

# **FREMONT ENVIRONMENTAL INC.**

February 2, 2024

Mr. Daniel Peterson  
Noble Energy Inc.  
2115 117<sup>th</sup> 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.**



Paul V. Henehan, P.E.  
Senior Consultant

Attachments:

Facility Closure Checklist  
Tables  
Figures  
Photos  
Laboratory Report



**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'	<b>8.67</b>	1.13	<b>6.28</b>	<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'	<b>8.54</b>	0.445	1.42	<2.00
FLR01@4'	10/03/2023	4'	<b>8.77</b>	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	<b>8.04</b>	<2.00
BKG02@4'	10/03/2023	4'	<b>8.96</b>	0.411	0.515	<2.00
BKG03@4'	10/03/2023	4'	<b>8.62</b>	2.92	<b>34.8</b>	<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

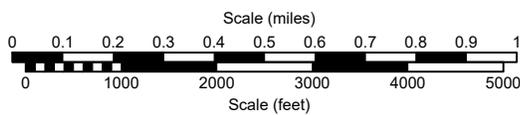
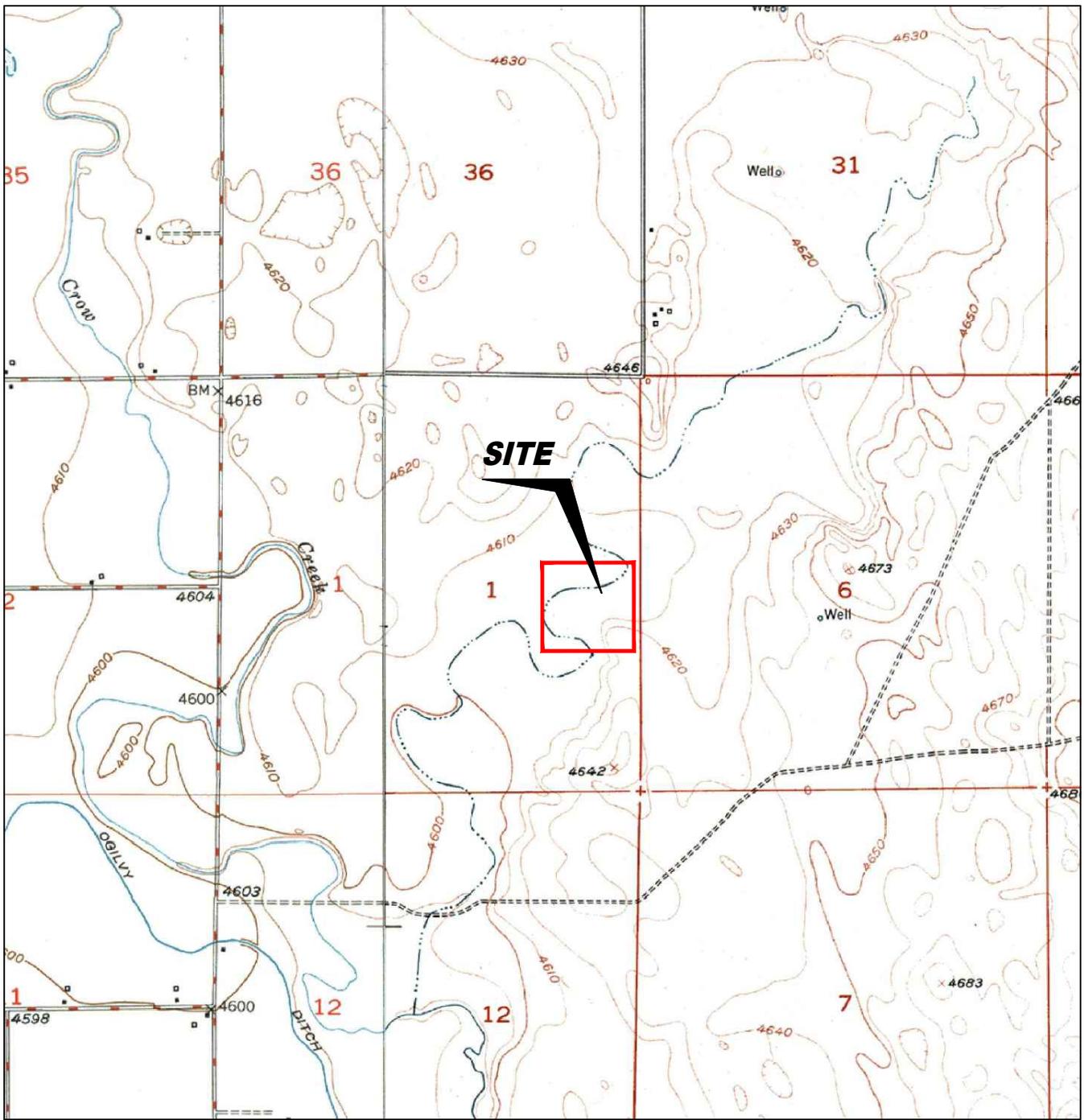
NA - Not analyzed

