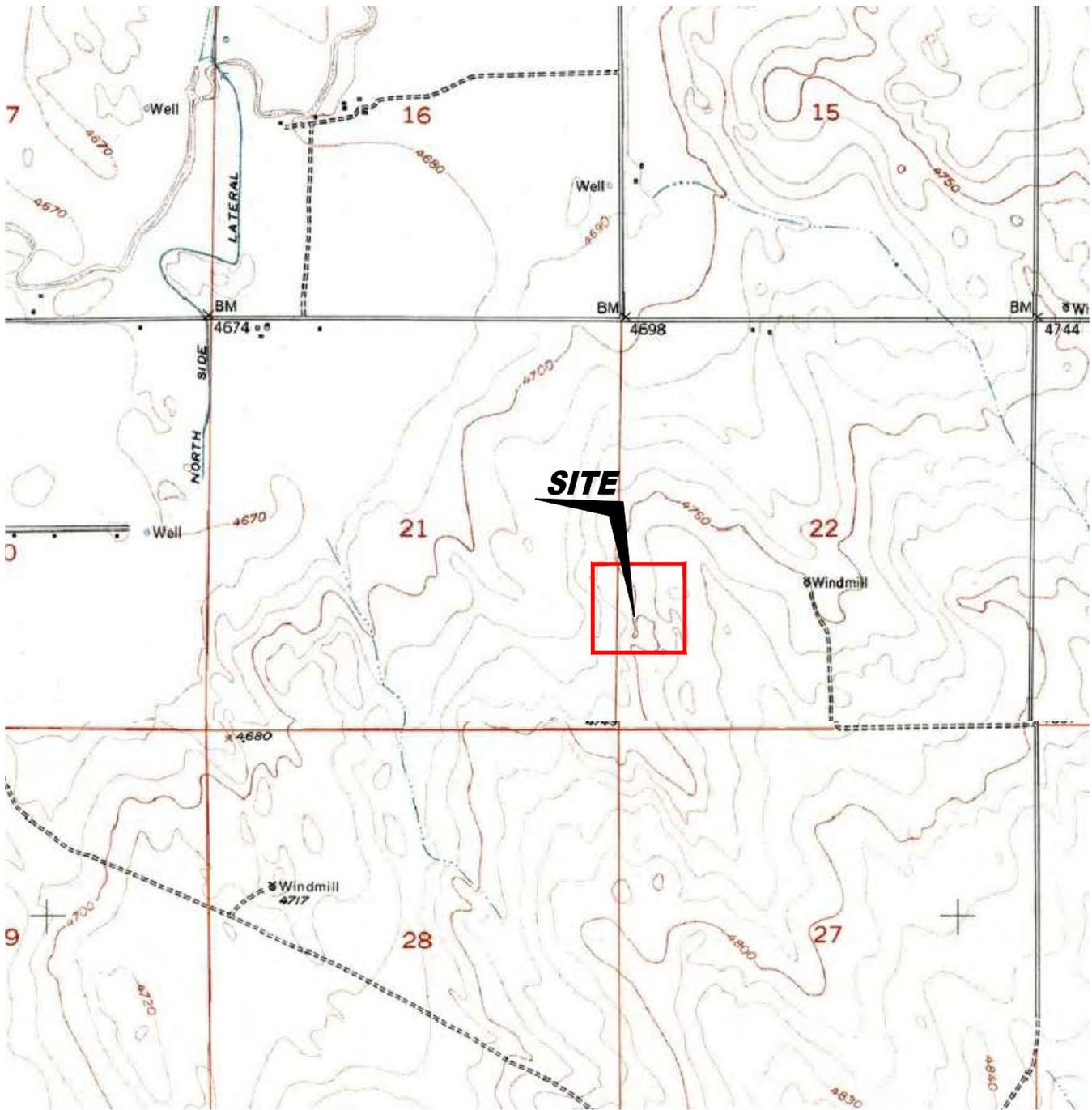
Bold faced values exceed the COGCC Table 915-1 concentrations

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

TABLE 4
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
WELLS RANCH AA 21-06, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-107

Sample ID	Sample Date	Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
COGCC Table 915-1 Limits (Residential SSL)			0.68	15000	71	0.3	3100	400	1500	390	390	23000
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
BKG01@6.0"	4/13/2023	0.5 Ft	2.52	98.3	0.299	<0.30	6.70	7.73	4.51	0.243	0.0360	24.1

Bold faced values exceed the COGCC Table 915-1 concentrations
 Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)
 NA - Not analyzed



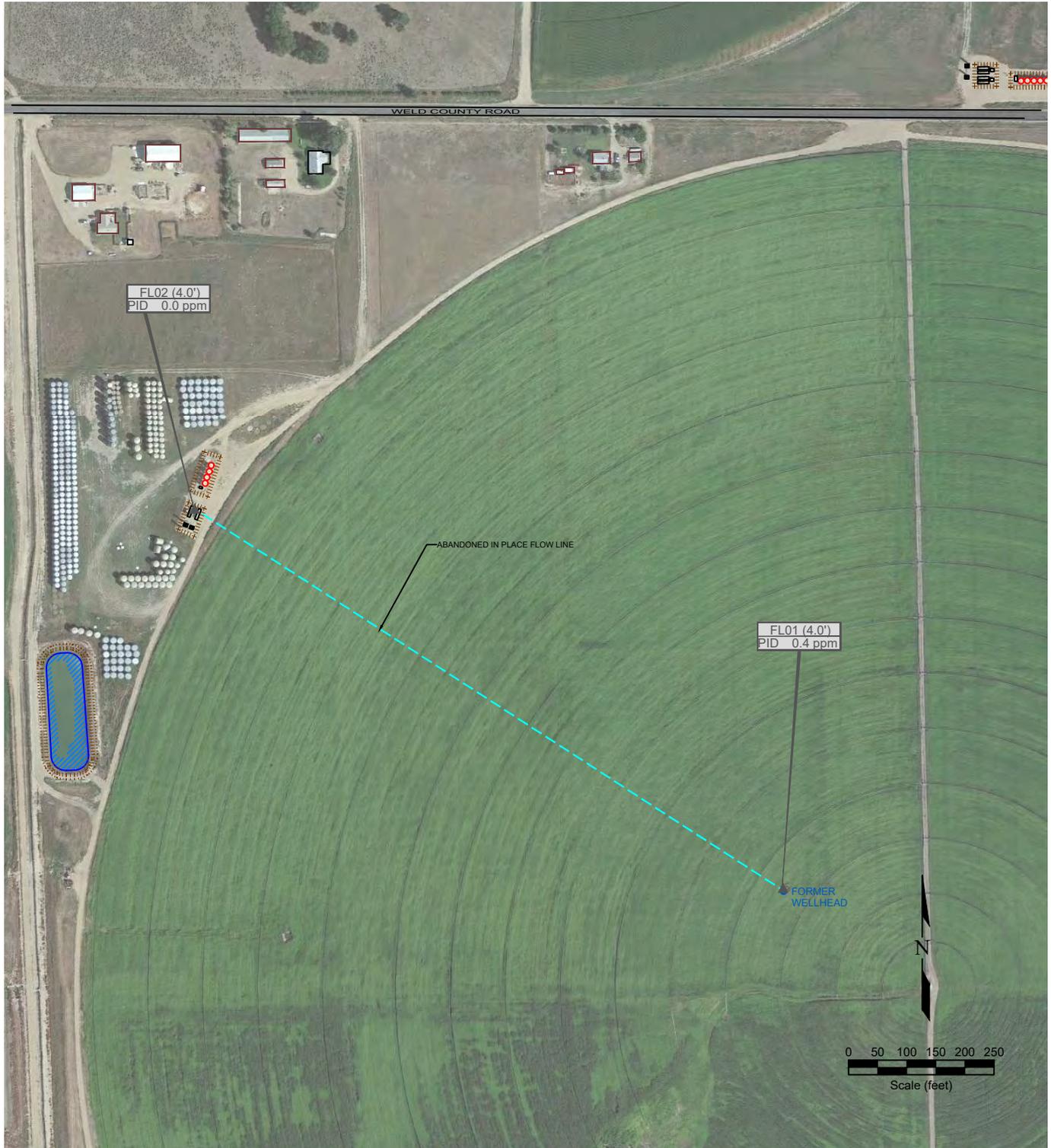
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

