

FREMONT ENVIRONMENTAL INC.

February 2, 2024

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

Subject: **Flowline Closure Data Submittal**
 Lucci BCB 1-09 Flowline
 API # 05-123-14284
 NESE Sec. 1, T5N, R64W
 Weld County, Colorado
 Fremont Project No. C023-269
 Remediation # 30886

Dear Mr. Peterson:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted flowline closure activities for the Noble Energy Inc. (Noble) Lucci BCB 1-09 Flowline. Impacted soil was not encountered during abandonment activities. Details of the Lucci BCB 1-09 Flowline 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.

A handwritten signature in blue ink, appearing to read "Paul V. Henahan", with a stylized flourish at the end.

Paul V. Henahan, P.E.
Senior Consultant

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 loction 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
OPERATOR NAME
LUCCI BC B01-09 FLOWLINE, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-269

Sample ID	Sample Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4- Trimethyl- Benzene (mg/kg)	1,3,5- Trimethyl- Benzene (mg/kg)	Naphthalene (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
COGCC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500**		
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500**		
FL01-01@4'	10/03/2023	4'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50
FL01-02@4'	10/03/2023	4'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50
FL01-03@4'	10/03/2023	4'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50
FL01-04@4'	10/03/2023	4'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50
FLR01@4'	10/03/2023	4'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50
SEP01-FL@4'	10/03/2023	4'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50

Bold faced values exceed the COGCC Table 915-1 concentrations

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

* 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
OPERATOR NAME
LUCCI BC B01-09 FLOWLINE, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-269

Sample ID	Sample Date	Depth (ft)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3- cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
COGCC Table 915-1 Limits (Residential SSL)			360	1800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
FL01-01@4'	10/03/2023	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
FL01-02@4'	10/03/2023	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
FL01-03@4'	10/03/2023	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
FL01-04@4'	10/03/2023	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
FLR01@4'	10/03/2023	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
SEP01-FL@4'	10/03/2023	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

Bold faced values exceed the COGCC Table 915-1 concentrations
Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)
* Indicates laboratory minimum detection limit in excess of SSL
NA - Not analyzed

TABLE 3
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
OPERATOR NAME
LUCCI BC B01-09 FLOWLINE, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-269

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
Max. Background Concentration			8.96	-	34.8	-
FL01-01@4'	10/03/2023	4'	8.67	1.13	6.28	<2.00
FL01-02@4'	10/03/2023	4'	8.19	1.89	4.90	<2.00
FL01-03@4'	10/03/2023	4'	8.03	1.58	3.30	<2.00
FL01-04@4'	10/03/2023	4'	8.54	0.445	1.42	<2.00
FLR01@4'	10/03/2023	4'	8.77	0.274	0.0332	<2.00
SEP01-FL@4'	10/03/2023	4'	8.30	0.135	0.0258	<2.00
BKG01@4'	10/03/2023	4'	7.63	3.54	8.04	<2.00
BKG02@4'	10/03/2023	4'	8.96	0.411	0.515	<2.00
BKG03@4'	10/03/2023	4'	8.62	2.92	34.8	<2.00
BKG04@4'	10/03/2023	4'	6.78	0.156	0.0937	<2.00
BKG05@4'	10/03/2023	4'	7.73	2.98	3.23	<2.00

Bold faced values exceed the COGCC Table 915-1 concentrations

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

NA - Not analyzed

TABLE 4
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
OPERATOR NAME
LUCCI BC B01-09 FLOWLINE, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-269

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
Max. Background Concentration			25.7	-	-	-	-	-	-	-	-	-
FL01-01@4'	10/03/2023	4'	1.79	36.1	<0.200	<0.30	2.04	3.62	1.66	<0.260	<0.0200	9.1
FL01-02@4'	10/03/2023	4'	2.35	55.1	<0.200	<0.30	2.98	4.80	2.45	<0.260	<0.0200	11.4
FL01-03@4'	10/03/2023	4'	2.05	41.2	<0.200	<0.30	2.10	4.13	1.87	<0.260	<0.0200	10.0
FL01-04@4'	10/03/2023	4'	2.31	27.5	<0.200	<0.30	1.99	3.78	1.43	<0.260	<0.0200	6.63
FLR01@4'	10/03/2023	4'	1.85	80.5	<0.200	<0.30	3.54	8.01	2.95	<0.260	0.0337	15.5
SEP01-FL@4'	10/03/2023	4'	1.72	33.4	<0.200	<0.30	2.02	4.15	1.60	<0.260	<0.0200	9.07
BKG01@4'	10/03/2023	4'	1.35	54.8	<0.200	<0.30	3.16	4.47	2.53	<0.260	<0.0200	11.0
BKG02@4'	10/03/2023	4'	25.7	84.7	<0.200	<0.30	3.01	6.28	4.46	<0.260	0.0205	11.6
BKG03@4'	10/03/2023	4'	2.55	254	0.298	<0.30	3.30	7.03	3.47	0.349	0.0337	15.8
BKG04@4'	10/03/2023	4'	1.67	44.3	<0.200	<0.30	2.91	5.55	1.99	<0.260	<0.0200	11.0
BKG05@4'	10/03/2023	4'	1.72	39.5	<0.200	<0.30	2.98	4.42	2.28	<0.260	<0.0200	10.9

