

FREMONT ENVIRONMENTAL INC.

April 1, 2024

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

Subject: **Flowline Closure Data Submittal**
Jepsen G21-25
API # 05-123-24295
SESW Sec. 21, T4N, R65W
Weld County, Colorado
Fremont Project No. C023-235
Remediation # 25472

Dear Mr. Peterson:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted flowline closure activities for the Noble Energy Inc. (Noble) Jepsen G21-25. Impacted soil was not encountered during abandonment activities. Details of the Jepsen G21-25 closure activities are documented in the attached Closure Report. Groundwater was not encountered during flowline abandonment activities.

Please contact me at (303) 261-6246 if you require any additional information. Fremont appreciates the opportunity to provide this service.

Sincerely,

FREMONT ENVIRONMENTAL INC.



Stanley Gilbert
Environmental Scientist

Attachments:

Facility Closure Checklist
Tables
Figures
Photos
Laboratory Report

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

Flowline Closure Checklist

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

<i>Additional Attachments:</i>		Tank Battery Closure		Wellhead Closure		Pit Closure		Partially Buried Vault Closure
<i>Site Name & COGCC Facility Number:</i>		<i>Date:</i>						<i>Remediation Project #:</i>
<i>Associated Wells:</i>		<i>Age of Site:</i>						<i>Number of Photos Attached:</i>
<i>Starting point: (GPS coordinates and descriptions)</i>								
<i>End point: (GPS coordinates and descriptions)</i>								
<i>USCS Soil Type:</i>					<i>Estimated Depth to Groundwater:</i>			
<i>Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)</i>								
<i>Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)</i>								
Flowlines								
<i>Flowline type</i>								
<i>Depth</i>								
<i>Age</i>								
<i>Length</i>								
<i>Construction Material</i>								
<i>Were flowlines pulled?</i>								
<i>Visual Integrity of lines</i>								
<i>Visual impacts if trenched</i>								
<i>PID Readings if trenched</i>								
<i>Sample taken? Location/Sample ID#</i>								
<i>Photo Number(s)</i>								
<i>Other observations regarding on location flowlines:</i>								
Summary								
<i>Was impacted soil identified?</i> <div> No Yes - less than 10 cubic yards Yes - more than 10 cubic yards </div>								
<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> <div> No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils </div>								
<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>								

TABLE 1
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
JEPSEN G21-25, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-235

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**		
FL01 4'	08/23/2023	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
FL02 3'	08/23/2023	3	<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)

Green highlighted cells indicate soil removed via excavation

* 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.
JEPSEN G21-25, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-235

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
FL01 4'	08/23/2023	4	<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 3'	08/23/2023	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

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
Green highlighted cells indicate soil removed via excavation

TABLE 3
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE ENERGY INC.
JEPSEN G21-25, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-235

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
FL01 4'	08/23/2023	4	8.10	0.293	0.96	0.0398
FL02 3'	08/23/2023	3	8.50	0.174	0.300	0.116