Noble Energy, Inc. ~ Wells Ranch AA 21-06
 SENW Sec. 21, T6N, R63W, 6th PM
 Weld County, Colorado
 40.474192°, -104.444680°

Project # C023-107	API # 05-123-26812	Facility # 296512
Date 5/2/23	Remedation # 25990	Filename 23107T





LEGEND

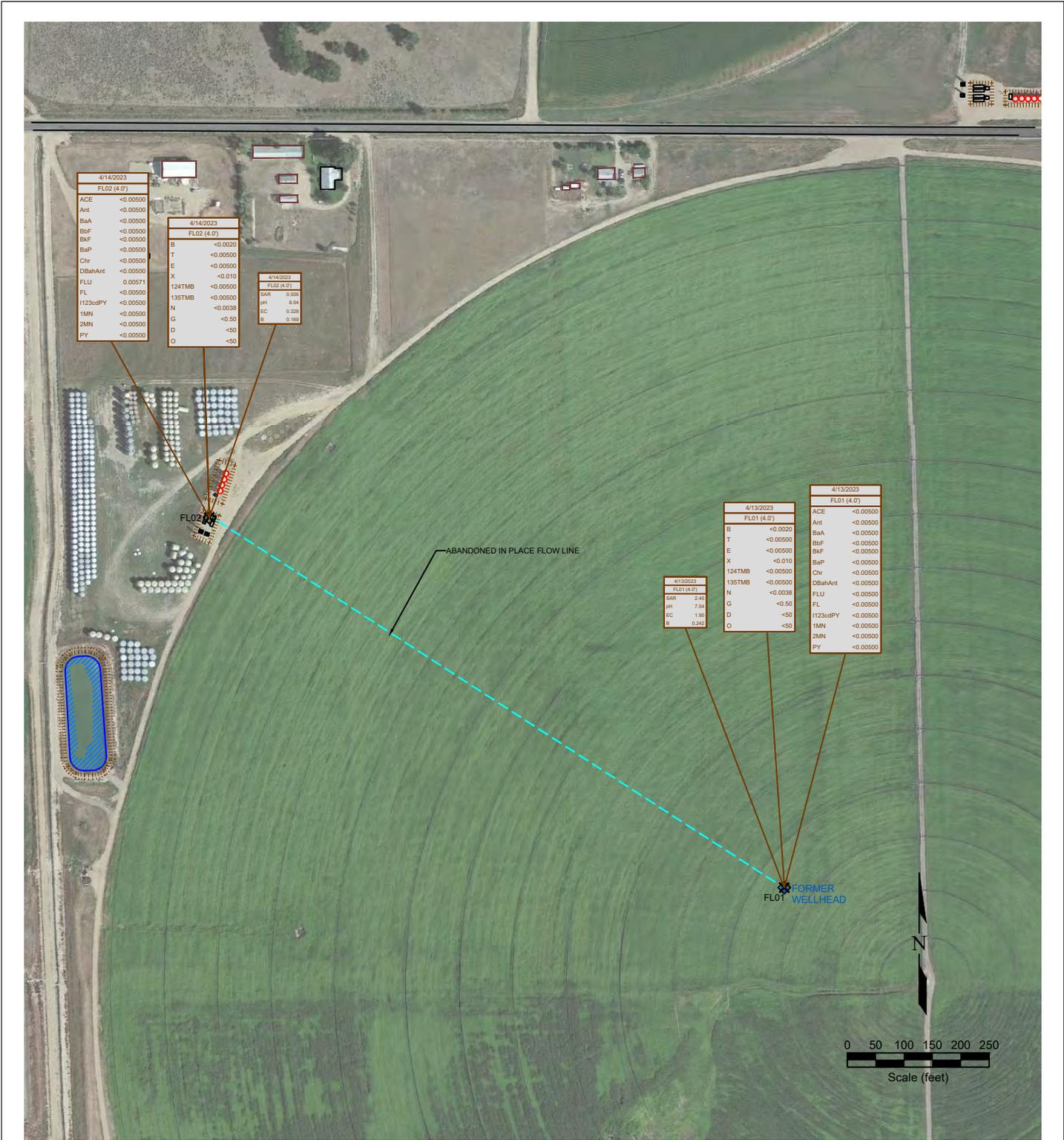
- WELL HEAD LOCATION
 - ▲ PID READING LOCATION
 - ABOVE GROUND STORAGE TANK
 - FORMER FACILITY
 - BUILDING
 - CONTAINMENT BERM
 - CONTAINMENT WALL
 - FORMER FLOW LINE
 - FENCE LINE
- FL02 (4.0')**
PID 0.0 ppm
- FL01 (4.0')**
PID 0.4 ppm
- ABANDONED IN PLACE FLOW LINE
- FORMER WELLHEAD
- Scale (feet)

**Figure 2
SITE MAP**

Noble Energy, Inc. ~ Wells Ranch AA 21-06
 SENW Sec. 21, T6N, R63W, 6th PM
 Weld County, Colorado
 40.474192°, -104.444680°

Project No. C023-107	API # 05-123-26812	Facility # 296512
Date 5/2/23	Remediation # 25990	Filename 23107Q