Bold faced values exceed the COGCC Table 915-1 concentrations

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

* Indicates laboratory minimum detection limit in excess of SSL

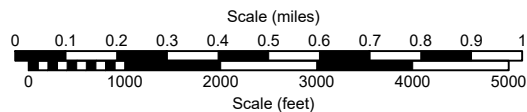
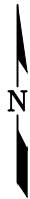
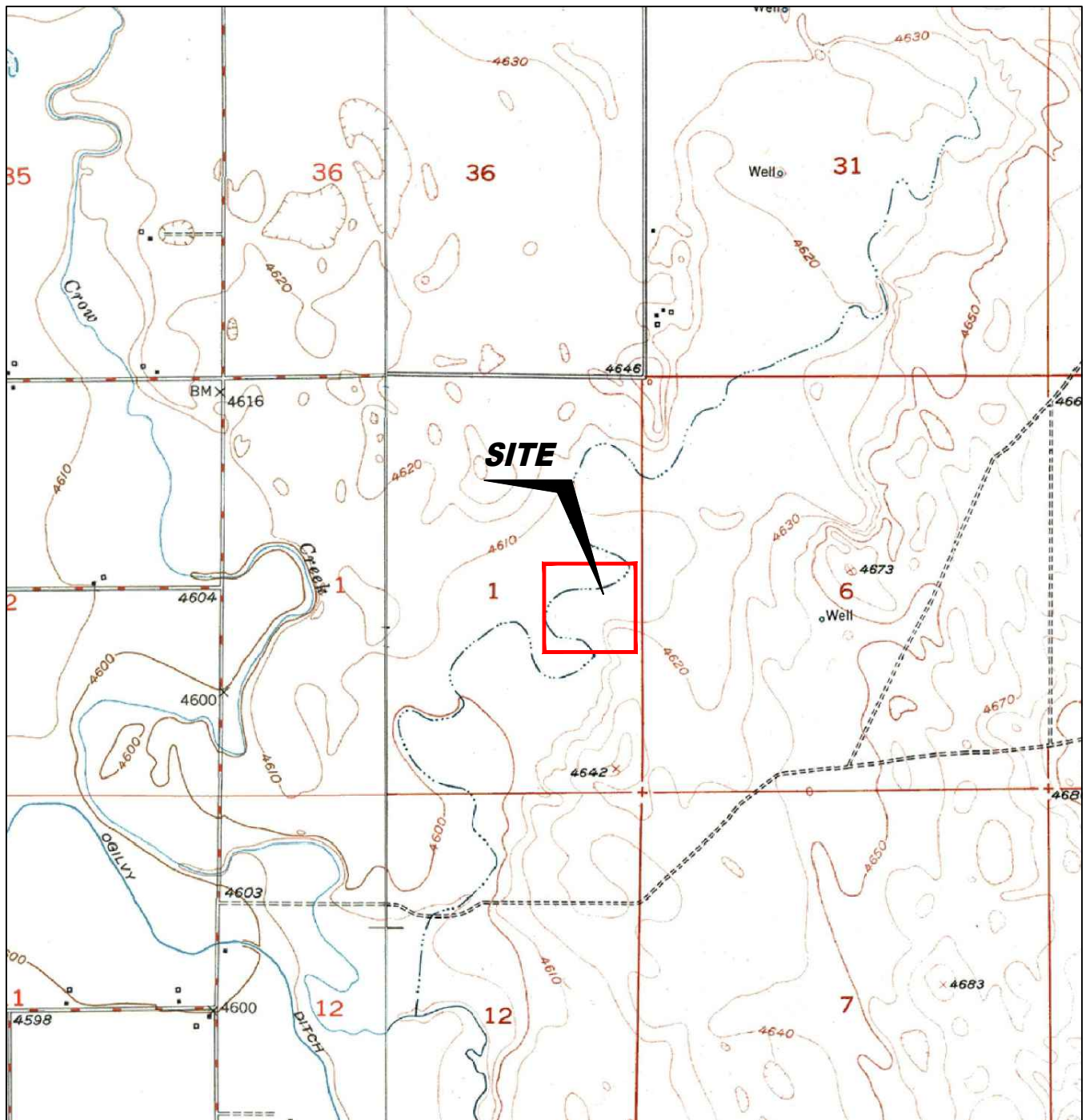
NA - Not analyzed

TABLE 5
SUMMARY OF FIELD OBSERVATIONS
NOBLE ENERGY INC
LUCCI BCB 1-09 FLOWLINE, WELD COUNTY, COLORADO
FREMONT PROJECT C023-269

Location	Latitude	Longitude	PID Reading	Field Observations
FLR01@4	40.426866	-104.4907445	0	No Soil Impacts
FL01-01@4	40.4262577	-104.4907075	0	No Soil Impacts
FL01-02@4	40.4257445	-104.4906856	0	No Soil Impacts
FL01-03@4	40.4250708	-104.4908156	0	No Soil Impacts
FI01-04@4	40.4250838	-104.4909176	0	No Soil Impacts

TABLE 6
SUMMARY OF FLOW LINE CONDITION
NOBLE ENERGY INC
LUCCI BCB 1-09 FLOWLINE, WELD COUNTY, COLORADO
FREMONT PROJECT C023-269

START	STOP	FOOTAGE	PIPE TYPE AND CONDITION
FLR01@4	FL01-01@4	250	2" sch 80 carbon steel, green FBE coating, good condition
FL01-01@4	FL01-02@4	252	2" sch 80 carbon steel, green FBE coating, good condition
FL01-02@4	FL01-03@4	251	2" sch 80 carbon steel, green FBE coating, good condition
FL01-03@4	FL01-04@4	257	2" sch 80 carbon steel, green FBE coating, good condition
		1010	Total linear feet of flowline



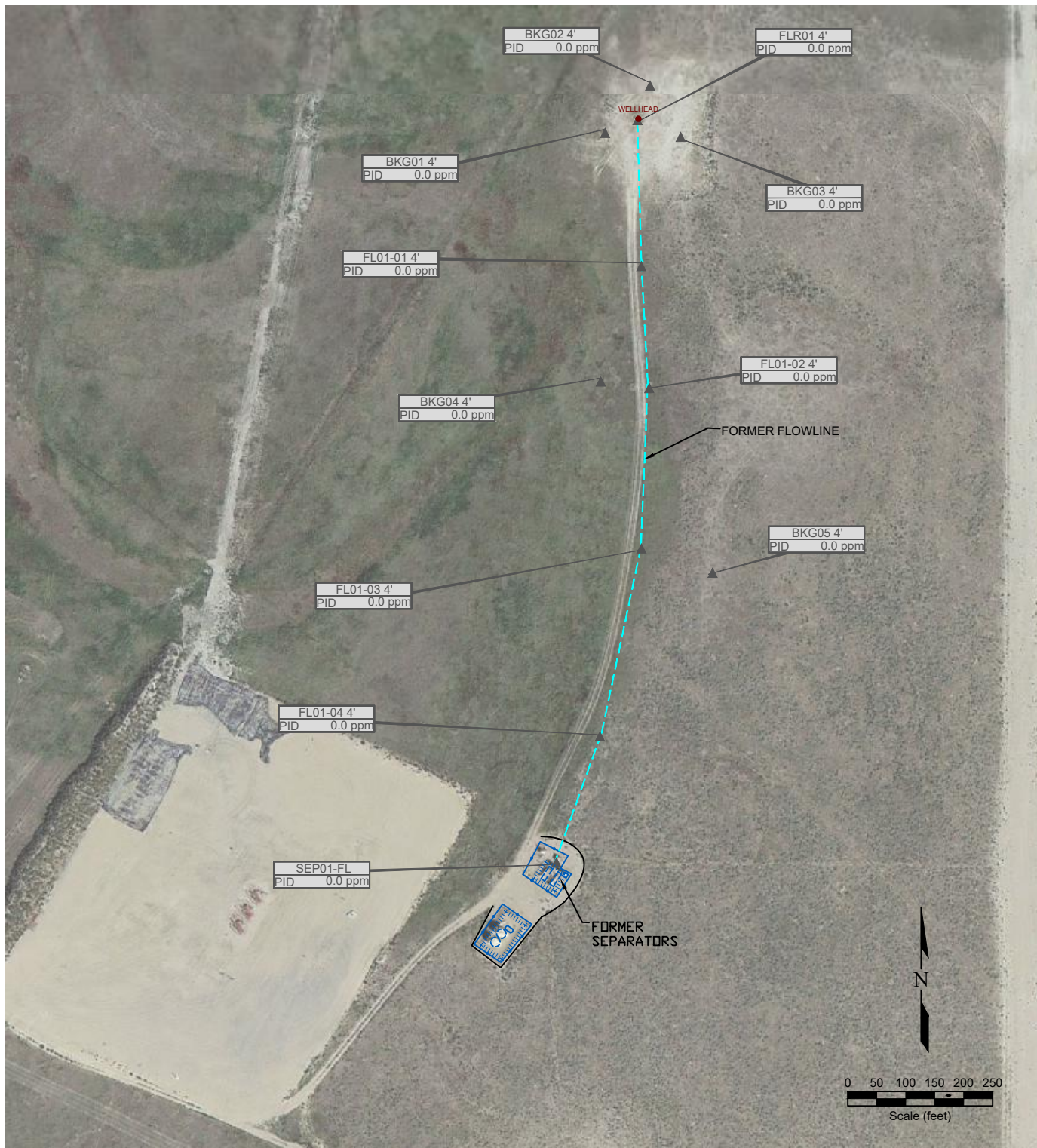
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP
LUCCI-BC B 01-09 ~ NOBLE ENERGY INC