**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	<b>Total linear feet of flowline</b>



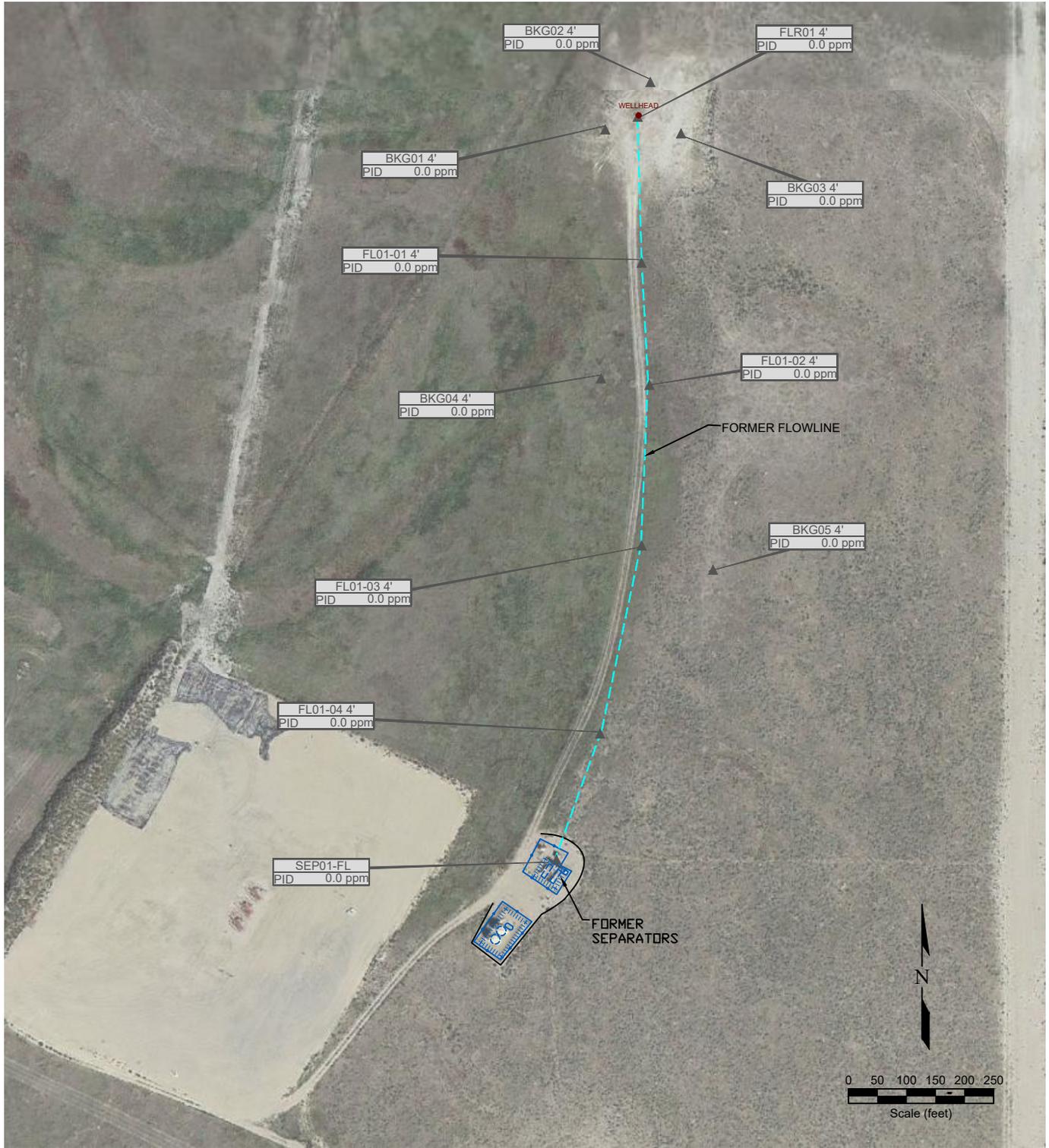
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