LEGEND

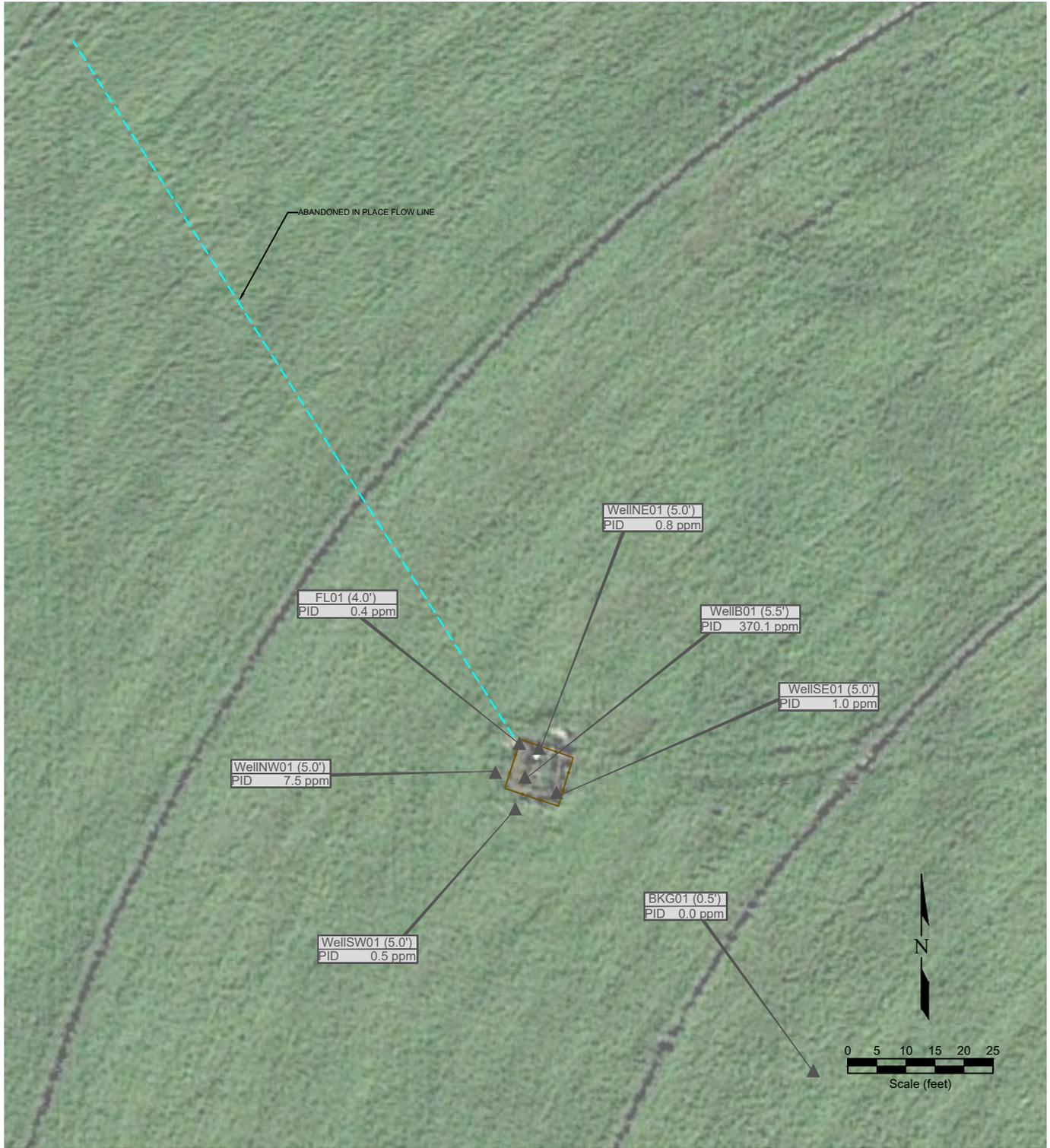
- Well head location (black dot)
- Soil sample location (black star)
- Above ground storage tank (red circle)
- Former facility (blue dashed line)
- Building (blue rectangle)
- Containment wall (dotted line)
- Former flow line (dashed cyan line)
- Fence line (yellow line)
- Containment berm (dashed line)

DATE SAMPLED	SAMPLE ID and DEPTH (ft)	DATE SAMPLED	SAMPLE ID and DEPTH (ft)	DATE SAMPLED	SAMPLE ID and DEPTH (ft)
4/13/2023	FL01 (4.0')	4/13/2023	FL01 (4.0')	4/13/2023	FL01 (4.0')
ACE	<0.0050	B	<0.0020	BA	2.92
Ant	<0.0050	T	<0.0050	BA	98.3
BaA	<0.0050	E	<0.0050	CB	0.298
BbF	<0.0050	X	<0.010	CU	0.10
BkF	<0.0050	124TMB	<0.0050	PB	7.73
BaP	<0.0050	135TMB	<0.0050	Ni	4.18
ChR	<0.0050	N	<0.0038	SE	0.243
DBaAnt	<0.0050	G	<0.50	AG	0.0001
FLU	0.00571	D	<50	CR(VI)	24.1
FL	<0.0050	O	<50	Z	<0.05
1123cdPY	<0.0050				
1MN	<0.0050				
2MN	<0.0050				
PY	<0.0050				

Figure 3
SOIL CHEMISTRY MAP

Noble Energy, Inc. ~ Wells Ranch AA 21-06
 SENW Sec. 21, T6N, R63W, 6th PM
 Weld County, Colorado
 40.474192°, -104.444680°

Project No. C023-107	API # 05-123-26812	Facility # 296512
Date 5/2/23	Remediation # 25990	Filename 23107Q



LEGEND

- WELL HEAD LOCATION
 - ▲ PID READING LOCATION
 - ABOVE GROUND STORAGE TANK
 - FORMER FACILITY
 - BUILDING
 - CONTAINMENT BERM
 - CONTAINMENT WALL
 - FORMER FLOW LINE
 - FENCE LINE
- SAMPLE IDENTIFICATION and DEPTH (ft)**
 PID = photo ionization detection / ppm = parts per million