NESE Sec. 1, T5N, R64W, 6th PM
Weld County, Colorado
40.427850°, -104.490780°

Project # C023-269	API # 05-123-14284	Facility #
Date 5/2/24	Remediation # 30886	Filename 23269TT





LEGEND

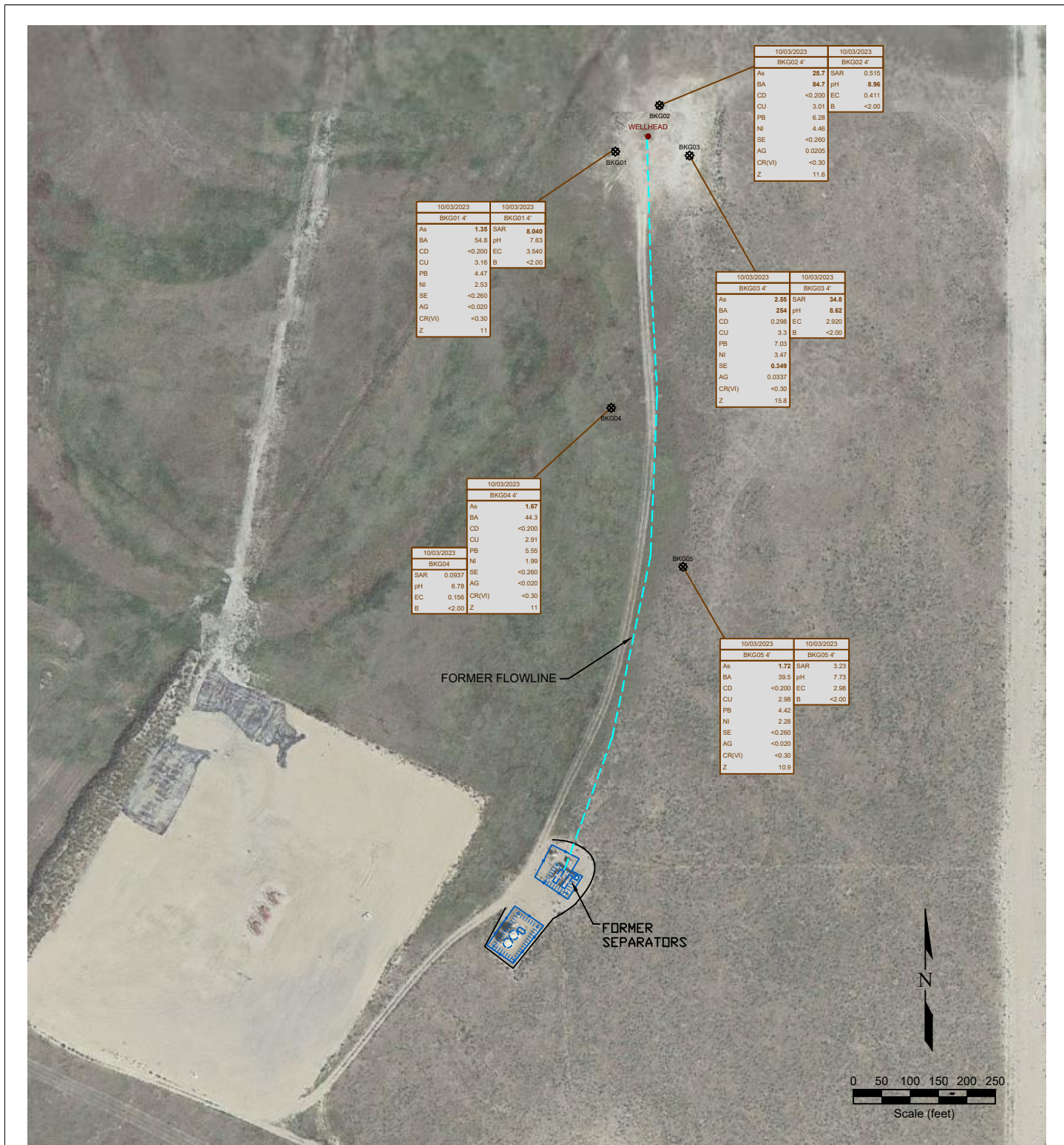
● WELL HEAD LOCATION	▲ PID READING LOCATION	FORMER FLOWLINE
▲ ABOVE GROUND STORAGE TANK	FORMER FACILITY	— FENCE LINE
		CONTAINMENT BERM

Figure 2
SITE MAP

LUCCI-BC B 01-09 ~ NOBLE ENERGY INC

NESE Sec. 1, T5N, R64W, 6th PM
Weld County, Colorado
40.427850°, -104.490780°

Project No. C023-269	API # 05-123-14284	Facility #	
Date 5/2/24	Remediation # 30886	Filename 23269QQ	



LEGEND			
● WELL HEAD LOCATION	▲ ABOVE GROUND STORAGE TANK	--- FORMER FLOWLINE	--- FENCE LINE
● SOIL SAMPLE LOCATION	FORMER FACILITY	--- CONTAINMENT BERM	

DATE	DATE SAMPLED	DATE SAMPLED	DATE SAMPLED
03/24/2021	08/18/2022	01/22/21	01/22/21
N Well @ 3'	K-22-3-N-3 (3')	N Well @ 1'	N Well @ 1'