Bold faced, yellow highlighted values exceed the ECMC Table 915-1 concentrations

Green highlighted cells indicate soil removed via excavation

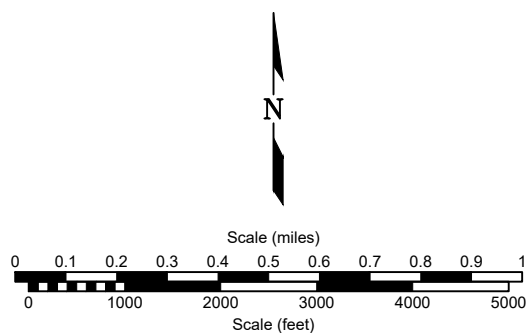
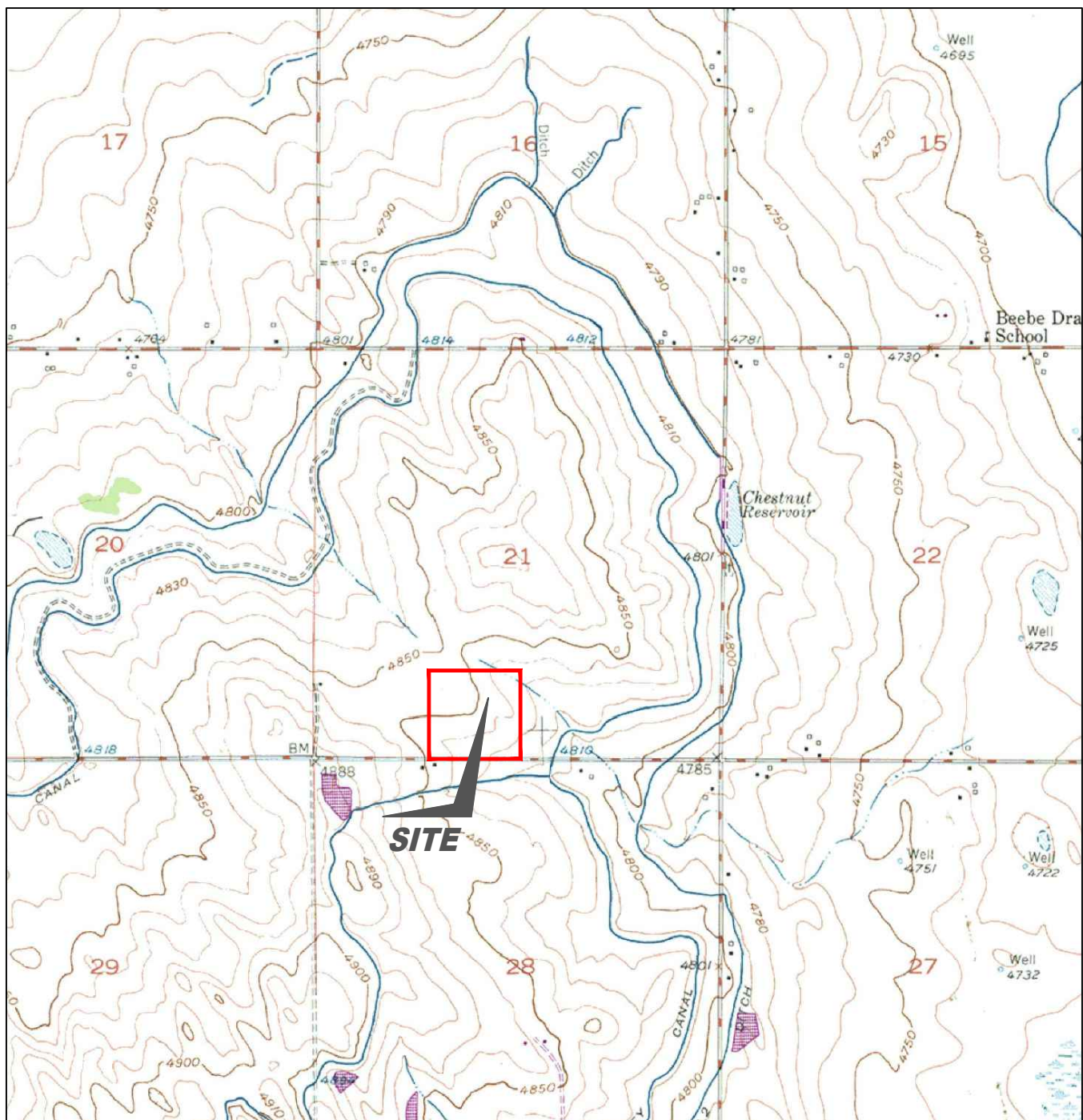
Yellow highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

NA - Not analyzed

TABLE 4
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
JEPSEN G21-25, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-235

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
FL01 4'	08/23/2023	4	5.48	128	0.369	<0.30	8.52	13.5	8.56	<0.260	0.0533	34.5
FL02 3'	08/23/2023	3	3.40	71.4	0.204	<0.30	4.60	6.07	5.03	<0.260	0.0241	17.0

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
Green highlighted cells indicate soil removed via excavation
NA - Not analyzed