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





**LEGEND**

- WELL HEAD LOCATION
- ▲ PID READING LOCATION
- AS ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- FORMER FLOWLINE
- 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. <b>C023-269</b>	API # <b>05-123-14284</b>	Facility #	
Date <b>5/2/24</b>	Remediation # <b>30886</b>	Filename <b>23269QQ</b>	

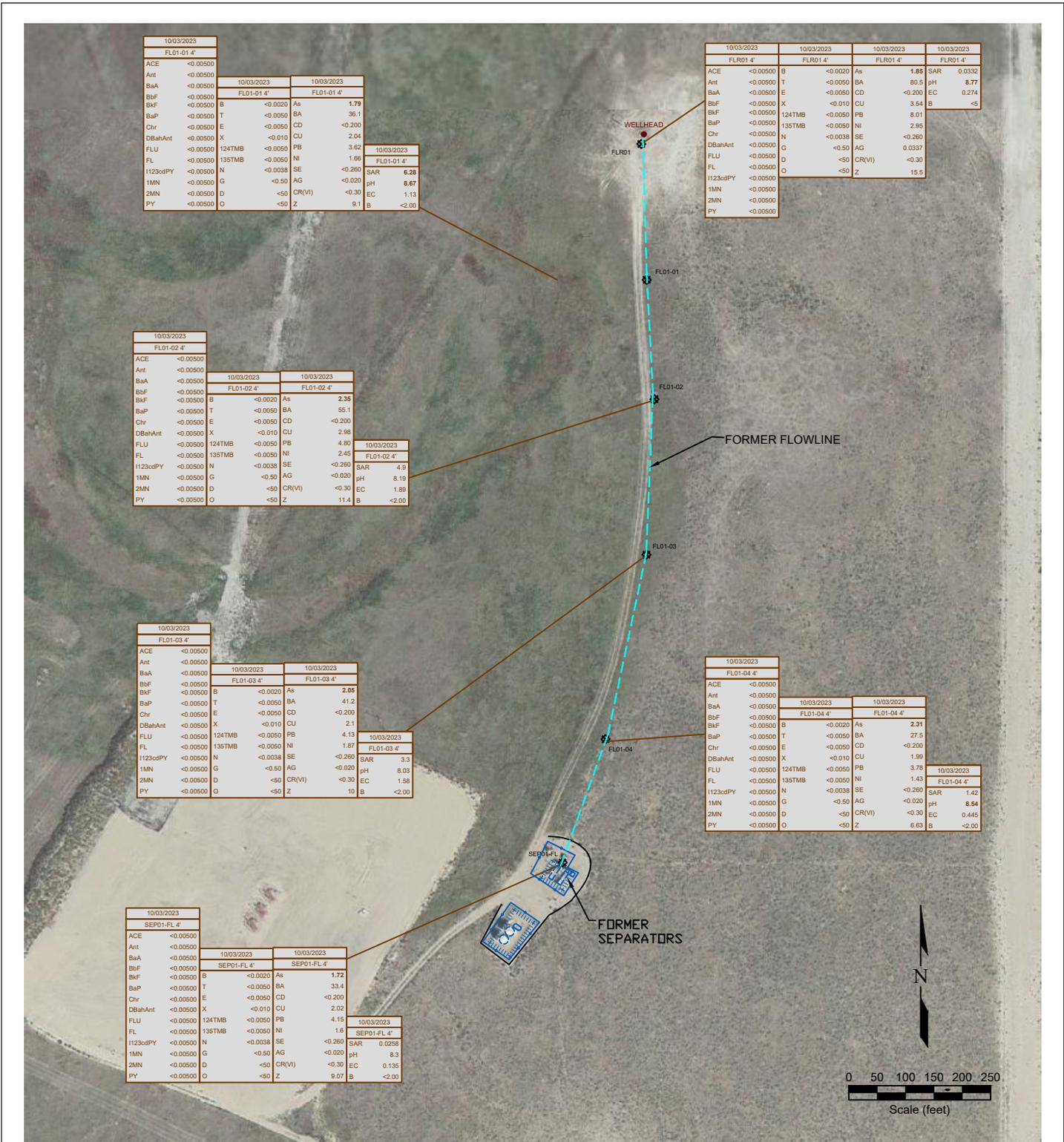


Figure 3  
SOIL CHEMISTRY MAP  
LUCCI-BC B 01-09 ~ NOBLE ENERGY INC

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

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



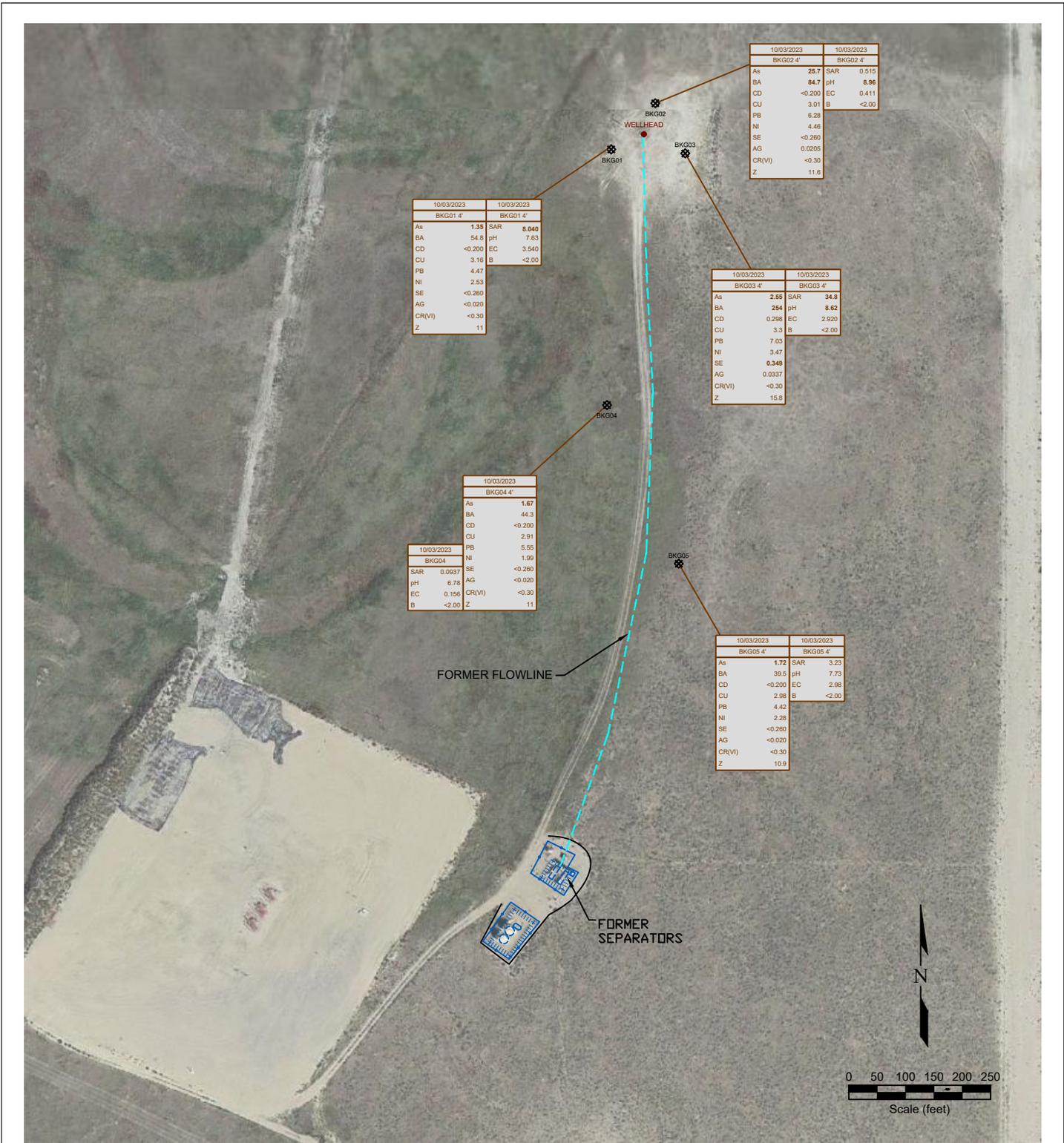