ACE <0.005	ACENAPHTHENE (mg/kg)	ARSENIC (mg/kg)	2.41
Ant <0.005	ANTHRACENE (mg/kg)	BARIIUM (mg/kg)	28.0
BaA <0.005	BENZO (A) ANTHRACENE (mg/kg)	CADMIUM (mg/kg)	<0.0045
BaP <0.005	BENZO (B) FLUORANTHENE (mg/kg)	COPPER (mg/kg)	150
BaP <0.005	BENZO (K) FLUORANTHENE (mg/kg)	LEAD (mg/kg)	<0.45
Chr <0.005	BENZO (A) PYRENE (mg/kg)	NICKEL (mg/kg)	0.135
DBahInt <0.005	CHRYSENE (mg/kg)	SELENIUM (mg/kg)	<0.0045
FLU <0.005	DIBENZ (A,H) ANTHRACENE (mg/kg)	SILVER (mg/kg)	<0.0045
FLU <0.005	FLUORANTHENE (mg/kg)	ZINC (mg/kg)	<0.45
FLU <0.005	FLUORENE (mg/kg)	CHROMIUM (mg/kg)	<0.458
1,1,2,3,4-PY <0.005	INDENO (1,2,3-CD) PYRENE (mg/kg)		
1-MN <0.005	1-METHYLNAPHTHALENE (mg/kg)		
2-MN <0.005	2-METHYLNAPHTHALENE (mg/kg)		
PY <0.005	PYRENE (mg/kg)		

Figure 4
BACKGROUND SAMPLE SOIL CHEMISTRY MAP
LUCCI-BC B 01-09 ~ NOBLE ENERGY INC

NESE Sec. 1, T5N, R64W, 6th PM
Weld County, Colorado
40.427850°, -104.490780°

Project No. C023-269	API # 05-123-14284	Facility #	REMONT ENVIRONMENTAL
Date 5/2/24	Remediation # 30886	Filename 23269QQ	

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 80403

303.277.9310

October 23, 2023

Paul Henchan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Lucci BC B01-09 Flowline

Work Order #2310048

Enclosed are the results of analyses for samples received by Summit Scientific on 10/03/23 16:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mikayla Axtell", is written over a light gray rectangular background.

Mikayla Axtell For Paul Shrewsbury

President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FLR01@4'	2310048-01	Soil	10/03/23 00:00	10/03/23 16:45
FL01-01@4'	2310048-02	Soil	10/03/23 00:00	10/03/23 16:45
FL01-02@4'	2310048-03	Soil	10/03/23 00:00	10/03/23 16:45
FL01-03@4'	2310048-04	Soil	10/03/23 00:00	10/03/23 16:45
FL01-04@4'	2310048-05	Soil	10/03/23 00:00	10/03/23 16:45
SEP01-FL@4'	2310048-06	Soil	10/03/23 00:00	10/03/23 16:45
BKG01@4'	2310048-07	Soil	10/03/23 00:00	10/03/23 16:45
BKG02@4'	2310048-08	Soil	10/03/23 00:00	10/03/23 16:45
BKG03@4'	2310048-09	Soil	10/03/23 00:00	10/03/23 16:45
BKG04@4'	2310048-10	Soil	10/03/23 00:00	10/03/23 16:45
BKG05@4'	2310048-11	Soil	10/03/23 00:00	10/03/23 16:45

Summit Scientific

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

SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2310048	

Client: Fremont Environmental				Send Data To:				Send Invoice To:													
Address: 8305 6th Street				Project Manager: Paul Henehan				Company: Noble/Chevron													
City/State/Zip: Wellington, CO, 80549				E-Mail: Fremont Distribution List				Project Name/Location:													
Phone: 603-477-6907				Project Name: Lucci BC B01-09 Flowline				AFE#: UWRWE - A2077-A3N													
Sampler Name: Aaron Otilar				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	BTEXN - 915	TPH (C6-C36)	PAH	SAR, EC, pH, Boron	Metals (915-1)	TDS, Cl, SO4	TMB's - 915		
1	FLR01e4'	10/3/23		2			2			X			X	X	X	X	X		X		
2	FL01-01e4'																				
3	FL01-02e4'																				
4	FL01-03e4'																				
5	FL01-04e4'																				
6	SEP01-FLe4'																				
7	BKG01e4'															X	X				
8	BKG02e4'																				
9	BKG03e4'																				
10	BKG04e4'																				
11	BKG05e4'																				
12																					
13																					
14																					
15																					
Relinquished by:		Date/Time:		Received by:		Date/Time:		TAT Business Days		Field DO		Notes:									
		10/3/23 1630		Summit North Office		10/3/23 1630		Same Day		Field EC											
Relinquished by:		Date/Time:		Received by:		Date/Time:		1 Day		Field ORP											
52		10/3/23 1645				10/3/23 1645		2 Days		Field pH											
Relinquished by:		Date/Time:		Received by:		Date/Time:		3 Days		Field Temp.											
								Standard		X Field Turb.											
Temperature Upon Receipt: 10.9				Corrected Temperature 8				IR gun #: 1				HNO3 lot #:									

S₂

Sample Receipt Checklist

S2 Work Order# 2310048Client: FremontClient Project ID: LUCCI BC B01-09 FlawlineShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: _____

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

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

10.9

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"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<u>no time stamps</u>
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

AS

10/3/23



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FLR01@4'
2310048-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 10/03/23 00:00									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0155	10/04/23	10/06/23	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: 10/03/23 00:00									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0395	98.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	98.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 10/03/23 00:00									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0162	10/04/23	10/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 10/03/23 00:00									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.3	82.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
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Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FLR01@4'
2310048-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0289	10/06/23	10/07/23	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: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0312	93.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0237	71.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0311	10/09/23	10/09/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 00:00**

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

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FLR01@4'
2310048-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.85	0.200	mg/kg dry	1	BGJ0323	10/09/23	10/11/23	EPA 6020B
Barium	80.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.54	0.400	"	"	"	"	"	"
Lead	8.01	0.200	"	"	"	"	"	"
Nickel	2.95	0.400	"	"	"	"	"	"
Silver	0.0337	0.0200	"	"	"	"	"	"
Zinc	15.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0182	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	131	0.0500	mg/L dry	1	BGJ0333	10/09/23	10/11/23	EPA 6020B	
Magnesium	31.4	0.0500	"	"	"	"	"	"	
Sodium	1.63	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0332	0.00100	units	1	BGJ0515	10/12/23	10/12/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Fremont Environmental
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Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FLR01@4'
2310048-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.9		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.274	0.0100	mmhos/cm	1	BGJ0374	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.77		pH Units	1	BGJ0373	10/10/23	10/10/23	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-01@4'
2310048-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGJ0155	10/04/23	10/06/23	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: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0394	98.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0397	99.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0371	92.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0162	10/04/23	10/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.4	99.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-01@4'
2310048-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0289	10/06/23	10/07/23	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: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0253	75.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0266	79.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0311	10/09/23	10/09/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 00:00**