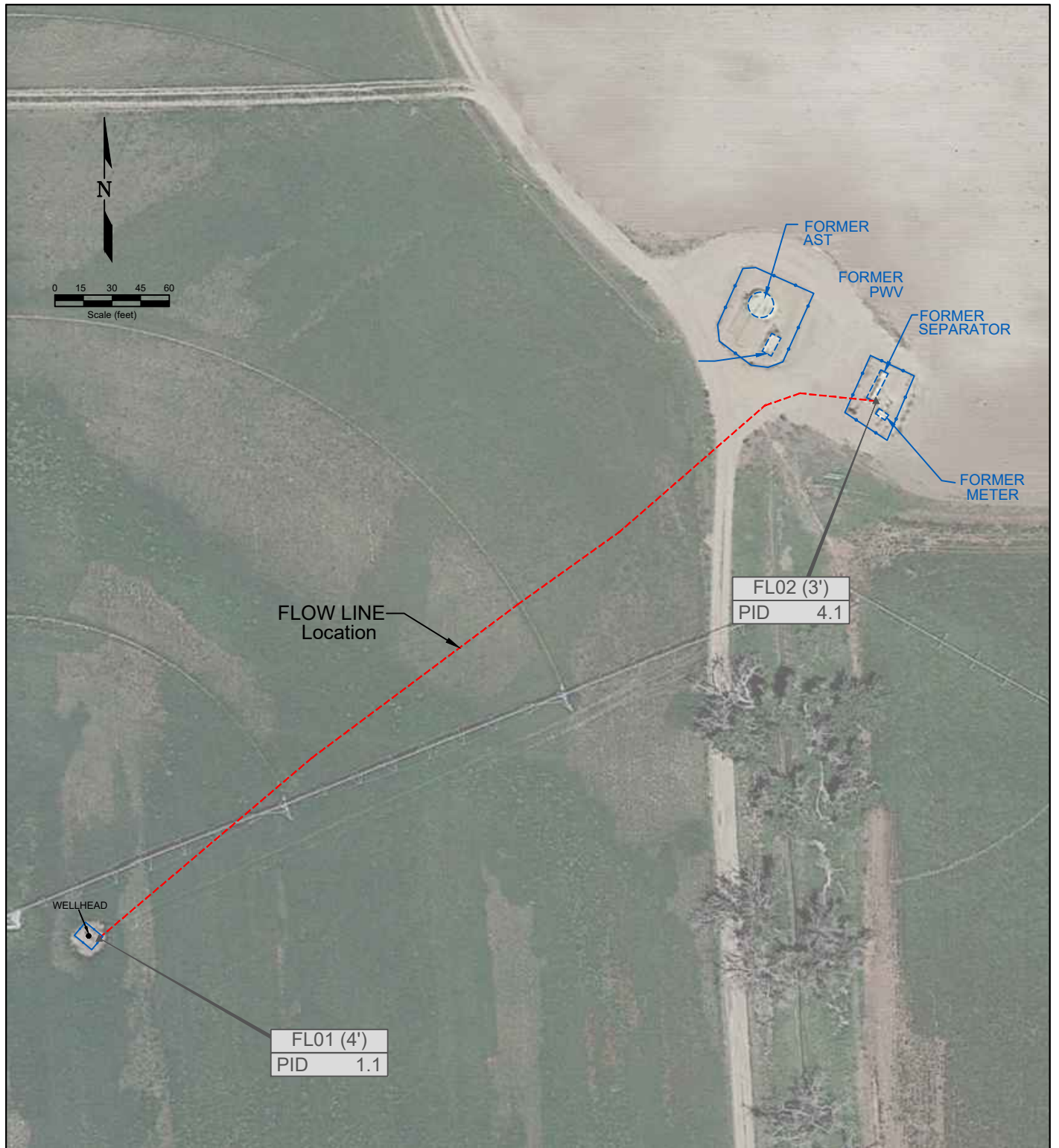
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

NOBLE ENERGY INC - JEPSEN G 21-25
 SESW Sec. 21, T4N, R65W, 6th PM
 Weld County, Colorado
 40.294298°, -104.672666°

Project # CO23-235	API # 05-123-24295	Facility #
Date 11/29/2023	Remediation # 25472	Filename 23235TFL






LEGEND

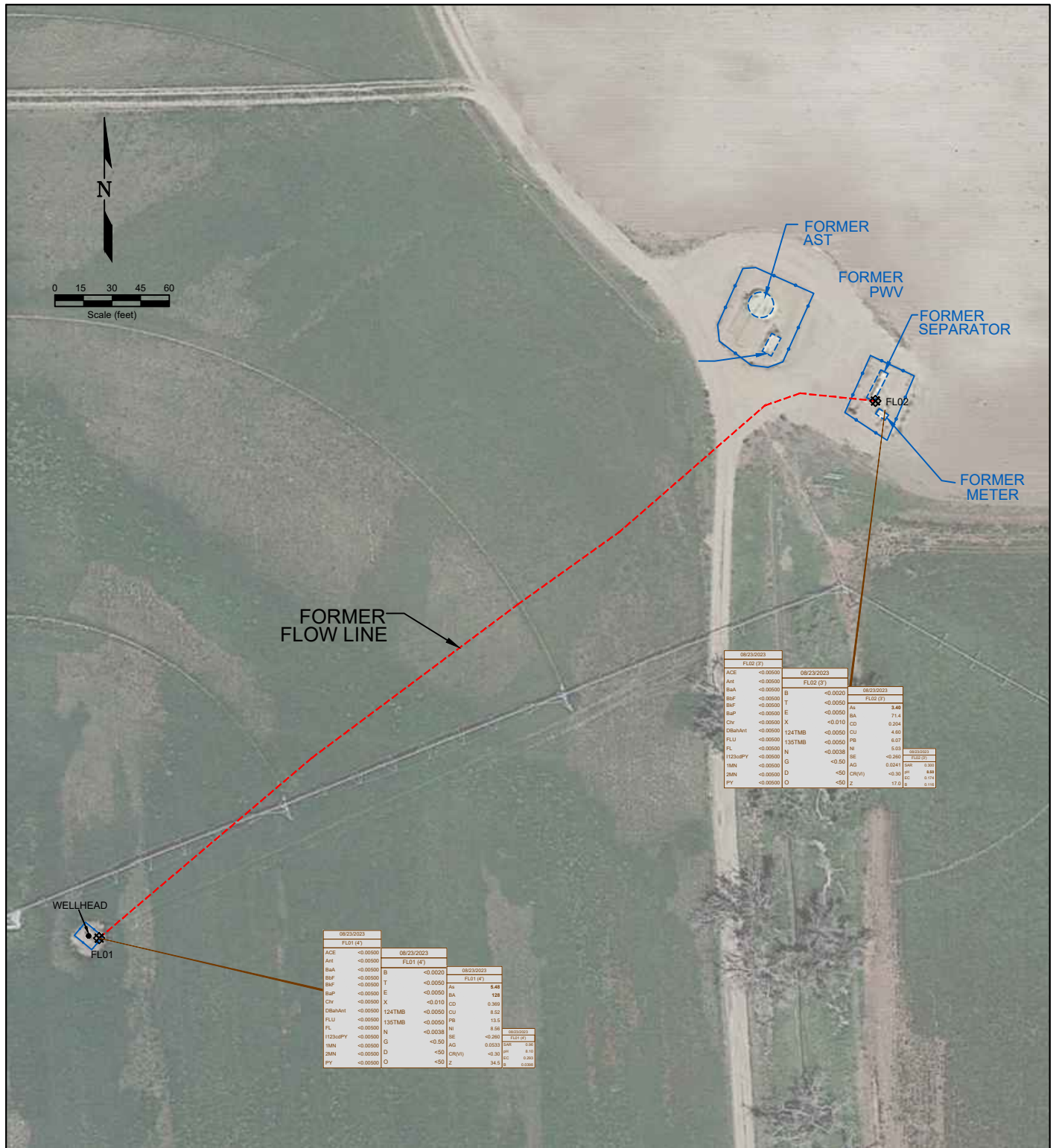
- WELLHEAD LOCATION
- ▲ PID READING LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FORMER FACILITY
- FLOW LINE
- ||||| CONTAINMENT BERM
- FENCE LINE