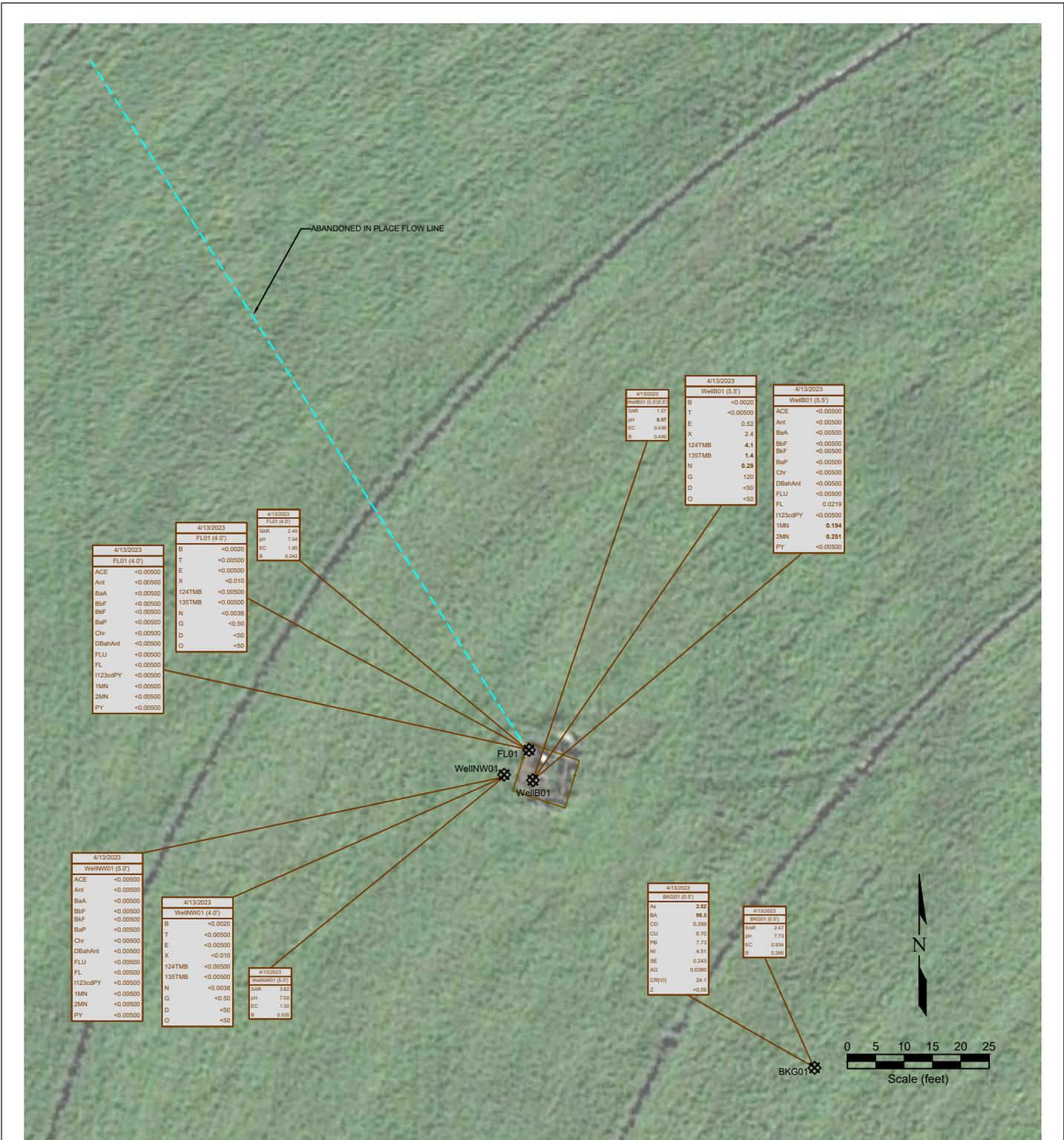
Figure 4

WELLHEAD SITE MAP

Noble Energy, Inc. ~ Wells Ranch AA 21-06
 SENW Sec. 21, T6N, R63W, 6th PM
 Weld County, Colorado
 40.474192°, -104.444680°

Project No. C023-107	API # 05-123-26812	Facility # 296512
Date 5/2/23	Remediation # 25990	Filename 23107Q1





LEGEND

- WELL HEAD LOCATION
- ⊗ SOIL SAMPLE LOCATION
- ABOVE GROUND STORAGE TANK
- ▭ FORMER FACILITY
- ▭ BUILDING
- ▭ BUILDING
- ▭ CONTAINMENT BERM
- ▭ CONTAINMENT WALL
- ▭ FORMER FLOW LINE
- ▭ FENCE LINE

DATE SAMPLED	SAMPLE ID and DEPTH (ft)	DATE SAMPLED	SAMPLE ID and DEPTH (ft)	DATE SAMPLED	SAMPLE ID and DEPTH (ft)
4/13/2023	FL01 (4.0')	4/13/2023	FL01 (4.0')	4/13/2023	BKG01 (0.9')
ACE <0.00500	ACE	ACE <0.00500	ACE	As 2.82	As
Ant <0.00500	Ant	Ant <0.00500	Ant	BA 98.3	BA
BaA <0.00500	BaA	BaA <0.00500	BaA	CD 0.399	CD
BaP <0.00500	BaP	BaP <0.00500	BaP	CU 6.70	CU
BaF <0.00500	BaF	BaF <0.00500	BaF	PB 7.73	PB
Chr <0.00500	Chr	Chr <0.00500	Chr	NI 4.51	NI
DBahAnt <0.00500	DBahAnt	DBahAnt <0.00500	DBahAnt	SE 0.243	SE
FLU <0.00500	FLU	FLU <0.00500	FLU	AG 0.356	AG
FL <0.00500	FL	FL <0.00500	FL	CR(VI) 24.1	CR(VI)
H123cdPY <0.00500	H123cdPY	H123cdPY <0.00500	H123cdPY	Z <0.05	Z
1MN <0.00500	1MN	1MN <0.00500	1MN		
2MN <0.00500	2MN	2MN <0.00500	2MN		
PY <0.00500	PY	PY <0.00500	PY		

Figure 5
WELLHEAD SOIL CHEMISTRY MAP

Noble Energy, Inc. ~ Wells Ranch AA 21-06
 SENW Sec. 21, T6N, R63W, 6th PM
 Weld County, Colorado
 40.474192°, -104.444680°

Project No. C023-107	API # 05-123-26812	Facility # 296512
Date 5/2/23	Remediation # 25990	Filename 23107Q1

REMONT ENVIRONMENTAL

Photo Log



Description:

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Photo Log



Description:

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Photo Log



Description:

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Photo Log



Description:

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Photo Log



Description:

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Photo Log



Description:

Photo Log



Description:

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Photo Log



Description:

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Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

April 27, 2023

Paul Henehan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Wells Ranch AA 21-06

Work Order # 2304320

Enclosed are the results of analyses for samples received by Summit Scientific on 04/14/23 13:27. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Scott Sheely". The signature is written in a cursive style with a large, stylized "S" at the beginning.