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

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-01@4'
2310048-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.79	0.200	mg/kg dry	1	BGJ0323	10/09/23	10/10/23	EPA 6020B
Barium	36.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.04	0.400	"	"	"	"	"	"
Lead	3.62	0.200	"	"	"	"	"	"
Nickel	1.66	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	9.10	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0182	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	37.2	0.0500	mg/L dry	1	BGJ0333	10/09/23	10/11/23	EPA 6020B	
Magnesium	10.3	0.0500	"	"	"	"	"	"	
Sodium	168	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.28	0.00100	units	1	BGJ0515	10/12/23	10/12/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-01@4'
2310048-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.0		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.13	0.0100	mmhos/cm	1	BGJ0374	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.67		pH Units	1	BGJ0373	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-02@4'
2310048-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGJ0155	10/04/23	10/06/23	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: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0407	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0384	96.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0162	10/04/23	10/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.6	93.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
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Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-02@4'
2310048-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0289	10/06/23	10/07/23	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: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0254	76.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0235	70.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0311	10/09/23	10/09/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 00:00**

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

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-02@4'
2310048-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.35	0.200	mg/kg dry	1	BGJ0323	10/09/23	10/10/23	EPA 6020B
Barium	55.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.98	0.400	"	"	"	"	"	"
Lead	4.80	0.200	"	"	"	"	"	"
Nickel	2.45	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0182	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	98.5	0.0500	mg/L dry	1	BGJ0333	10/09/23	10/11/23	EPA 6020B	
Magnesium	24.9	0.0500	"	"	"	"	"	"	
Sodium	210	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.90	0.00100	units	1	BGJ0515	10/12/23	10/12/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-02@4'
2310048-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.6		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.89	0.0100	mmhos/cm	1	BGJ0374	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.19		pH Units	1	BGJ0373	10/10/23	10/10/23	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-03@4'
2310048-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGJ0155	10/04/23	10/06/23	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: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0420	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0397	99.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0162	10/04/23	10/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.6	92.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-03@4'
2310048-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0289	10/06/23	10/07/23	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: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0287	86.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0243	73.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0311	10/09/23	10/09/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 00:00**

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

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-03@4'
2310048-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.05	0.200	mg/kg dry	1	BGJ0323	10/09/23	10/10/23	EPA 6020B
Barium	41.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.10	0.400	"	"	"	"	"	"
Lead	4.13	0.200	"	"	"	"	"	"
Nickel	1.87	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	10.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0182	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	115	0.0500	mg/L dry	1	BGJ0333	10/09/23	10/11/23	EPA 6020B	
Magnesium	27.6	0.0500	"	"	"	"	"	"	
Sodium	152	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.30	0.00100	units	1	BGJ0515	10/12/23	10/12/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-03@4'
2310048-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.1		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.58	0.0100	mmhos/cm	1	BGJ0374	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.03		pH Units	1	BGJ0373	10/10/23	10/10/23	EPA 9045D	

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PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-04@4'
2310048-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGJ0155	10/04/23	10/06/23	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: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0404	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0384	95.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0395	98.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0162	10/04/23	10/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.0	80.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-04@4'
2310048-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0289	10/06/23	10/07/23	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: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0210	63.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0239	71.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0311	10/09/23	10/09/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 00:00**

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

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-04@4'
2310048-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.31	0.200	mg/kg dry	1	BGJ0323	10/09/23	10/10/23	EPA 6020B
Barium	27.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.99	0.400	"	"	"	"	"	"
Lead	3.78	0.200	"	"	"	"	"	"
Nickel	1.43	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	6.63	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0182	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	35.5	0.0500	mg/L dry	1	BGJ0333	10/09/23	10/11/23	EPA 6020B	
Magnesium	6.90	0.0500	"	"	"	"	"	"	
Sodium	35.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.42	0.00100	units	1	BGJ0515	10/12/23	10/12/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

FL01-04@4'
2310048-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.2		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.445	0.0100	mmhos/cm	1	BGJ0374	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.54		pH Units	1	BGJ0373	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

SEP01-FL@4'
2310048-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGJ0155	10/04/23	10/06/23	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: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0376	93.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0162	10/04/23	10/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.61	76.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

SEP01-FL@4'
2310048-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0289	10/06/23	10/07/23	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: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0184	55.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0200	59.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0311	10/09/23	10/09/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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 - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

SEP01-FL@4'
2310048-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.72	0.200	mg/kg dry	1	BGJ0323	10/09/23	10/10/23	EPA 6020B
Barium	33.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.02	0.400	"	"	"	"	"	"
Lead	4.15	0.200	"	"	"	"	"	"
Nickel	1.60	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	9.07	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0182	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	136	0.0500	mg/L dry	1	BGJ0333	10/09/23	10/11/23	EPA 6020B	
Magnesium	15.1	0.0500	"	"	"	"	"	"	
Sodium	1.19	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0258	0.00100	units	1	BGJ0515	10/12/23	10/12/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

SEP01-FL@4'
2310048-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.2		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.135	0.0100	mmhos/cm	1	BGJ0374	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.30		pH Units	1	BGJ0373	10/10/23	10/10/23	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

BKG01@4'
2310048-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGJ0311	10/09/23	10/09/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.35	0.200	mg/kg dry	1	BGJ0323	10/09/23	10/11/23	EPA 6020B	
Barium	54.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.16	0.400	"	"	"	"	"	"	
Lead	4.47	0.200	"	"	"	"	"	"	
Nickel	2.53	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	11.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0182	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	186	0.0500	mg/L dry	1	BGJ0333	10/09/23	10/11/23	EPA 6020B	
Magnesium	37.1	0.0500	"	"	"	"	"	"	
Sodium	459	0.0500	"	"	"	"	"	"	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

BKG01@4'
2310048-07 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.04	0.00100	units	1	BGJ0515	10/12/23	10/12/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.0		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.54	0.0100	mmhos/cm	1	BGJ0374	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.63		pH Units	1	BGJ0373	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

BKG02@4'
2310048-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGJ0311	10/09/23	10/09/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	25.7	0.200	mg/kg dry	1	BGJ0323	10/09/23	10/10/23	EPA 6020B	
Barium	84.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.01	0.400	"	"	"	"	"	"	
Lead	6.28	0.200	"	"	"	"	"	"	
Nickel	4.46	0.400	"	"	"	"	"	"	
Silver	0.0205	0.0200	"	"	"	"	"	"	
Zinc	11.6	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0182	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	550	0.0500	mg/L dry	1	BGJ0333	10/09/23	10/11/23	EPA 6020B	
Magnesium	145	0.0500	"	"	"	"	"	"	
Sodium	52.5	0.0500	"	"	"	"	"	"	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