FL01 PID READING LOCATION IDENTIFICATION
PID 0.1 PHOTO IONIZATION DETECTION (ppm)

Figure 2
SITE MAP

NOBLE ENERGY INC - JEPSSEN G 21-25
SESW Sec. 21, T4N, R65W, 6th PM
Weld County, Colorado
40.294298°, -104.672666°

Project # CO23-235	API # 05-123-24295	Facility #	
Date 11/29/2023	Remediation # 25472	Filename 23235Q	



LEGEND

- WELLHEAD LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- FLOW LINE
- CONTAINMENT BERM
- FENCE LINE

4/7/2023	DATE SAMPLED	4/7/2023	DATE SAMPLED	4/7/2023	DATE SAMPLED
FL01 (4)	SAMPLE ID and DEPTH (ft)	FL01 (4)	SAMPLE ID and DEPTH (ft)	FL01 (4)	SAMPLE ID and DEPTH (ft)
ACE	<0.0050	ACE	<0.0050	B	<0.0050
ANt	<0.0050	ANt	<0.0050	T	<0.0050
BaA	<0.0050	BaA	<0.0050	E	<0.0050
BbF	<0.0050	BbF	<0.0050	X	<0.010
BaP	<0.0050	BaP	<0.0050	124TMB	<0.0050
Chv	<0.0050	Chv	<0.0050	135TMB	<0.0050
DibahAnt	<0.0050	DibahAnt	<0.0050	N	<0.0038
FLU	<0.0050	FLU	<0.0050	G	<0.50
FL	<0.0050	FL	<0.0050	D	<0.50
1123aPPY	<0.0050	1123aPPY	<0.0050	CR(V)	<0.30
1123bPPY	<0.0050	1123bPPY	<0.0050	Z	<0.50
2MN	<0.0050	2MN	<0.0050		
PY	<0.0050	PY	<0.0050		

Figure 3
SOIL CHEMISTRY MAP

NOBLE ENERGY INC - JEPSEN G 21-25
SESW Sec. 21, T4N, R65W, 6th PM
Weld County, Colorado
40.294298°, -104.672666°

Project # CO23-235	API # 05-123-24295	Facility #	REMONT ENVIRONMENTAL
Date 11/29/2023	Remediation # 25472	Filename 23235Q	

Photo Log



Description:

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Photo Log



Description:

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Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 11, 2023

Paul Henchan

Fremont Environmental

PO Box 1289

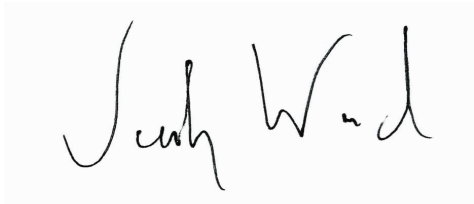
Wellington, CO 80549

RE: Noble - Jepsen G21-25

Work Order #2308599

Enclosed are the results of analyses for samples received by Summit Scientific on 08/25/23 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style.