Scott Sheely For Paul Shrewsbury

President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
Project Manager: Paul Henehan

Reported:
04/27/23 14:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WELLB01@5.5'	2304320-01	Soil	04/13/23 00:00	04/14/23 13:27
WELLNW01@5.0'	2304320-02	Soil	04/13/23 00:00	04/14/23 13:27
FL01@4.0'	2304320-03	Soil	04/13/23 00:00	04/14/23 13:27
FL02@4.0'	2304320-04	Soil	04/14/23 00:00	04/14/23 13:27
BKG01@6.0"	2304320-05	Soil	04/13/23 00:00	04/14/23 13:27

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 2304320 Page 1 of 1

Client: <u>Fremont Env</u>		Project Manager: <u>Paul Henehan</u>		Company: <u>Noble</u>	
Address:		E-Mail: <u>Paulh@fremontenv.com</u>		Project Name/Location:	
City/State/Zip:		<u>Jeffg@fremontenv.com Ethenb@fremontenv.com</u>		AFE#:	
Phone:		Project Name: <u>Wells Ranch AA 21-06</u>		PO/Billing Codes:	
Sampler Name: <u>JG</u>		Project Number:		Contact:	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX+N	TMS (915)	DRO,ORO,GRO	PAHS (915)	EC,PH,SAR, BARD		Metals (915)
1	Well B01@5.5'	04/13/23		2			X			X			X	X	X	X	X		
2	Well Nwo1@5.0'			1									X	X	X	X	X		
3	FL01@4.0'	04/13/23		1									X	X	X	X	X		
4	FL02@4.0'	04/14/23		2									X	X	X	X	X		
5	BK601@6.0"	04/13/23		1													X	X	
6	FL01@4.0'																		
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: <u>[Signature]</u> Date/Time: <u>04/14/23 13:27</u>	Received by: <u>[Signature]</u> Date/Time: <u>4/14/23 13:27</u>	TAT Business Days	Field DO	Notes: <u>Bill to Noble</u>
		Same Day	Field EC	
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____	1 Day	Field ORP	
		2 Days	Field pH	
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____	3 Days	Field Temp.	
Temperature Upon Receipt: <u>17.2</u>	Corrected Temperature _____	Standard <input checked="" type="checkbox"/>	Field Turb.	
	IR gun #: <u>2</u>		HNO3 lot #: _____	

S₂

Sample Receipt Checklist

S2 Work Order# 2304320

Client: Fremont

Client Project ID: Wells Ranch AA 21-06

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

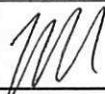
Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C) 17.2 Thermometer # Z

	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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	On ice
If custody seals are present, are they intact? ⁽¹⁾	<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 ²⁺), Hexavalent Chromium (Cr ⁶⁺ , 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? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ 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):

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


Custodian Printed Name

4/14/23 13:27
Date/Time



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

WELLB01@5.5'
2304320-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGD0529	04/17/23	04/19/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	0.52	0.050		"	10	"	"	04/18/23	"	
Xylenes (total)	2.4	0.10		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	4.1	0.050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	1.4	0.050		"	"	"	"	"	"	
Naphthalene	0.29	0.038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	120	5.0		"	"	"	"	"	"	

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		92.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		118 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0530	04/17/23	04/19/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		97.9 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
Project Manager: Paul Henehan

Reported:
04/27/23 14:33

WELLB01@5.5'
2304320-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0507	04/17/23	04/18/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	0.0219	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	0.194	0.00500		"	"	"	"	"	"	E
2-Methylnaphthalene	0.251	0.00500		"	"	"	"	"	"	E

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	60.4 %			40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	95.9 %			40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.449	0.0100		mg/L	1	BGD0631	04/20/23	04/26/23	EPA 6020B	

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

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	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 - Wells Ranch AA 21-06

Project Number: [none]
Project Manager: Paul Henehan

Reported:
04/27/23 14:33

WELLB01@5.5'
2304320-01 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	142	0.0653		mg/L dry	1	BGD0678	04/20/23	04/26/23	EPA 6020B	
Magnesium	59.4	0.0653		"	"	"	"	"	"	
Sodium	88.5	0.0653		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.57	0.00100		units	1	BGD0928	04/27/23	04/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	76.6			%	1	BGD0562	04/18/23	04/18/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.436	0.0100		mmhos/cm	1	BGD0716	04/21/23	04/24/23	EPA 120.1	

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

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.57			pH Units	1	BGD0717	04/21/23	04/24/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
Project Manager: Paul Henehan

Reported:
04/27/23 14:33

WELLNW01@5.0'
2304320-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGD0529	04/17/23	04/18/23	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: **04/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		110 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0530	04/17/23	04/19/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		99.8 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

WELLNW01@5.0'
2304320-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0507	04/17/23	04/18/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	"
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	"
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	"
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Chrysene	ND	0.00500		"	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	"
Fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Fluorene	ND	0.00500		"	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	"
Pyrene	ND	0.00500		"	"	"	"	"	"	"
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	"
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	"

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		53.0 %		40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10		82.4 %		40-150		"	"	"	"	"

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.335	0.0100		mg/L	1	BGD0631	04/20/23	04/26/23	EPA 6020B	

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

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	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 - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

WELLNW01@5.0'
2304320-02 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	41.7	0.0626		mg/L dry	1	BGD0678	04/20/23	04/26/23	EPA 6020B	
Magnesium	18.5	0.0626		"	"	"	"	"	"	
Sodium	118	0.0626		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.82	0.00100		units	1	BGD0928	04/27/23	04/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.8			%	1	BGD0562	04/18/23	04/18/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.30	0.0100		mmhos/cm	1	BGD0716	04/21/23	04/24/23	EPA 120.1	

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

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.50			pH Units	1	BGD0717	04/21/23	04/24/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
Project Manager: Paul Henehan

Reported:
04/27/23 14:33

FL01@4.0'
2304320-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGD0529	04/17/23	04/18/23	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: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0530	04/17/23	04/19/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.8 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
Project Manager: Paul Henehan

Reported:
04/27/23 14:33

FL01@4.0'
2304320-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0507	04/17/23	04/18/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	"
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	"
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	"
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Chrysene	ND	0.00500		"	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	"
Fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Fluorene	ND	0.00500		"	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	"
Pyrene	ND	0.00500		"	"	"	"	"	"	"
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	"
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	"

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		59.6 %		40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10		72.9 %		40-150		"	"	"	"	"

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.242	0.0100		mg/L	1	BGD0631	04/20/23	04/26/23	EPA 6020B	

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

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	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 - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

FL01@4.0'
2304320-03 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	105	0.0660		mg/L dry	1	BGD0678	04/20/23	04/26/23	EPA 6020B	
Magnesium	48.9	0.0660		"	"	"	"	"	"	
Sodium	121	0.0660		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.45	0.00100		units	1	BGD0928	04/27/23	04/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	75.7			%	1	BGD0562	04/18/23	04/18/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.90	0.0100		mmhos/cm	1	BGD0716	04/21/23	04/24/23	EPA 120.1	