BKG02@4'
2310048-08 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.515	0.00100	units	1	BGJ0515	10/12/23	10/12/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.6		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.411	0.0100	mmhos/cm	1	BGJ0374	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.96		pH Units	1	BGJ0373	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

BKG03@4'
2310048-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGJ0311	10/09/23	10/09/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	2.55	0.200	mg/kg dry	1	BGJ0323	10/09/23	10/10/23	EPA 6020B	
Barium	254	0.400	"	"	"	"	"	"	
Cadmium	0.298	0.200	"	"	"	"	"	"	
Copper	3.30	0.400	"	"	"	"	"	"	
Lead	7.03	0.200	"	"	"	"	"	"	
Nickel	3.47	0.400	"	"	"	"	"	"	
Silver	0.0337	0.0200	"	"	"	"	"	"	
Zinc	15.8	0.400	"	"	"	"	"	"	
Selenium	0.349	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0182	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	139	0.500	mg/L dry	10	BGJ0333	10/09/23	10/12/23	EPA 6020B	
Magnesium	115	0.500	"	"	"	"	"	"	
Sodium	2290	0.500	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

BKG03@4'
2310048-09 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	34.8	0.00100	units	1	BGJ0515	10/12/23	10/12/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.7		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.92	0.0100	mmhos/cm	1	BGJ0374	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.62		pH Units	1	BGJ0373	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

BKG04@4'
2310048-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGJ0311	10/09/23	10/09/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.67	0.200	mg/kg dry	1	BGJ0323	10/09/23	10/10/23	EPA 6020B	
Barium	44.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.91	0.400	"	"	"	"	"	"	
Lead	5.55	0.200	"	"	"	"	"	"	
Nickel	1.99	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	11.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0182	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	158	0.0500	mg/L dry	1	BGJ0333	10/09/23	10/11/23	EPA 6020B	
Magnesium	37.2	0.0500	"	"	"	"	"	"	
Sodium	5.04	0.0500	"	"	"	"	"	"	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

BKG04@4'
2310048-10 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0937	0.00100	units	1	BGJ0515	10/12/23	10/12/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.9		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.156	0.0100	mmhos/cm	1	BGJ0374	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.78		pH Units	1	BGJ0373	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

BKG05@4'
2310048-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGJ0311	10/09/23	10/09/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.72	0.200	mg/kg dry	1	BGJ0323	10/09/23	10/10/23	EPA 6020B	
Barium	39.5	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.98	0.400	"	"	"	"	"	"	
Lead	4.42	0.200	"	"	"	"	"	"	
Nickel	2.28	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	10.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0182	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	238	0.0500	mg/L dry	1	BGJ0333	10/09/23	10/11/23	EPA 6020B	
Magnesium	66.9	0.0500	"	"	"	"	"	"	
Sodium	219	0.0500	"	"	"	"	"	"	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

BKG05@4'
2310048-11 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.23	0.00100	units	1	BGJ0515	10/12/23	10/12/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.2		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.98	0.0100	mmhos/cm	1	BGJ0374	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/03/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.73		pH Units	1	BGJ0373	10/10/23	10/10/23	EPA 9045D	

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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

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 BGJ0155 - EPA 5030 Soil MS

Blank (BGJ0155-BLK1)

Prepared: 10/04/23 Analyzed: 10/05/23

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	0.0385		"	0.0400		96.3	50-150			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		95.9	50-150			

LCS (BGJ0155-BS1)

Prepared: 10/04/23 Analyzed: 10/05/23

Benzene	0.106	0.0020	mg/kg	0.100		106	70-130			
Toluene	0.106	0.0050	"	0.100		106	70-130			
Ethylbenzene	0.109	0.0050	"	0.100		109	70-130			
m,p-Xylene	0.215	0.010	"	0.200		108	70-130			
o-Xylene	0.105	0.0050	"	0.100		105	70-130			
1,2,4-Trimethylbenzene	0.103	0.0050	"	0.100		103	70-130			
1,3,5-Trimethylbenzene	0.105	0.0050	"	0.100		105	70-130			
Naphthalene	0.0942	0.0038	"	0.100		94.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0342		"	0.0400		85.5	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	50-150			

Matrix Spike (BGJ0155-MS1)

Source: 2310023-01

Prepared: 10/04/23 Analyzed: 10/06/23

Benzene	0.0899	0.0020	mg/kg	0.100	ND	89.9	70-130			
Toluene	0.0868	0.0050	"	0.100	ND	86.8	70-130			
Ethylbenzene	0.0836	0.0050	"	0.100	ND	83.6	70-130			
m,p-Xylene	0.165	0.010	"	0.200	ND	82.4	70-130			
o-Xylene	0.0830	0.0050	"	0.100	ND	83.0	70-130			
1,2,4-Trimethylbenzene	0.0760	0.0050	"	0.100	ND	76.0	70-130			
1,3,5-Trimethylbenzene	0.0783	0.0050	"	0.100	ND	78.3	70-130			
Naphthalene	0.0881	0.0038	"	0.100	ND	88.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0427		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.4	50-150			

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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

Volatile Organic Compounds by EPA Method 8260B - Quality Control
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Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BGJ0155 - EPA 5030 Soil MS

Matrix Spike Dup (BGJ0155-MSD1)

Source: 2310023-01

Prepared: 10/04/23 Analyzed: 10/06/23

Benzene	0.0895	0.0020	mg/kg	0.100	ND	89.5	70-130	0.535	30	
Toluene	0.0865	0.0050	"	0.100	ND	86.5	70-130	0.381	30	
Ethylbenzene	0.0892	0.0050	"	0.100	ND	89.2	70-130	6.53	30	
m,p-Xylene	0.174	0.010	"	0.200	ND	87.0	70-130	5.40	30	
o-Xylene	0.0882	0.0050	"	0.100	ND	88.2	70-130	5.99	30	
1,2,4-Trimethylbenzene	0.0809	0.0050	"	0.100	ND	80.9	70-130	6.20	30	
1,3,5-Trimethylbenzene	0.0852	0.0050	"	0.100	ND	85.2	70-130	8.44	30	
Naphthalene	0.0956	0.0038	"	0.100	ND	95.6	70-130	8.14	30	
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0400		96.5	50-150			
Surrogate: Toluene-d8	0.0388		"	0.0400		96.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.7	50-150			

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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

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 BGJ0162 - EPA 3550A

Blank (BGJ0162-BLK1)

Prepared: 10/04/23 Analyzed: 10/06/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	16.1		"	12.5		129	30-150			

LCS (BGJ0162-BS1)

Prepared: 10/04/23 Analyzed: 10/06/23

C10-C28 (DRO)	414	50	mg/kg	500		82.8	70-130			
Surrogate: o-Terphenyl	12.2		"	12.5		97.8	30-150			