Jacob Wood For Paul Shrewsbury

President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01 4'	2308599-01	Soil	08/23/23 13:42	08/25/23 16:30
FL02 3'	2308599-02	Soil	08/23/23 11:58	08/25/23 16:30

Summit Scientific

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



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

Lab ID	Page 1 of 1
2308599	

		Send Data To:	Send Invoice To:
Client: Fremont Environmental		Project Manager: Paul Henehan	Company: Noble
Address:		E-Mail: Fremont Distribution List	Project Name/Location: JEPSEN G21-25
City/State/Zip:			AFE#:
Phone: 303-261-6246		Project Name: JEPSEN G21-25	PO/Billing Codes: UWBWE-A2797-ABN
Sampler Name: Stanley Gilbert		Project Number:	Contact: Mike Montoya

					Preservative				Matrix			Analysis Requested							Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX, TMBs, Naph.	TPH	PAH (915)	EC, SAR, Ph, Boron	Metals (915)	TDS, Chloride, Sulfate	HOLD
1	FL01 4'	8/23/23	13:42	2			X			X			X	X	X	X	X		
2	FL02 3'	8/23/23	11:58	2			X			X			X	X	X	X	X		
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by:	Date/Time: 8/24/23	Received by: Summit North	Date/Time: 8/24/23	TAT Business Days	Field DO	Notes:
Relinquished by: 32	Date/Time: 8/24/23 1430	Received by:	Date/Time: 8/24/23 1430	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 7.3	Corrected Temperature: 6	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2308599Client: FremontClient Project ID: Jensen G21-25Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐Airbill #: ☐

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

Matrix (Check all that apply)

Air ☐Soil ☒Water ☐Other ☐

Temp (°C)

7.3

Thermometer #

1

	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"/>	<u>NOTE</u>
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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

Date/Time

AS8/25/23

23



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

FL01 4'
2308599-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGH1114	08/28/23	08/29/23	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: **08/23/23 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0337	84.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0416	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0417	104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGH1118	08/28/23	08/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.3	98.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

FL01 4'
2308599-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH1150	08/29/23	08/30/23	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: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0193	57.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0154	46.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/23/23 13:42**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0398	0.0100	mg/L	1	BGH1085	08/28/23	08/29/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/23/23 13:42**

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 - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

FL01 4'
2308599-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	5.48	0.200	mg/kg dry	1	BGH1094	08/28/23	08/31/23	EPA 6020B
Barium	128	0.400	"	"	"	"	"	"
Cadmium	0.369	0.200	"	"	"	"	"	"
Copper	8.52	0.400	"	"	"	"	"	"
Lead	13.5	0.200	"	"	"	"	"	"
Nickel	8.56	0.400	"	"	"	"	"	"
Silver	0.0533	0.0200	"	"	"	"	"	"
Zinc	34.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH1193	08/29/23	08/29/23	EPA 7196A	

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

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	57.7	0.0616	mg/L dry	1	BGH1216	08/30/23	08/31/23	EPA 6020B	
Magnesium	10.2	0.0616	"	"	"	"	"	"	
Sodium	30.1	0.0616	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.960	0.00100	units	1	BGI0031	09/01/23	09/01/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/23/23 13:42**

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

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

FL01 4'
2308599-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.1	%	1	BGH1098	08/28/23	08/28/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.293	0.0100	mmhos/cm	1	BGH1242	08/31/23	08/31/23	EPA 120.1	

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

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.10		pH Units	1	BGH1243	08/31/23	08/31/23	EPA 9045D	

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Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

FL02 3'
2308599-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGH1114	08/28/23	08/29/23	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: **08/23/23 11:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0338	84.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0427	107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0418	104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGH1118	08/28/23	08/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.0	96.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

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FL02 3'
2308599-02 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH1150	08/29/23	08/30/23	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: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0156	46.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0154	46.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.116	0.0100	mg/L	1	BGH1085	08/28/23	08/29/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

FL02 3'
2308599-02 (Soil)

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Total Metals by EPA 6020B

Arsenic	3.40	0.200	mg/kg dry	1	BGH1094	08/28/23	08/31/23	EPA 6020B
Barium	71.4	0.400	"	"	"	"	"	"
Cadmium	0.204	0.200	"	"	"	"	"	"
Copper	4.60	0.400	"	"	"	"	"	"
Lead	6.07	0.200	"	"	"	"	"	"
Nickel	5.03	0.400	"	"	"	"	"	"
Silver	0.0241	0.0200	"	"	"	"	"	"
Zinc	17.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH1193	08/29/23	08/29/23	EPA 7196A	

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

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	323	0.0591	mg/L dry	1	BGH1216	08/30/23	08/31/23	EPA 6020B	
Magnesium	26.7	0.0591	"	"	"	"	"	"	
Sodium	20.9	0.0591	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/23/23 11:58**