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

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.54			pH Units	1	BGD0717	04/21/23	04/24/23	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
Project Manager: Paul Henehan

Reported:
04/27/23 14:33

FL02@4.0'
2304320-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/14/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGD0529	04/17/23	04/18/23	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: **04/14/23 00:00**

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

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/14/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0530	04/17/23	04/19/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/14/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		73.5 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Fremont Environmental
 PO Box 1289
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Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

FL02@4.0'
2304320-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/14/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0507	04/17/23	04/18/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	"
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	"
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	"
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Chrysene	ND	0.00500		"	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	"
Fluoranthene	0.00571	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: **04/14/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		68.6 %		40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10		92.3 %		40-150		"	"	"	"	"

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/14/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.169	0.0100		mg/L	1	BGD0631	04/20/23	04/26/23	EPA 6020B	

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

Date Sampled: **04/14/23 00:00**

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

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
Project Manager: Paul Henehan

Reported:
04/27/23 14:33

FL02@4.0'
2304320-04 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	15.8	0.0542		mg/L dry	1	BGD0678	04/20/23	04/26/23	EPA 6020B	
Magnesium	8.71	0.0542		"	"	"	"	"	"	
Sodium	10.1	0.0542		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/14/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.506	0.00100		units	1	BGD0928	04/27/23	04/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/14/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.3			%	1	BGD0562	04/18/23	04/18/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/14/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.328	0.0100		mmhos/cm	1	BGD0716	04/21/23	04/24/23	EPA 120.1	

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

Date Sampled: **04/14/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.04			pH Units	1	BGD0717	04/21/23	04/24/23	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
Project Manager: Paul Henehan

Reported:
04/27/23 14:33

BKG01@6.0"
2304320-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.266	0.0100		mg/L	1	BGD0631	04/20/23	04/26/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	2.52	0.234		mg/kg dry	1	BGD0642	04/20/23	04/25/23	EPA 6020B	
Barium	98.3	0.468		"	"	"	"	"	"	
Cadmium	0.299	0.234		"	"	"	"	"	"	
Copper	6.70	0.468		"	"	"	"	"	"	
Lead	7.73	0.234		"	"	"	"	"	"	
Nickel	4.51	0.468		"	"	"	"	"	"	
Selenium	0.243	0.260	0.175	"	"	"	"	"	"	
Silver	0.0360	0.0234		"	"	"	"	"	"	
Zinc	24.1	0.468		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGD0577	04/18/23	04/18/23	EPA 7196A	

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

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	34.7	0.0585		mg/L dry	1	BGD0678	04/20/23	04/26/23	EPA 6020B	
Magnesium	20.8	0.0585		"	"	"	"	"	"	
Sodium	74.6	0.0585		"	"	"	"	"	"	

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

BKG01@6.0"
2304320-05 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.47	0.00100		units	1	BGD0928	04/27/23	04/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.5			%	1	BGD0562	04/18/23	04/18/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.934	0.0100		mmhos/cm	1	BGD0716	04/21/23	04/24/23	EPA 120.1	

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

Date Sampled: **04/13/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.73			pH Units	1	BGD0717	04/21/23	04/24/23	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
Project Manager: Paul Henehan

Reported:
04/27/23 14:33

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 BGD0529 - EPA 5030 Soil MS

Blank (BGD0529-BLK1)

Prepared: 04/17/23 Analyzed: 04/18/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0374		"	0.0400		93.4	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.6	50-150			

LCS (BGD0529-BS1)

Prepared: 04/17/23 Analyzed: 04/18/23

Benzene	0.0882	0.0020	mg/kg	0.100		88.2	70-130			
Toluene	0.0936	0.0050	"	0.100		93.6	70-130			
Ethylbenzene	0.110	0.0050	"	0.100		110	70-130			
m,p-Xylene	0.215	0.010	"	0.200		108	70-130			
o-Xylene	0.102	0.0050	"	0.100		102	70-130			
1,2,4-Trimethylbenzene	0.106	0.0050	"	0.100		106	70-130			
1,3,5-Trimethylbenzene	0.108	0.0050	"	0.100		108	70-130			
Naphthalene	0.0843	0.0038	"	0.100		84.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0330		"	0.0400		82.5	50-150			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.4	50-150			

Matrix Spike (BGD0529-MS1)

Source: 2304317-01

Prepared: 04/17/23 Analyzed: 04/18/23

Benzene	0.0872	0.0020	mg/kg	0.100	ND	87.2	70-130			
Toluene	0.0951	0.0050	"	0.100	ND	95.1	70-130			
Ethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130			
m,p-Xylene	0.217	0.010	"	0.200	ND	108	70-130			
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130			
1,2,4-Trimethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130			
1,3,5-Trimethylbenzene	0.109	0.0050	"	0.100	ND	109	70-130			
Naphthalene	0.0870	0.0038	"	0.100	ND	87.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0340		"	0.0400		84.9	50-150			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.6	50-150			

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

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 BGD0529 - EPA 5030 Soil MS

Matrix Spike Dup (BGD0529-MSD1)	Source: 2304317-01			Prepared: 04/17/23 Analyzed: 04/18/23						
Benzene	0.0872	0.0020	mg/kg	0.100	ND	87.2	70-130	0.0344	30	
Toluene	0.0940	0.0050	"	0.100	ND	94.0	70-130	1.17	30	
Ethylbenzene	0.108	0.0050	"	0.100	ND	108	70-130	2.20	30	
m,p-Xylene	0.212	0.010	"	0.200	ND	106	70-130	2.45	30	
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130	0.118	30	
1,2,4-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130	1.15	30	
1,3,5-Trimethylbenzene	0.109	0.0050	"	0.100	ND	109	70-130	0.412	30	
Naphthalene	0.0898	0.0038	"	0.100	ND	89.8	70-130	3.16	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0352</i>		<i>"</i>	<i>0.0400</i>		<i>88.0</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0401</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0382</i>		<i>"</i>	<i>0.0400</i>		<i>95.6</i>	<i>50-150</i>			

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGD0530 - EPA 3550A

Blank (BGD0530-BLK1)

Prepared: 04/17/23 Analyzed: 04/18/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	9.19		"	12.5		73.5	30-150				

LCS (BGD0530-BS1)

Prepared: 04/17/23 Analyzed: 04/18/23

C10-C28 (DRO)	401	50	mg/kg	500		80.2	70-130				
Surrogate: <i>o</i> -Terphenyl	6.16		"	12.5		49.2	30-150				

Matrix Spike (BGD0530-MS1)