Matrix Spike (BGJ0162-MS1)

Source: 2310023-01

Prepared: 10/04/23 Analyzed: 10/06/23

C10-C28 (DRO)	427	50	mg/kg	500	22.2	81.0	70-130			
Surrogate: o-Terphenyl	13.6		"	12.5		109	30-150			

Matrix Spike Dup (BGJ0162-MSD1)

Source: 2310023-01

Prepared: 10/04/23 Analyzed: 10/06/23

C10-C28 (DRO)	477	50	mg/kg	500	22.2	90.9	70-130	11.0	20	
Surrogate: o-Terphenyl	12.7		"	12.5		102	30-150			

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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

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 BGJ0289 - EPA 5030 Soil MS

Blank (BGJ0289-BLK1)

Prepared: 10/06/23 Analyzed: 10/07/23

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	0.0441		"	0.0333		132		40-150			
Surrogate: Fluoranthene-d10	0.0326		"	0.0333		97.9		40-150			

LCS (BGJ0289-BS1)

Prepared: 10/06/23 Analyzed: 10/07/23

Acenaphthene	0.0326	0.00500	mg/kg	0.0333		97.7		31-137			
Anthracene	0.0319	0.00500	"	0.0333		95.7		30-120			
Benzo (a) anthracene	0.0306	0.00500	"	0.0333		91.9		30-120			
Benzo (a) pyrene	0.0300	0.00500	"	0.0333		90.1		30-120			
Benzo (b) fluoranthene	0.0317	0.00500	"	0.0333		95.2		30-120			
Benzo (k) fluoranthene	0.0345	0.00500	"	0.0333		103		30-120			
Chrysene	0.0343	0.00500	"	0.0333		103		30-120			
Dibenz (a,h) anthracene	0.0246	0.00500	"	0.0333		73.9		30-120			
Fluoranthene	0.0319	0.00500	"	0.0333		95.7		30-120			
Fluorene	0.0326	0.00500	"	0.0333		97.7		30-120			
Indeno (1,2,3-cd) pyrene	0.0355	0.00500	"	0.0333		107		30-120			
Pyrene	0.0398	0.00500	"	0.0333		119		35-142			
1-Methylnaphthalene	0.0370	0.00500	"	0.0333		111		35-142			
2-Methylnaphthalene	0.0438	0.00500	"	0.0333		131		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0375		"	0.0333		112		40-150			
Surrogate: Fluoranthene-d10	0.0326		"	0.0333		97.8		40-150			

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Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

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 BGJ0289 - EPA 5030 Soil MS

Matrix Spike (BGJ0289-MS1)

Source: 2310022-01

Prepared: 10/06/23 Analyzed: 10/07/23

Acenaphthene	0.0207	0.00500	mg/kg	0.0333	ND	62.1	31-137				
Anthracene	0.0181	0.00500	"	0.0333	ND	54.2	30-120				
Benzo (a) anthracene	0.0202	0.00500	"	0.0333	ND	60.7	30-120				
Benzo (a) pyrene	0.0192	0.00500	"	0.0333	ND	57.7	30-120				
Benzo (b) fluoranthene	0.0184	0.00500	"	0.0333	ND	55.3	30-120				
Benzo (k) fluoranthene	0.0199	0.00500	"	0.0333	ND	59.6	30-120				
Chrysene	0.0211	0.00500	"	0.0333	ND	63.3	30-120				
Dibenz (a,h) anthracene	0.0140	0.00500	"	0.0333	ND	42.0	30-120				
Fluoranthene	0.0186	0.00500	"	0.0333	ND	55.7	30-120				
Fluorene	0.0200	0.00500	"	0.0333	ND	60.0	30-120				
Indeno (1,2,3-cd) pyrene	0.0149	0.00500	"	0.0333	ND	44.6	30-120				
Pyrene	0.0248	0.00500	"	0.0333	ND	74.3	35-142				
1-Methylnaphthalene	0.0281	0.00500	"	0.0333	ND	84.2	15-130				
2-Methylnaphthalene	0.0261	0.00500	"	0.0333	ND	78.2	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0240		"	0.0333		72.0	40-150				
Surrogate: Fluoranthene-d10	0.0191		"	0.0333		57.3	40-150				

Matrix Spike Dup (BGJ0289-MSD1)

Source: 2310022-01

Prepared: 10/06/23 Analyzed: 10/07/23

Acenaphthene	0.0212	0.00500	mg/kg	0.0333	ND	63.7	31-137	2.53	30		
Anthracene	0.0198	0.00500	"	0.0333	ND	59.3	30-120	9.00	30		
Benzo (a) anthracene	0.0209	0.00500	"	0.0333	ND	62.6	30-120	3.09	30		
Benzo (a) pyrene	0.0199	0.00500	"	0.0333	ND	59.6	30-120	3.34	30		
Benzo (b) fluoranthene	0.0184	0.00500	"	0.0333	ND	55.3	30-120	0.101	30		
Benzo (k) fluoranthene	0.0189	0.00500	"	0.0333	ND	56.8	30-120	4.75	30		
Chrysene	0.0208	0.00500	"	0.0333	ND	62.5	30-120	1.25	30		
Dibenz (a,h) anthracene	0.0167	0.00500	"	0.0333	ND	50.0	30-120	17.5	30		
Fluoranthene	0.0203	0.00500	"	0.0333	ND	60.8	30-120	8.67	30		
Fluorene	0.0208	0.00500	"	0.0333	ND	62.4	30-120	3.90	30		
Indeno (1,2,3-cd) pyrene	0.0161	0.00500	"	0.0333	ND	48.4	30-120	8.15	30		
Pyrene	0.0241	0.00500	"	0.0333	ND	72.4	35-142	2.59	30		
1-Methylnaphthalene	0.0257	0.00500	"	0.0333	ND	77.0	15-130	8.96	50		
2-Methylnaphthalene	0.0269	0.00500	"	0.0333	ND	80.7	15-130	3.16	50		
Surrogate: 2-Methylnaphthalene-d10	0.0245		"	0.0333		73.5	40-150				
Surrogate: Fluoranthene-d10	0.0203		"	0.0333		60.8	40-150				

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Fremont Environmental
PO Box 1289
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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

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 BGJ0311 - EPA 3050B

Blank (BGJ0311-BLK1)

Prepared & Analyzed: 10/09/23

Boron ND 2.00 mg/L

LCS (BGJ0311-BS1)

Prepared & Analyzed: 10/09/23

Boron 5.14 2.00 mg/L 5.00 103 80-120

Duplicate (BGJ0311-DUP1)

Source: 2310023-01

Prepared & Analyzed: 10/09/23

Boron 0.0286 2.00 mg/L 0.0438 42.0 20 QR-01

Matrix Spike (BGJ0311-MS1)