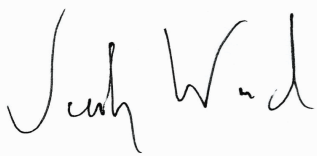
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.300	0.00100	units	1	BGI0031	09/01/23	09/01/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

FL02 3'
2308599-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.6	%	1	BGH1098	08/28/23	08/28/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.174	0.0100	mmhos/cm	1	BGH1242	08/31/23	08/31/23	EPA 120.1	

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Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

FL02 3'
2308599-02 (Soil)

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

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.50			pH Units	1	BGI0137	08/31/23	09/06/23	EPA 9045D	

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Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGH1114 - EPA 5030 Soil MS

Blank (BGH1114-BLK1)

Prepared: 08/28/23 Analyzed: 08/29/23

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	0.0210		"	0.0400		52.6	50-150			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.5	50-150			

LCS (BGH1114-BS1)

Prepared: 08/28/23 Analyzed: 08/29/23

Benzene	0.102	0.0020	mg/kg	0.100		102	70-130			
Toluene	0.0938	0.0050	"	0.100		93.8	70-130			
Ethylbenzene	0.109	0.0050	"	0.100		109	70-130			
m,p-Xylene	0.221	0.010	"	0.200		111	70-130			
o-Xylene	0.104	0.0050	"	0.100		104	70-130			
1,2,4-Trimethylbenzene	0.100	0.0050	"	0.100		100	70-130			
1,3,5-Trimethylbenzene	0.0958	0.0050	"	0.100		95.8	70-130			
Naphthalene	0.0871	0.0038	"	0.100		87.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0349		"	0.0400		87.2	50-150			
Surrogate: Toluene-d8	0.0344		"	0.0400		86.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.2	50-150			

Matrix Spike (BGH1114-MS1)

Source: 2308581-01

Prepared: 08/28/23 Analyzed: 08/29/23

Benzene	0.117	0.0020	mg/kg	0.100	ND	117	70-130			
Toluene	0.103	0.0050	"	0.100	ND	103	70-130			
Ethylbenzene	0.0901	0.0050	"	0.100	ND	90.1	70-130			
m,p-Xylene	0.202	0.010	"	0.200	ND	101	70-130			
o-Xylene	0.0801	0.0050	"	0.100	ND	80.1	70-130			
1,2,4-Trimethylbenzene	0.0687	0.0050	"	0.100	ND	68.7	70-130			QM-07
1,3,5-Trimethylbenzene	0.0818	0.0050	"	0.100	ND	81.8	70-130			
Naphthalene	0.0486	0.0038	"	0.100	ND	48.6	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0361		"	0.0400		90.3	50-150			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.5	50-150			

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Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

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

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

Batch BGH1114 - EPA 5030 Soil MS

Matrix Spike Dup (BGH1114-MSD1)		Source: 2308581-01			Prepared: 08/28/23 Analyzed: 08/29/23					
Benzene	0.119	0.0020	mg/kg	0.100	ND	119	70-130	1.40	30	
Toluene	0.111	0.0050	"	0.100	ND	111	70-130	6.82	30	
Ethylbenzene	0.0945	0.0050	"	0.100	ND	94.5	70-130	4.81	30	
m,p-Xylene	0.167	0.010	"	0.200	ND	83.3	70-130	19.3	30	
o-Xylene	0.0770	0.0050	"	0.100	ND	77.0	70-130	3.89	30	
1,2,4-Trimethylbenzene	0.0656	0.0050	"	0.100	ND	65.6	70-130	4.51	30	QM-07
1,3,5-Trimethylbenzene	0.0639	0.0050	"	0.100	ND	63.9	70-130	24.6	30	QM-07
Naphthalene	0.0458	0.0038	"	0.100	ND	45.8	70-130	5.85	30	QM-07
Surrogate: 1,2-Dichloroethane-d4		0.0375	"	0.0400		93.7	50-150			
Surrogate: Toluene-d8		0.0428	"	0.0400		107	50-150			
Surrogate: 4-Bromofluorobenzene		0.0338	"	0.0400		84.4	50-150			

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Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGH1118 - EPA 3550A

Blank (BGH1118-BLK1)

Prepared: 08/28/23 Analyzed: 08/29/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	13.4		"	12.5		107	30-150			

LCS (BGH1118-BS1)

Prepared: 08/28/23 Analyzed: 08/29/23

C10-C28 (DRO)	476	50	mg/kg	500		95.2	70-130			
Surrogate: o-Terphenyl	14.3		"	12.5		114	30-150			

Matrix Spike (BGH1118-MS1)

Source: 2308581-01

Prepared: 08/28/23 Analyzed: 08/29/23

C10-C28 (DRO)	518	50	mg/kg	500	9.03	102	70-130			
Surrogate: o-Terphenyl	9.92		"	12.5		79.4	30-150			