Source: 2304317-01

Prepared: 04/17/23 Analyzed: 04/18/23

C10-C28 (DRO)	392	50	mg/kg	500	15.2	75.5	70-130				
Surrogate: <i>o</i> -Terphenyl	9.31		"	12.5		74.5	30-150				

Matrix Spike Dup (BGD0530-MSD1)

Source: 2304317-01

Prepared: 04/17/23 Analyzed: 04/18/23

C10-C28 (DRO)	403	50	mg/kg	500	15.2	77.6	70-130	2.74	20		
Surrogate: <i>o</i> -Terphenyl	5.22		"	12.5		41.8	30-150				

Summit Scientific

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Fremont Environmental
 PO Box 1289
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Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

PAH by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch BGD0507 - EPA 5030 Soil MS

Blank (BGD0507-BLK1)

Prepared: 04/17/23 Analyzed: 04/18/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0258</i>		<i>"</i>	<i>0.0333</i>		<i>77.5</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0264</i>		<i>"</i>	<i>0.0333</i>		<i>79.1</i>		<i>40-150</i>		

LCS (BGD0507-BS1)

Prepared: 04/17/23 Analyzed: 04/18/23

Acenaphthene	0.0277	0.00500	mg/kg	0.0333		83.2		31-137		
Anthracene	0.0243	0.00500	"	0.0333		72.9		30-120		
Benzo (a) anthracene	0.0309	0.00500	"	0.0333		92.6		30-120		
Benzo (a) pyrene	0.0270	0.00500	"	0.0333		80.9		30-120		
Benzo (b) fluoranthene	0.0324	0.00500	"	0.0333		97.2		30-120		
Benzo (k) fluoranthene	0.0226	0.00500	"	0.0333		67.7		30-120		
Chrysene	0.0194	0.00500	"	0.0333		58.1		30-120		
Dibenz (a,h) anthracene	0.0298	0.00500	"	0.0333		89.5		30-120		
Fluoranthene	0.0244	0.00500	"	0.0333		73.3		30-120		
Fluorene	0.0257	0.00500	"	0.0333		77.2		30-120		
Indeno (1,2,3-cd) pyrene	0.0305	0.00500	"	0.0333		91.5		30-120		
Pyrene	0.0313	0.00500	"	0.0333		93.9		35-142		
1-Methylnaphthalene	0.0288	0.00500	"	0.0333		86.3		35-142		
2-Methylnaphthalene	0.0277	0.00500	"	0.0333		83.1		35-142		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0287</i>		<i>"</i>	<i>0.0333</i>		<i>86.2</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0262</i>		<i>"</i>	<i>0.0333</i>		<i>78.5</i>		<i>40-150</i>		

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
Project Manager: Paul Henehan

Reported:
04/27/23 14:33

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 BGD0507 - EPA 5030 Soil MS

Matrix Spike (BGD0507-MS1)	Source: 2304288-14			Prepared: 04/17/23 Analyzed: 04/18/23						
Acenaphthene	0.0247	0.00500	mg/kg	0.0333	ND	74.2	31-137			
Anthracene	0.0230	0.00500	"	0.0333	ND	68.9	30-120			
Benzo (a) anthracene	0.0279	0.00500	"	0.0333	ND	83.7	30-120			
Benzo (a) pyrene	0.0241	0.00500	"	0.0333	ND	72.4	30-120			
Benzo (b) fluoranthene	0.0276	0.00500	"	0.0333	ND	82.8	30-120			
Benzo (k) fluoranthene	0.0195	0.00500	"	0.0333	ND	58.5	30-120			
Chrysene	0.0173	0.00500	"	0.0333	ND	51.8	30-120			
Dibenz (a,h) anthracene	0.0254	0.00500	"	0.0333	ND	76.3	30-120			
Fluoranthene	0.0256	0.00500	"	0.0333	0.00583	59.2	30-120			
Fluorene	0.0234	0.00500	"	0.0333	ND	70.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0298	0.00500	"	0.0333	ND	89.4	30-120			
Pyrene	0.0289	0.00500	"	0.0333	0.00102	83.8	35-142			
1-Methylnaphthalene	0.0247	0.00500	"	0.0333	ND	74.2	15-130			
2-Methylnaphthalene	0.0239	0.00500	"	0.0333	ND	71.8	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0257		"	0.0333		77.1	40-150			
Surrogate: Fluoranthene-d10	0.0284		"	0.0333		85.3	40-150			

Matrix Spike Dup (BGD0507-MSD1)	Source: 2304288-14			Prepared: 04/17/23 Analyzed: 04/18/23						
Acenaphthene	0.0240	0.00500	mg/kg	0.0333	ND	72.0	31-137	3.01	30	
Anthracene	0.0216	0.00500	"	0.0333	ND	64.9	30-120	6.03	30	
Benzo (a) anthracene	0.0262	0.00500	"	0.0333	ND	78.7	30-120	6.20	30	
Benzo (a) pyrene	0.0236	0.00500	"	0.0333	ND	70.7	30-120	2.47	30	
Benzo (b) fluoranthene	0.0263	0.00500	"	0.0333	ND	78.9	30-120	4.92	30	
Benzo (k) fluoranthene	0.0190	0.00500	"	0.0333	ND	56.9	30-120	2.79	30	
Chrysene	0.0165	0.00500	"	0.0333	ND	49.5	30-120	4.68	30	
Dibenz (a,h) anthracene	0.0240	0.00500	"	0.0333	ND	71.9	30-120	5.92	30	
Fluoranthene	0.0239	0.00500	"	0.0333	0.00583	54.1	30-120	6.94	30	
Fluorene	0.0227	0.00500	"	0.0333	ND	68.1	30-120	3.00	30	
Indeno (1,2,3-cd) pyrene	0.0265	0.00500	"	0.0333	ND	79.6	30-120	11.7	30	
Pyrene	0.0268	0.00500	"	0.0333	0.00102	77.2	35-142	7.87	30	
1-Methylnaphthalene	0.0235	0.00500	"	0.0333	ND	70.4	15-130	5.19	50	
2-Methylnaphthalene	0.0242	0.00500	"	0.0333	ND	72.7	15-130	1.18	50	
Surrogate: 2-Methylnaphthalene-d10	0.0246		"	0.0333		73.9	40-150			
Surrogate: Fluoranthene-d10	0.0266		"	0.0333		79.7	40-150			

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

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 BGD0631 - EPA 3050B

Blank (BGD0631-BLK1)

Prepared: 04/20/23 Analyzed: 04/26/23

Boron ND 0.0100 mg/L

LCS (BGD0631-BS1)

Prepared: 04/20/23 Analyzed: 04/26/23

Boron 5.65 0.0100 mg/L 5.00 113 80-120

Duplicate (BGD0631-DUP1)

Source: 2304320-01

Prepared: 04/20/23 Analyzed: 04/26/23

Boron 0.486 0.0100 mg/L 0.449 7.90 20

Matrix Spike (BGD0631-MS1)

Source: 2304320-01

Prepared: 04/20/23 Analyzed: 04/26/23

Boron 5.57 0.0100 mg/L 5.00 0.449 102 75-125

Matrix Spike Dup (BGD0631-MSD1)

Source: 2304320-01

Prepared: 04/20/23 Analyzed: 04/26/23

Boron 5.50 0.0100 mg/L 5.00 0.449 101 75-125 1.24 25

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

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 BGD0642 - EPA 3050B

Blank (BGD0642-BLK1)

Prepared: 04/20/23 Analyzed: 04/25/23

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

LCS (BGD0642-BS1)

Prepared: 04/20/23 Analyzed: 04/25/23

Arsenic	43.0	0.200	mg/kg wet	40.0		108	80-120
Barium	43.9	0.400	"	40.0		110	80-120
Cadmium	2.17	0.200	"	2.00		108	80-120
Copper	46.0	0.400	"	40.0		115	80-120
Lead	21.7	0.200	"	20.0		108	80-120
Nickel	44.9	0.400	"	40.0		112	80-120
Selenium	4.71	0.260	"	4.00		118	80-120
Silver	2.17	0.0200	"	2.00		108	80-120
Zinc	43.7	0.400	"	40.0		109	80-120

Duplicate (BGD0642-DUP1)

Source: 2304320-05

Prepared: 04/20/23 Analyzed: 04/25/23

Arsenic	2.78	0.234	mg/kg dry	2.52		9.59	20
Barium	114	0.468	"	98.3		14.8	20
Cadmium	0.331	0.234	"	0.299		10.3	20
Copper	7.58	0.468	"	6.70		12.3	20
Lead	8.64	0.234	"	7.73		11.1	20
Nickel	4.90	0.468	"	4.51		8.30	20
Selenium	0.266	0.260	"	0.243		9.00	20
Silver	0.0412	0.0234	"	0.0360		13.3	20
Zinc	29.5	0.468	"	24.1		20.4	20

QR-04

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

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 BGD0642 - EPA 3050B

Matrix Spike (BGD0642-MS1)

Source: 2304320-05

Prepared: 04/20/23 Analyzed: 04/25/23

Arsenic	47.9	0.234	mg/kg dry	46.8	2.52	97.0	75-125			
Barium	151	0.468	"	46.8	98.3	113	75-125			
Cadmium	2.64	0.234	"	2.34	0.299	100	75-125			
Copper	40.6	0.468	"	46.8	6.70	72.4	75-125			QM-07
Lead	30.5	0.234	"	23.4	7.73	97.4	75-125			
Nickel	38.5	0.468	"	46.8	4.51	72.7	75-125			QM-07
Selenium	5.36	0.260	"	4.68	0.243	109	75-125			
Silver	2.36	0.0234	"	2.34	0.0360	99.2	75-125			
Zinc	60.8	0.468	"	46.8	24.1	78.4	75-125			

Matrix Spike Dup (BGD0642-MSD1)

Source: 2304320-05

Prepared: 04/20/23 Analyzed: 04/25/23

Arsenic	47.8	0.234	mg/kg dry	46.8	2.52	96.8	75-125	0.266	25	
Barium	151	0.468	"	46.8	98.3	112	75-125	0.274	25	
Cadmium	2.64	0.234	"	2.34	0.299	100	75-125	0.0531	25	
Copper	40.6	0.468	"	46.8	6.70	72.4	75-125	0.0715	25	QM-07
Lead	30.6	0.234	"	23.4	7.73	97.9	75-125	0.367	25	
Nickel	38.5	0.468	"	46.8	4.51	72.7	75-125	0.0109	25	QM-07
Selenium	5.41	0.260	"	4.68	0.243	110	75-125	0.931	25	
Silver	2.39	0.0234	"	2.34	0.0360	101	75-125	1.36	25	
Zinc	60.7	0.468	"	46.8	24.1	78.3	75-125	0.0878	25	

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

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 BGD0577 - 3060A Mod

Blank (BGD0577-BLK1)

Prepared & Analyzed: 04/18/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGD0577-BS1)

Prepared & Analyzed: 04/18/23

Chromium, Hexavalent 22.2 0.30 mg/kg wet 25.0 88.8 80-120

Duplicate (BGD0577-DUP1)

Source: 2304336-01

Prepared & Analyzed: 04/18/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGD0577-MS1)

Source: 2304336-01

Prepared & Analyzed: 04/18/23

Chromium, Hexavalent 21.0 0.30 mg/kg dry 27.0 ND 77.8 75-125

Matrix Spike Dup (BGD0577-MSD1)

Source: 2304336-01

Prepared & Analyzed: 04/18/23

Chromium, Hexavalent 24.4 0.30 mg/kg dry 27.0 ND 90.4 75-125 15.0 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

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

Summit Scientific

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

Batch BGD0678 - General Preparation

Blank (BGD0678-BLK1)

Prepared: 04/20/23 Analyzed: 04/26/23

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

LCS (BGD0678-BS1)

Prepared: 04/20/23 Analyzed: 04/26/23

Calcium	5.10	0.0500	mg/L wet	5.00		102	70-130			
Magnesium	5.69	0.0500	"	5.00		114	70-130			
Sodium	6.31	0.0500	"	5.00		126	70-130			

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

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 BGD0562 - General Preparation

Duplicate (BGD0562-DUP1)

Source: 2304300-01

Prepared & Analyzed: 04/18/23

% Solids	79.9		%		79.2			0.784	20	
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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

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 BGD0716 - General Preparation

Blank (BGD0716-BLK1)

Prepared: 04/21/23 Analyzed: 04/24/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGD0716-BS1)

Prepared: 04/21/23 Analyzed: 04/24/23

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 100 95-105

Duplicate (BGD0716-DUP1)

Source: 2304317-01

Prepared: 04/21/23 Analyzed: 04/24/23

Specific Conductance (EC) 0.436 0.0100 mmhos/cm 0.436 0.0458 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 04/27/23 14:33

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 BGD0717 - General Preparation

LCS (BGD0717-BS1)

Prepared: 04/21/23 Analyzed: 04/24/23

pH	9.08	pH Units	9.18	98.9	95-105
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Duplicate (BGD0717-DUP1)

Source: 2304317-01

Prepared: 04/21/23 Analyzed: 04/24/23

pH	7.49	pH Units	7.42	0.939	20
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Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Wells Ranch AA 21-06

Project Number: [none]
Project Manager: Paul Henehan

Reported:
04/27/23 14:33

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.
- 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.
- 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