**LEGEND**

- WELL HEAD LOCATION
- ⊗ SOIL SAMPLE LOCATION
- AS ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- FORMER FLOWLINE
- FENCE LINE
- CONTAINMENT BERM

DATE SAMPLED	SAMPLE ID and DEPTH (ft)	DATE SAMPLED	SAMPLE ID and DEPTH (ft)
03/24/2021	N Wall @ 3'	08/18/2022	K-22-3N-3 (3')
ACE	<0.005	As	2.41
Ant	<0.005	ARSENIC (mg/kg)	
BaA	<0.005	BA	28.0
BaF	<0.005	CD	<0.0045
BaP	<0.005	Ca	<0.45
Chr	<0.005	Pb	150
DBahAnt	<0.005	Ni	<0.45
FLU	<0.005	Se	0.135
FL	<0.005	Ag	<0.0045
1123cdPY	<0.005	Cd	<0.45
1MN	<0.005	Zn	<0.45
2MN	<0.005	Cr(VI)	<0.45
PY	<0.005		

DATE	ID and Depth	DATE SAMPLED	SAMPLE ID and DEPTH (ft)
	B	<0.0020	BENZENE (mg/kg)
	T	<0.0050	TOLUENE (mg/kg)
	E	<0.0050	ETHYLBENZENE (mg/kg)
	X	<0.010	TOTAL XYLENES (mg/kg)
	1,2,4-TB	<0.0050	1,2,4-TRIMETHYLBENZENE (mg/kg)
	1,3,5-TB	<0.0050	1,3,5-TRIMETHYLBENZENE (mg/kg)
	N	<0.0038	NI
	G	<0.50	TPH-GRO (mg/kg)
	D	<50	TPH-DRO (mg/kg)
	O	<50	TPH-DRO (mg/kg)

DATE SAMPLED	SAMPLE ID & DEPTH (ft)
01/22/21	N Wall @ 1'
SAR	53.76
pH	9.4
EC	3.34
BORON	3.4



**LEGEND**

- WELL HEAD LOCATION
- ⊗ SOIL SAMPLE LOCATION
- ⊕ ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- FORMER FLOWLINE
- FENCE LINE
- 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-22-3N-3 (3')	N Well @ 1'	N Well @ 1'

DATE	DATE SAMPLED	DATE SAMPLED	DATE SAMPLED
ACE	ACE	ACE	ACE
Ant	Ant	Ant	Ant
BaA	BaA	BaA	BaA
BbF	BbF	BbF	BbF
BbP	BbP	BbP	BbP
Chr	Chr	Chr	Chr
DBahnt	DBahnt	DBahnt	DBahnt
FLU	FLU	FLU	FLU
FL	FL	FL	FL
1,1,2,3cdPY	1,1,2,3cdPY	1,1,2,3cdPY	1,1,2,3cdPY
1-MN	1-MN	1-MN	1-MN
2-MN	2-MN	2-MN	2-MN
PY	PY	PY	PY

DATE	DATE SAMPLED	DATE SAMPLED	DATE SAMPLED
B	B	B	B
T	T	T	T
E	E	E	E
X	X	X	X
1,2,4-TB	1,2,4-TB	1,2,4-TB	1,2,4-TB
1,3,5-TB	1,3,5-TB	1,3,5-TB	1,3,5-TB
N	N	N	N
G	G	G	G
D	D	D	D
Q	Q	Q	Q

DATE	DATE SAMPLED	DATE SAMPLED	DATE SAMPLED
As	As	As	As
BA	BA	BA	BA
CD	CD	CD	CD
CU	CU	CU	CU
Pb	Pb	Pb	Pb
NI	NI	NI	NI
Se	Se	Se	Se
Ag	Ag	Ag	Ag
Zn	Zn	Zn	Zn
Cr(VI)	Cr(VI)	Cr(VI)	Cr(VI)

DATE	DATE SAMPLED	DATE SAMPLED	DATE SAMPLED
SAR	SAR	SAR	SAR
pH	pH	pH	pH
EC	EC	EC	EC
BORON	BORON	BORON	BORON

**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. <b>C023-269</b>	API # <b>05-123-14284</b>	Facility #
Date <b>5/2/24</b>	Remediation # <b>30886</b>	Filename <b>23269QQ</b>

# Photo Log



*Description:*

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# Photo Log



*Description:*

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# Photo Log



*Description:*

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# Photo Log



*Description:*

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# Summit Scientific

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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,



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	

<b>Send Data To:</b>		<b>Send Invoice To:</b>
Client: Fremont Environmental	Project Manager: Paul Henehan	Company: Noble/Chevron
Address: 8305 6th Street	E-Mail: Fremont Distribution List	Project Name/Location:
City/State/Zip: Wellington, CO, 80549		AFE#: UWRWE - A2077 - A3N
Phone: 603-477-6907	Project Name: Lucci BC B01 - 09 Flowline	PO/Billing Codes:
Sampler Name: Aaron Otilar	Project Number:	Contact: Mike Montoya

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Analysis Requested							Special Instructions
					HCl	HNO3	None	Other	Water	Soil		Other	BTEXN - 915	TPH (C6-C36)	PAH	SAR, EC, pH, Boron	Metals (915-1)	TDS, Cl, SO4	
1	FLR01e4'	10/3/23		2			2			X		X	X	X	X		X		
2	FL01-01e4'																		
3	FL01-02e4'																		
4	FL01-03e4'																		
5	FL01-04e4'																		
6	SEP01-FLe4'																		
7	BKG-01e4'													X	X				
8	BKG-02e4'																		
9	BKG-03e4'																		
10	BKG-04e4'																		
11	BKG-05e4'																		
12																			
13																			
14																			
15																			

Relinquished by: <i>[Signature]</i>	Date/Time: 10/3/23 1630	Received by: Summit North Office	Date/Time: 10/3/23 1630	TAT Business Days	Field DO	Notes:
Relinquished by: 52	Date/Time: 10/3/23 1645	Received by: <i>[Signature]</i>	Date/Time: 10/3/23 1645	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 10.9	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:	Standard	X	Field Turb.

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2310048

Client: Fremant

Client Project ID: LUCCI BC B01-09 Flowline

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

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 <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input 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 <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? (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.				

AS  
Custodian Printed Name

10/3/23  
Date/Time

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  
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**

**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**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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  
 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**

**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	

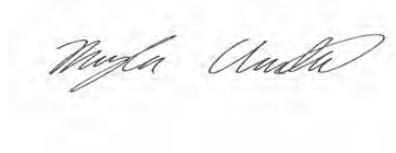
**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

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	

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

**FL01-01@4'**  
**2310048-02 (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	0.0394	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 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	"	"	"	"	"	"	

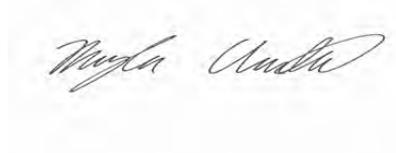
Date Sampled: **10/03/23 00:00**

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

**FL01-01@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**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**

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

**FL01-01@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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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**

**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	0.0407	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 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	11.6	93.1 %	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

**FL01-02@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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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**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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)**

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**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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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 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	0.0420	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 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	11.6	92.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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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**

**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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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**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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 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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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 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	0.0404	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 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	10.0	80.1 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project Number: UWRWE-A2077-ABN  
Project Manager: Paul Henchan

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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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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**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**

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 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	

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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 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	0.0376	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 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	9.61	76.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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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**

**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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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**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**

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

**Hexavalent Chromium by EPA Method 7196**

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

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

**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	<b>8.04</b>	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	<b>94.0</b>		%	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)	<b>3.54</b>	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	<b>7.63</b>		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

**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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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	"	"	"	"	"	"	

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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

**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	<b>0.515</b>	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	<b>95.6</b>		%	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)	<b>0.411</b>	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	<b>8.96</b>		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

**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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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**

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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	

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

**Hexavalent Chromium by EPA Method 7196**

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

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

**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	

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

**Hexavalent Chromium by EPA Method 7196**

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

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

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

#### Summit Scientific

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

#### 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	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.3</i>	<i>50-150</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0412</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0384</i>		<i>"</i>	<i>0.0400</i>		<i>95.9</i>	<i>50-150</i>				

##### 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				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0342</i>		<i>"</i>	<i>0.0400</i>		<i>85.5</i>	<i>50-150</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0411</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>				

##### 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				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0427</i>		<i>"</i>	<i>0.0400</i>		<i>107</i>	<i>50-150</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0396</i>		<i>"</i>	<i>0.0400</i>		<i>99.1</i>	<i>50-150</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0389</i>		<i>"</i>	<i>0.0400</i>		<i>97.4</i>	<i>50-150</i>				

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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

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

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

**Batch BGJ0155 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BGJ0155-MSD1)</b>	<b>Source: 2310023-01</b>			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	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0386</i>		<i>"</i>	<i>0.0400</i>		<i>96.5</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0388</i>		<i>"</i>	<i>0.0400</i>		<i>96.9</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0395</i>		<i>"</i>	<i>0.0400</i>		<i>98.7</i>	<i>50-150</i>			

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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

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

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

**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: <i>o</i> -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: <i>o</i> -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: <i>o</i> -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: <i>o</i> -Terphenyl	12.7		"	12.5		102	30-150			

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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		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0441</i>		"	<i>0.0333</i>		<i>132</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0326</i>		"	<i>0.0333</i>		<i>97.9</i>		<i>40-150</i>		

**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		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0375</i>		"	<i>0.0333</i>		<i>112</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0326</i>		"	<i>0.0333</i>		<i>97.8</i>		<i>40-150</i>		

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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		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**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  
 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

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

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

**Batch 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

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

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**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		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

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

**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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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	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**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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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	Source		%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

**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	
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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

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

**Summit Scientific**

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

**Batch 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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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	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**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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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