Matrix Spike Dup (BGH1118-MSD1)

Source: 2308581-01

Prepared: 08/28/23 Analyzed: 08/29/23

C10-C28 (DRO)	453	50	mg/kg	500	9.03	88.8	70-130	13.4	20	
Surrogate: o-Terphenyl	10.3		"	12.5		82.8	30-150			

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Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGH1150 - EPA 5030 Soil MS

Blank (BGH1150-BLK1)

Prepared: 08/29/23 Analyzed: 08/30/23

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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0375		"	0.0333		112	40-150			
Surrogate: Fluoranthene-d10	0.0264		"	0.0333		79.2	40-150			

LCS (BGH1150-BS1)

Prepared: 08/29/23 Analyzed: 08/30/23

Acenaphthene	0.0250	0.00500	mg/kg	0.0333		74.9	31-137			
Anthracene	0.0285	0.00500	"	0.0333		85.5	30-120			
Benzo (a) anthracene	0.0327	0.00500	"	0.0333		98.2	30-120			
Benzo (a) pyrene	0.0310	0.00500	"	0.0333		92.9	30-120			
Benzo (b) fluoranthene	0.0393	0.00500	"	0.0333		118	30-120			
Benzo (k) fluoranthene	0.0369	0.00500	"	0.0333		111	30-120			
Chrysene	0.0314	0.00500	"	0.0333		94.2	30-120			
Dibenz (a,h) anthracene	0.0207	0.00500	"	0.0333		62.2	30-120			
Fluoranthene	0.0284	0.00500	"	0.0333		85.1	30-120			
Fluorene	0.0276	0.00500	"	0.0333		82.8	30-120			
Indeno (1,2,3-cd) pyrene	0.0278	0.00500	"	0.0333		83.5	30-120			
Pyrene	0.0441	0.00500	"	0.0333		132	35-142			
1-Methylnaphthalene	0.0342	0.00500	"	0.0333		103	35-142			
2-Methylnaphthalene	0.0366	0.00500	"	0.0333		110	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0360		"	0.0333		108	40-150			
Surrogate: Fluoranthene-d10	0.0292		"	0.0333		87.5	40-150			

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Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGH1150 - EPA 5030 Soil MS

Matrix Spike (BGH1150-MS1)

Source: 2308578-01

Prepared: 08/29/23 Analyzed: 08/30/23

Acenaphthene	0.0222	0.00500	mg/kg	0.0333	ND	66.7	31-137				
Anthracene	0.0163	0.00500	"	0.0333	ND	49.0	30-120				
Benzo (a) anthracene	0.0232	0.00500	"	0.0333	ND	69.5	30-120				
Benzo (a) pyrene	0.0216	0.00500	"	0.0333	ND	64.7	30-120				
Benzo (b) fluoranthene	0.0256	0.00500	"	0.0333	ND	76.9	30-120				
Benzo (k) fluoranthene	0.0250	0.00500	"	0.0333	ND	75.0	30-120				
Chrysene	0.0203	0.00500	"	0.0333	ND	60.8	30-120				
Dibenz (a,h) anthracene	0.0171	0.00500	"	0.0333	ND	51.4	30-120				
Fluoranthene	0.0157	0.00500	"	0.0333	ND	47.0	30-120				
Fluorene	0.0235	0.00500	"	0.0333	ND	70.4	30-120				
Indeno (1,2,3-cd) pyrene	0.0232	0.00500	"	0.0333	ND	69.7	30-120				
Pyrene	0.0277	0.00500	"	0.0333	ND	83.2	35-142				
1-Methylnaphthalene	0.0220	0.00500	"	0.0333	ND	65.9	15-130				
2-Methylnaphthalene	0.0216	0.00500	"	0.0333	ND	64.9	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0207		"	0.0333		62.2	40-150				
Surrogate: Fluoranthene-d10	0.0169		"	0.0333		50.6	40-150				

Matrix Spike Dup (BGH1150-MSD1)