Source: 2310023-01

Prepared & Analyzed: 10/09/23

Boron 5.02 2.00 mg/L 5.00 0.0438 99.4 75-125

Matrix Spike Dup (BGJ0311-MSD1)

Source: 2310023-01

Prepared & Analyzed: 10/09/23

Boron 5.20 2.00 mg/L 5.00 0.0438 103 75-125 3.68 25

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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGJ0323 - EPA 3050B

Blank (BGJ0323-BLK1)

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

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

LCS (BGJ0323-BS1)

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

Arsenic	38.0	0.200	mg/kg wet	40.0	95.1	80-120
Barium	43.0	0.400	"	40.0	107	80-120
Cadmium	2.07	0.200	"	2.00	104	80-120
Copper	38.6	0.400	"	40.0	96.6	80-120
Lead	20.9	0.200	"	20.0	104	80-120
Nickel	37.9	0.400	"	40.0	94.9	80-120
Silver	2.03	0.0200	"	2.00	102	80-120
Zinc	38.4	0.400	"	40.0	96.0	80-120
Selenium	4.13	0.260	"	4.00	103	80-120

Duplicate (BGJ0323-DUP1)


Source: 2310048-01

Prepared: 10/09/23 Analyzed: 10/11/23

Arsenic	1.80	0.200	mg/kg dry	1.85	2.79	20
Barium	82.9	0.400	"	80.5	2.93	20
Cadmium	0.194	0.200	"	0.183	5.55	20
Copper	3.76	0.400	"	3.54	6.06	20
Lead	8.35	0.200	"	8.01	4.27	20
Nickel	3.02	0.400	"	2.95	2.41	20
Silver	0.0309	0.0200	"	0.0337	8.45	20
Zinc	16.1	0.400	"	15.5	4.10	20
Selenium	ND	0.260	"	ND		20

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Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGJ0323 - EPA 3050B

Matrix Spike (BGJ0323-MS1)		Source: 2310048-01			Prepared: 10/09/23		Analyzed: 10/11/23			
Arsenic	36.0	0.200	mg/kg dry	45.5	1.85	74.9	75-125			QM-07
Barium	123	0.400	"	45.5	80.5	94.2	75-125			
Cadmium	1.99	0.200	"	2.28	0.183	79.3	75-125			
Copper	30.3	0.400	"	45.5	3.54	58.8	75-125			QM-07
Lead	26.0	0.200	"	22.8	8.01	79.0	75-125			
Nickel	29.8	0.400	"	45.5	2.95	58.9	75-125			QM-07
Silver	1.33	0.0200	"	2.28	0.0337	56.9	75-125			QM-07
Zinc	44.5	0.400	"	45.5	15.5	63.8	75-125			QM-07
Selenium	4.14	0.260	"	4.55	ND	91.1	75-125			

Matrix Spike Dup (BGJ0323-MSD1)		Source: 2310048-01			Prepared: 10/09/23		Analyzed: 10/11/23			
Arsenic	36.2	0.200	mg/kg dry	45.5	1.85	75.4	75-125	0.534	25	
Barium	125	0.400	"	45.5	80.5	97.1	75-125	1.06	25	
Cadmium	2.04	0.200	"	2.28	0.183	81.6	75-125	2.58	25	
Copper	31.1	0.400	"	45.5	3.54	60.6	75-125	2.68	25	QM-07
Lead	26.1	0.200	"	22.8	8.01	79.7	75-125	0.613	25	
Nickel	30.6	0.400	"	45.5	2.95	60.8	75-125	2.89	25	QM-07
Silver	1.37	0.0200	"	2.28	0.0337	58.5	75-125	2.84	25	QM-07
Zinc	45.8	0.400	"	45.5	15.5	66.5	75-125	2.76	25	QM-07
Selenium	4.06	0.260	"	4.55	ND	89.2	75-125	2.05	25	

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Fremont Environmental
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Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

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 BGJ0182 - 3060A Mod

Blank (BGJ0182-BLK1)

Prepared & Analyzed: 10/04/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGJ0182-BS1)

Prepared & Analyzed: 10/04/23

Chromium, Hexavalent 23.2 0.30 mg/kg wet 25.0 93.0 80-120

Duplicate (BGJ0182-DUP1)

Source: 2310048-01

Prepared & Analyzed: 10/04/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGJ0182-MS1)

Source: 2310048-01

Prepared & Analyzed: 10/04/23

Chromium, Hexavalent 25.1 0.30 mg/kg dry 28.4 ND 88.2 75-125

Matrix Spike Dup (BGJ0182-MSD1)

Source: 2310048-01

Prepared & Analyzed: 10/04/23

Chromium, Hexavalent 25.0 0.30 mg/kg dry 28.4 ND 87.8 75-125 0.455 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

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 BGJ0333 - General Preparation

Blank (BGJ0333-BLK1)

Prepared: 10/09/23 Analyzed: 10/11/23

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

LCS (BGJ0333-BS1)

Prepared: 10/09/23 Analyzed: 10/11/23

Calcium	5.37	0.0500	mg/L wet	5.00	107	70-130
Magnesium	5.08	0.0500	"	5.00	102	70-130
Sodium	5.21	0.0500	"	5.00	104	70-130

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline

Project Number: UWRWE-A2077-ABN

Project Manager: Paul Henchan

Reported:
10/23/23 06:52

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 BGJ0349 - General Preparation

Duplicate (BGJ0349-DUP1)		Source: 2307244-17		Prepared: 10/09/23		Analyzed: 10/10/23	
% Solids	91.0		%		90.8		0.266 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

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 BGJ0374 - General Preparation

Blank (BGJ0374-BLK1)

Prepared & Analyzed: 10/10/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGJ0374-BS1)

Prepared & Analyzed: 10/10/23

Specific Conductance (EC) 0.149 0.0100 mmhos/cm 0.150 99.5 95-105

Duplicate (BGJ0374-DUP1)

Source: 2310048-01

Prepared & Analyzed: 10/10/23

Specific Conductance (EC) 0.274 0.0100 mmhos/cm 0.274 0.00 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline

Project Number: UWRWE-A2077-ABN

Project Manager: Paul Henchan

Reported:
10/23/23 06:52

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

Summit Scientific

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

Batch BGJ0373 - General Preparation

LCS (BGJ0373-BS1)

Prepared & Analyzed: 10/10/23

pH	9.15	pH Units	9.18	99.7	95-105
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Duplicate (BGJ0373-DUP1)

Source: 2310048-01

Prepared & Analyzed: 10/10/23

pH	8.77	pH Units	8.77	0.00	20
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Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Lucci BC B01-09 Flowline
Project Number: UWRWE-A2077-ABN
Project Manager: Paul Henchan

Reported:
10/23/23 06:52

Notes and Definitions

QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
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