Source: 2308578-01

Prepared: 08/29/23 Analyzed: 08/30/23

Acenaphthene	0.0190	0.00500	mg/kg	0.0333	ND	57.0	31-137	15.7	30		
Anthracene	0.0161	0.00500	"	0.0333	ND	48.4	30-120	1.20	30		
Benzo (a) anthracene	0.0235	0.00500	"	0.0333	ND	70.6	30-120	1.60	30		
Benzo (a) pyrene	0.0224	0.00500	"	0.0333	ND	67.1	30-120	3.69	30		
Benzo (b) fluoranthene	0.0274	0.00500	"	0.0333	ND	82.3	30-120	6.83	30		
Benzo (k) fluoranthene	0.0268	0.00500	"	0.0333	ND	80.3	30-120	6.85	30		
Chrysene	0.0199	0.00500	"	0.0333	ND	59.7	30-120	1.70	30		
Dibenz (a,h) anthracene	0.0163	0.00500	"	0.0333	ND	49.0	30-120	4.92	30		
Fluoranthene	0.0161	0.00500	"	0.0333	ND	48.2	30-120	2.43	30		
Fluorene	0.0205	0.00500	"	0.0333	ND	61.5	30-120	13.4	30		
Indeno (1,2,3-cd) pyrene	0.0223	0.00500	"	0.0333	ND	66.9	30-120	4.06	30		
Pyrene	0.0297	0.00500	"	0.0333	ND	89.1	35-142	6.88	30		
1-Methylnaphthalene	0.0230	0.00500	"	0.0333	ND	69.0	15-130	4.55	50		
2-Methylnaphthalene	0.0225	0.00500	"	0.0333	ND	67.5	15-130	3.94	50		
Surrogate: 2-Methylnaphthalene-d10	0.0232		"	0.0333		69.6	40-150				
Surrogate: Fluoranthene-d10	0.0172		"	0.0333		51.5	40-150				

Summit Scientific

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



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

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

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

Batch BGH1085 - EPA 3050B

Blank (BGH1085-BLK1)

Prepared: 08/28/23 Analyzed: 08/29/23

Boron ND 0.0100 mg/L

LCS (BGH1085-BS1)

Prepared: 08/28/23 Analyzed: 08/29/23

Boron 5.12 0.0100 mg/L 5.00 102 80-120

Duplicate (BGH1085-DUP1)

Source: 2308446-03

Prepared: 08/28/23 Analyzed: 08/29/23

Boron 0.136 0.0100 mg/L 0.126 7.59 20

Matrix Spike (BGH1085-MS1)

Source: 2308446-03

Prepared: 08/28/23 Analyzed: 08/29/23

Boron 6.12 0.0100 mg/L 5.00 0.126 120 75-125

Matrix Spike Dup (BGH1085-MSD1)

Source: 2308446-03

Prepared: 08/28/23 Analyzed: 08/29/23

Boron 6.28 0.0100 mg/L 5.00 0.126 123 75-125 2.45 25

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGH1193 - 3060A Mod

Blank (BGH1193-BLK1)

Prepared & Analyzed: 08/29/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGH1193-BS1)

Prepared & Analyzed: 08/29/23

Chromium, Hexavalent 23.7 0.30 mg/kg wet 25.0 94.8 80-120

Duplicate (BGH1193-DUP1)

Source: 2308212-06

Prepared & Analyzed: 08/29/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGH1193-MS1)

Source: 2308212-06

Prepared & Analyzed: 08/29/23

Chromium, Hexavalent 30.1 0.30 mg/kg dry 29.8 ND 101 75-125

Matrix Spike Dup (BGH1193-MSD1)

Source: 2308212-06

Prepared & Analyzed: 08/29/23

Chromium, Hexavalent 28.9 0.30 mg/kg dry 29.8 ND 97.2 75-125 3.83 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

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

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

Batch BGH1216 - General Preparation

Blank (BGH1216-BLK1)

Prepared: 08/30/23 Analyzed: 08/31/23

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

LCS (BGH1216-BS1)

Prepared: 08/30/23 Analyzed: 08/31/23

Calcium	5.23	0.0500	mg/L wet	5.00	105	70-130
Magnesium	5.65	0.0500	"	5.00	113	70-130
Sodium	5.68	0.0500	"	5.00	114	70-130

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

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

Summit Scientific

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

Batch BGH1098 - General Preparation

Duplicate (BGH1098-DUP1)

Source: 2308599-01

Prepared & Analyzed: 08/28/23

% Solids	81.9	%	81.1	0.987	20
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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

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

Summit Scientific

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

Batch BGH1242 - General Preparation

Blank (BGH1242-BLK1)

Prepared & Analyzed: 08/31/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGH1242-BS1)

Prepared & Analyzed: 08/31/23

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BGH1242-DUP1)

Source: 2308599-01

Prepared & Analyzed: 08/31/23

Specific Conductance (EC) 0.293 0.0100 mmhos/cm 0.293 0.00 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

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

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

Batch BGH1243 - General Preparation

LCS (BGH1243-BS1)

Prepared & Analyzed: 08/31/23

pH	9.11		pH Units	9.18		99.2	95-105		
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Duplicate (BGH1243-DUP1)

Source: 2308599-01

Prepared & Analyzed: 08/31/23

pH	8.10		pH Units		8.10			0.00	20
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Batch BGI0137 - General Preparation

LCS (BGI0137-BS1)

Prepared & Analyzed: 09/06/23

pH	9.11		pH Units	9.18		99.2	95-105		
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Duplicate (BGI0137-DUP1)

Source: 2308466-01

Prepared & Analyzed: 09/06/23

pH	11.2		pH Units		11.2			0.179	20
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Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference