

FREMONT ENVIRONMENTAL INC.

August 28, 2024

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

Subject: **Flowline Closure Data Submittal**
 Lucci B 01-22
 API # 05-123-25940
 SENE Sec. 1, T5N, R64W
 Weld County, Colorado
 Fremont Project No. C024-046
 Remediation # 33561

Dear Mr. Peterson:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted flowline closure activities for the Noble Energy Inc. (Noble) Lucci B 01-22. Impacted soil was not encountered during abandonment activities. Details of the Lucci B 01-22 closure activities are documented in the attached Closure Report. Groundwater was not encountered during flowline removal activities.

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

Sincerely,

FREMONT ENVIRONMENTAL INC.



Stanley Gilbert
Environmental Scientist

Attachments:

Closure Checklist
Tables
Figures
Photos

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> LUCCI B 01-22		<i>Date:</i> 02/07/2024				<i>Remediation Project #:</i> 33561		
<i>Associated Wells:</i> API:05-123-25940		<i>Age of Site:</i> 2007				<i>Number of Photos Attached:</i> 11		

Starting point: (GPS coordinates and descriptions)
40.4324769, -104.4936478

End point: (GPS coordinates and descriptions)
40.4284929, -104.4934641

USCS Soil Type: SP *Estimated Depth to Groundwater:* >5'

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

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

Flowlines

<i>Flowline type</i>	OIL/Water/Gas							
<i>Depth</i>	3'- 5'							
<i>Age</i>	2007							
<i>Length</i>	1467'							
<i>Construction Material</i>	Steel							
<i>Were flowlines pulled?</i>	Yes							
<i>Visual Integrity of lines</i>	Good							
<i>Visual impacts if trenched</i>	N/A							
<i>PID Readings if trenched</i>	Highest 0.9ppm							
<i>Sample taken? Location/Sample ID#</i>	Yes, see attached							
<i>Photo Number(s)</i>	See attached							

Other observations regarding on location flowlines:

Summary

Was impacted soil identified?
 No Yes - less than 10 cubic yards Yes - more than 10 cubic yards

Total number of samples field screened: 9 *Total number of samples collected:* 11

Highest PID Reading: 0.9ppm (FL07 3') *Total number of samples submitted to lab for analysis:* 2

If more than 10 cubic yards of impacted soil were observed:

Vertical extent: *Estimated spill volume:*

Lateral extent: *Volume of soil removed:*

Is additional investigation required?
No

Was groundwater encountered during the investigation?
 No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils

Measured depth to groundwater: *Was remedial groundwater removal conducted?* Yes No

Date Groundwater was encountered: *Commencement date of removal:*

Sheen on groundwater? Yes No *Volume of groundwater removed prior to sampling:*

Free product observed? Yes No *Volume of groundwater removed post sampling:*

Total number of samples collected: *Total Volume of groundwater removed:*

Total number of samples submitted to lab for analysis:

TABLE 1
FIELD DATA SUMMARY TABLE
NOBLE 100322
LUCCI B01-22, WELD COUNTY, COLORADO
REM # 33561

Sample ID	Sample Date	Depth	GPS Data Latitude/Longitude		PDOP Value	VOC Concentration (ppm)
FL01 3'	02/28/2024	3'	40.4324656	-104.49365	-	0.6
FL02 3'	02/29/2024	3'	40.4284940	-104.49346	-	0.1
BKG01	2/29/2024	0.5', 3', 4', 5'	40.4284756	-104.49318	-	0.0
BKG02	2/29/2024	0.5', 3', 4', 5'	40.4285213	-104.49388	-	0.0
BKG03	2/29/2024	0.5', 3', 4', 5'	40.4325424	-104.49331	-	0.0
BKG04	2/29/2024	0.5', 3', 4', 5'	40.4331617	-104.49354	-	0.0
BKG05	3/1/2024	0.5', 3', 4', 5'	40.4324088	-104.49802	-	0.0
BKG06	3/1/2024	0.5', 3', 4', 5'	40.4319177	-104.49867	-	0.0

1. Global Positioning System (GPS) data is provided in decimal degrees using North American Datum (NAD) 83 UTMZone 13 North.

2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).

PDOP = Position Dilution of Precision

ppm = Parts per million

in. = Inches

ft. = Feet

bgs = Below ground surface

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE 100322
LUCCI B01-22, WELD COUNTY, COLORADO
REM # 33561

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 (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500	500**		
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	500**		
FL01 3'	02/28/2024	3'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FL02 3'	02/29/2024	3'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50

1. Bold values exceed the ECMC Table 915-1 limit(s)
 2. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
 3. * Indicates laboratory minimum detection limit in excess of SSL
 4. ** Summation of GRO+DRO+ORO must be less than 500 mg/kg
- NA - Not analyzed

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE 100322
LUCCI B01-22, WELD COUNTY, COLORADO
REM # 33561

Sample ID	Sample Date	Depth (ft)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3-cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			360	1800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
FL01 3'	02/28/2024	3'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FL02 3'	02/29/2024	3'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

1. Bold values exceed the ECMC Table 915-1 limit(s)
 2. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
 3. * Indicates laboratory minimum detection limit in excess of SSL
- NA - Not analyzed

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE 100322
LUCCI B01-22, WELD COUNTY, COLORADO
REM # 33561

Sample ID	Sample Date	Depth (ft)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
FL01 3'	02/28/2024	3'	8.52	0.194	0.0772	<2.00
FL02 3'	02/29/2024	3'	8.76	0.16	0.0187	<2.00
BKG01 0.5'	02/29/2024	0.5'	7.95	3.91	2.8	<2.00
BKG01 3'	02/29/2024	3'	7.97	5.62	8.18	<2.00
BKG01 4'	02/29/2024	4'	7.95	4.25	2.89	<2.00
BKG02 0.5'	02/29/2024	0.5'	9.05	1.85	10.6	<2.00
BKG02 3'	02/29/2024	3'	8.03	5.61	8.25	<2.00
BKG02 4'	02/29/2024	4'	7.88	2.64	2.5	<2.00
BKG03 0.5'	02/29/2024	0.5'	7.69	0.156	0.157	<2.00
BKG03 3'	02/29/2024	3'	8.83	0.126	0.115	<2.00
BKG03 4'	02/29/2024	4'	8.43	0.202	0.0881	<2.00
BKG04 0.5'	02/29/2024	0.5'	7.2	0.0716	0.0355	<2.00
BKG04 3'	02/29/2024	3'	8.52	0.222	0.576	<2.00
BKG04 4'	02/29/2024	4'	8.45	0.405	1.28	<2.00
BKG05 0.5'	03/01/2024	0.5'	7.68	0.0734	0.0263	<2.00
BKG05 3'	03/01/2024	3'	8.56	0.113	0.0193	<2.00
BKG05 4'	03/01/2024	4'	8.8	0.0932	0.0156	<2.00
BKG06 0.5'	03/01/2024	0.5'	7.53	0.0577	0.0202	<2.00
BKG06 3'	03/01/2024	3'	7.1	0.0423	0.0193	<2.00
BKG06 4'	03/01/2024	4'	7.06	1.91	0.0267	<2.00
Maximum Background Concentration			9.05	5.62	10.6	NA

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within background concentrations.
2. **Bold** faced values exceed the ECMC Table 915-1 limit(s) and native background concentrations.
3. Brown highlighted soil analytical values indicate a regulatory exceedance.

NA - Not analyzed/Not applicable

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE 100322
LUCCI B01-22, WELD COUNTY, COLORADO
REM # 33561

Sample ID	Sample Date	Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15000	71	0.3	3100	400	1500	390	390	23000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FL01 3'	02/28/2024	3'	2.9	39.9	<0.200	<0.30	3.07	5.22	2.76	<0.260	<0.0200	12.9
FL02 3'	02/29/2024	3'	4.42	153	0.257	<0.30	5.21	22.4	3.63	0.271	0.0298	16.8
BKG01 0.5'	02/29/2024	0.5'	2.08	54	<0.200	<0.30	2.94	4.19	2.62	<0.260	<0.0200	12.1
BKG01 3'	02/29/2024	3'	2.57	45.5	<0.200	<0.30	2.42	4.28	2.38	<0.260	<0.0200	10.5
BKG01 4'	02/29/2024	4'	1.97	33.3	<0.200	<0.30	1.9	4.16	1.57	<0.260	<0.0200	7.83
BKG02 0.5'	02/29/2024	0.5'	2.08	51.1	<0.200	<0.30	3.14	4.14	2.65	<0.260	<0.0200	12.6
BKG02 3'	02/29/2024	3'	2.27	39.8	<0.200	<0.30	2.48	3.92	2.52	<0.260	<0.0200	10.8
BKG02 4'	02/29/2024	4'	1.75	44.2	<0.200	<0.30	2.94	5.51	2.52	<0.260	<0.0200	12.2
BKG03 0.5'	02/29/2024	0.5'	1.99	36.1	<0.200	<0.30	2.8	4.19	2.61	<0.260	<0.0200	12
BKG03 3'	02/29/2024	3'	2.25	88.1	<0.200	<0.30	2.34	4.06	2.55	<0.260	<0.0200	10.4
BKG03 4'	02/29/2024	4'	5.01	88.8	0.202	<0.30	2.88	5.22	3.63	<0.260	<0.0200	11.6
BKG04 0.5'	02/29/2024	0.5'	2.08	37	<0.200	<0.30	2.62	4.08	2.55	<0.260	<0.0200	11.7
BKG04 3'	02/29/2024	3'	4.4	160	0.442	<0.30	5.79	12.8	5.89	<0.260	0.0753	22.4
BKG04 4'	02/29/2024	4'	3.85	130	0.348	<0.30	5.97	11	5.78	<0.260	0.0662	22.3
BKG05 0.5'	03/01/2024	0.5'	2.23	80.8	<0.200	<0.30	2.76	5	2.79	<0.260	<0.0200	12.2
BKG05 3'	03/01/2024	3'	3.8	37	<0.200	<0.30	1.97	3.75	2.35	<0.260	<0.0200	8.97
BKG05 4'	03/01/2024	4'	1.56	55.6	<0.200	<0.30	1.59	4.62	1.96	<0.260	<0.0200	8.02
BKG06 0.5'	03/01/2024	0.5'	1.9	32.1	<0.200	<0.30	2.05	3.81	2.17	<0.260	0.0362	10.2
BKG06 3'	03/01/2024	3'	1.65	32.7	<0.200	<0.30	1.48	2.74	1.73	<0.260	<0.0200	7.76
BKG06 4'	03/01/2024	4'	2.08	33.1	<0.200	<0.30	1.53	3.11	1.95	<0.260	<0.0200	9.45
1.25x Maximum Background Concentration			6.2625	200	0.5525	NA	7.4625	16	7.3625	0.325	0.094125	28

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.
2. **Red** faced values exceed the ECMC Table 915-1 limit(s) and native background concentrations.
3. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL).
4. Non-detect background results accounted for in the highest background concentration by using the reporting limit.

ECMC = Energy & Carbon Management Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

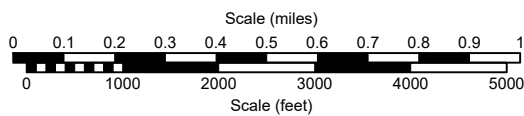
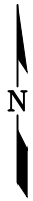
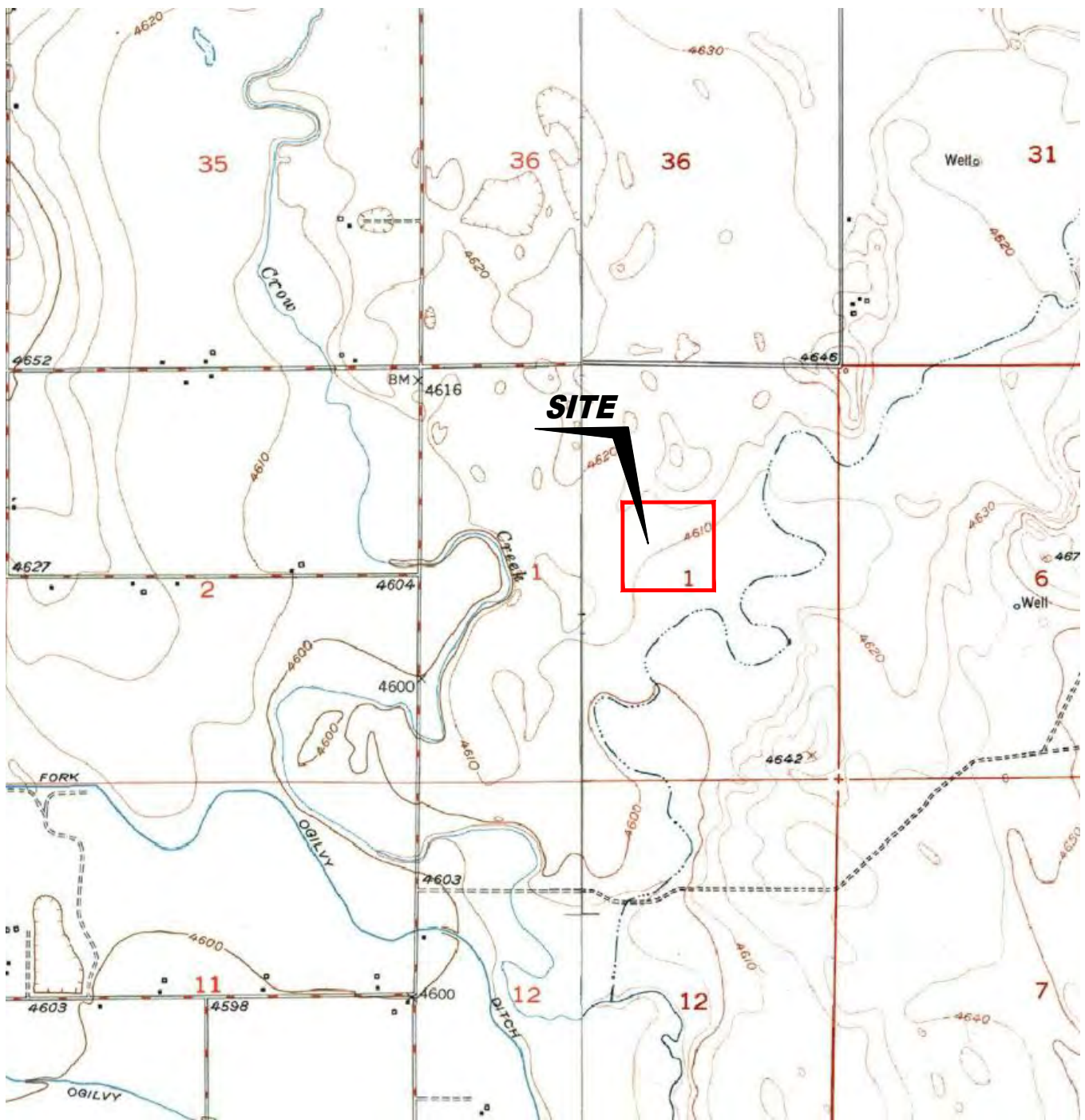
mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed/Not applicable



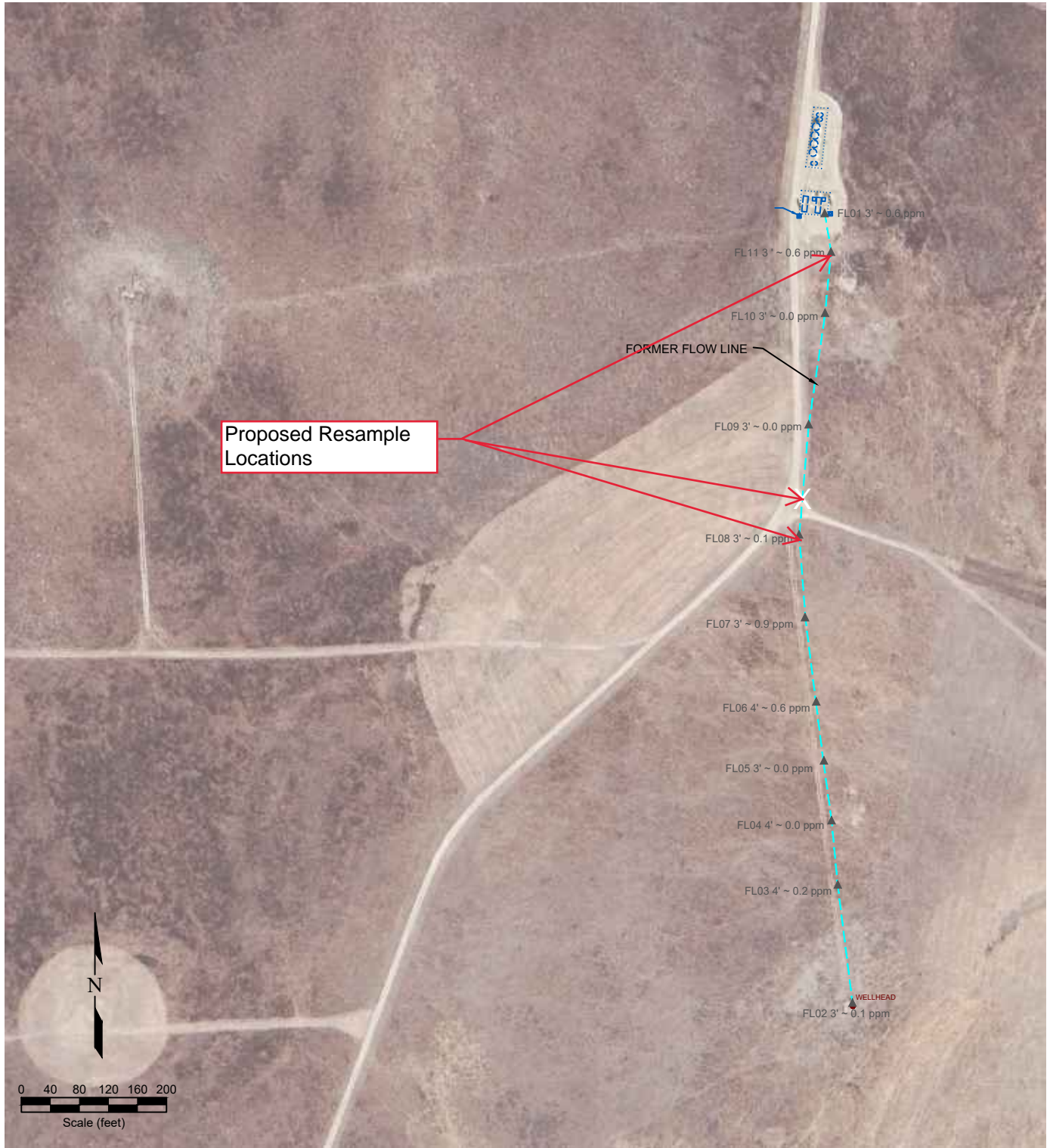
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

NOBLE ~ LUCCI B 1-22
 SENE Sec. 1, T5N, R64W, 6th PM
 Weld County, Colorado
 40.428490°, -104.493479°

Project No. CO24-046	API # 05-123-25940	Facility #
Date 9/20/24	Remediation # 33561	Filename 24046TFL





LEGEND

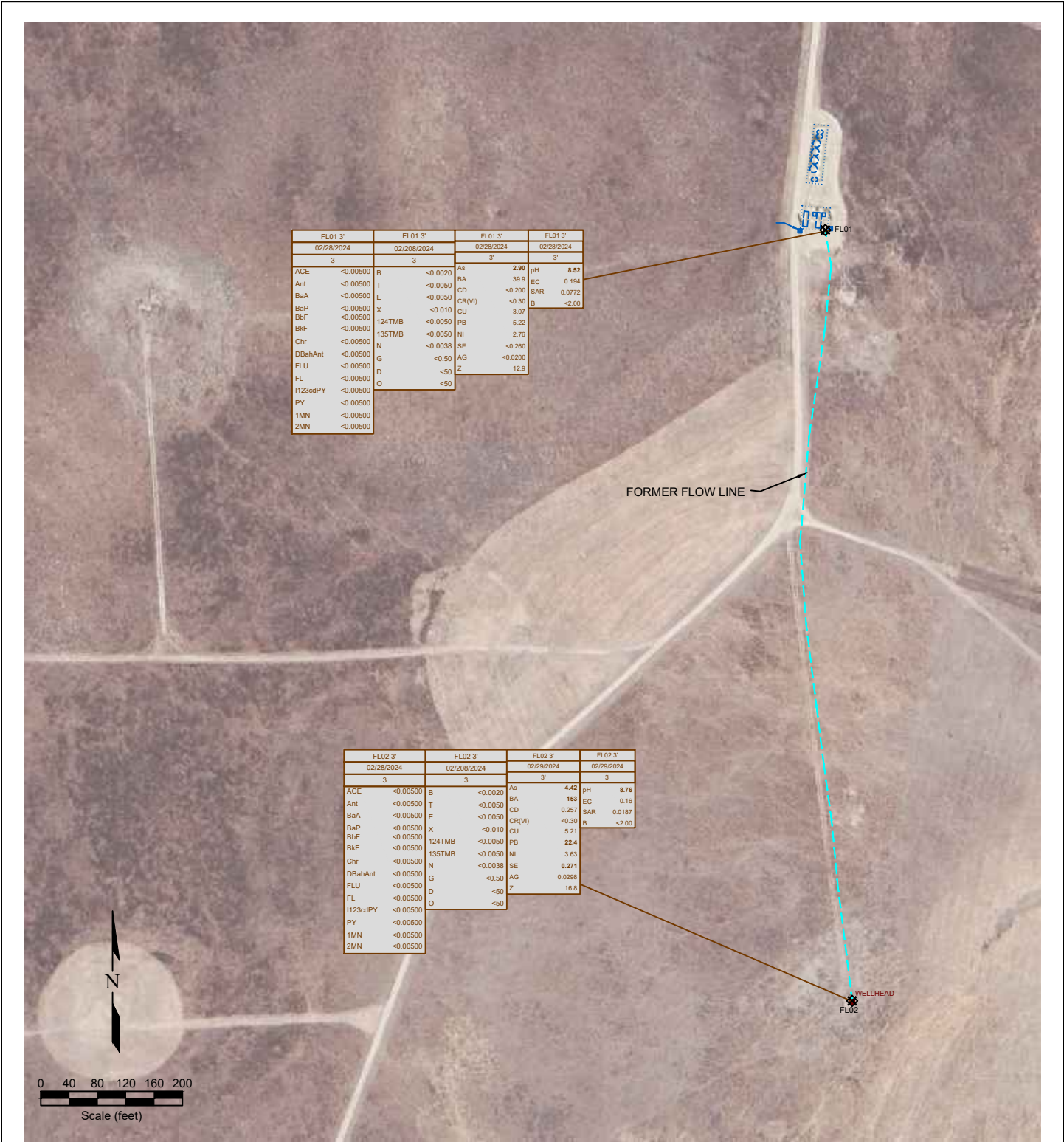
- WELL HEAD LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- FORMER FLOW LINE
- FENCE LINE
- CONTAINMENT BERM
- CONTAINMENT WALL
- ▲ PID READING LOCATION

**Figure 2
SITE MAP**

NOBLE ~ LUCCI B 1-22
 SENE Sec. 1, T5N, R64W, 6th PM
 Weld County, Colorado
 40.428490°, -104.493479°

Project No. CO24-046	API # 05-123-25940	Facility #
Date 9/20/24	Remediation # 33561	Filename 24046QFL





FL01 3'		FL01 3'		FL01 3'		FL01 3'	
02/28/2024		02/208/2024		02/28/2024		02/28/2024	
3'		3'		3'		3'	
ACE	<0.00500	B	<0.0020	As	2.90	pH	8.52
Ant	<0.00500	T	<0.0050	BA	39.9	EC	0.194
BaA	<0.00500	E	<0.0050	CD	<0.200	SAR	0.0772
BaP	<0.00500	X	<0.010	CR(VI)	<0.30	B	<2.00
BbF	<0.00500			CU	3.07		
BKF	<0.00500	124TMB	<0.0050	PB	5.22		
Chr	<0.00500	135TMB	<0.0050	NI	2.76		
DBahAnt	<0.00500	N	<0.0038	SE	<0.260		
FLU	<0.00500	G	<0.50	AG	<0.0200		
FL	<0.00500	D	<50	Z	12.9		
1123cdPY	<0.00500	O	<50				
PY	<0.00500						
1MN	<0.00500						
2MN	<0.00500						

FL02 3'		FL02 3'		FL02 3'		FL02 3'	
02/28/2024		02/208/2024		02/29/2024		02/29/2024	
3'		3'		3'		3'	
ACE	<0.00500	B	<0.0020	As	4.42	pH	8.76
Ant	<0.00500	T	<0.0050	BA	193	EC	0.16
BaA	<0.00500	E	<0.0050	CD	0.257	SAR	0.0187
BaP	<0.00500	X	<0.010	CR(VI)	<0.30	B	<2.00
BbF	<0.00500			CU	5.21		
BKF	<0.00500	124TMB	<0.0050	PB	22.4		
Chr	<0.00500	135TMB	<0.0050	NI	3.63		
DBahAnt	<0.00500	N	<0.0038	SE	0.271		
FLU	<0.00500	G	<0.50	AG	0.0298		
FL	<0.00500	D	<50	Z	16.6		
1123cdPY	<0.00500	O	<50				
PY	<0.00500						
1MN	<0.00500						
2MN	<0.00500						

LEGEND

- WELL HEAD LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- FORMER FLOW LINE
- FENCE LINE
- CONTAINMENT BERM
- CONTAINMENT WALL

SAMPLE ID	DATE	DEPTH	SAMPLE ID	DATE	DEPTH	SAMPLE ID	DATE	DEPTH	SAMPLE ID	DATE	DEPTH	SAMPLE ID	DATE	DEPTH
ACE	<0.00500		As	<0.01		As	<0.01		As	<0.01		As	<0.01	
Ant	<0.00500		BA	<0.01		BA	<0.01		BA	<0.01		BA	<0.01	
BaA	<0.00500		CD	<0.01		CD	<0.01		CD	<0.01		CD	<0.01	
BaP	<0.00500		CR(VI)	<0.01		CR(VI)	<0.01		CR(VI)	<0.01		CR(VI)	<0.01	
BbF	<0.00500		CU	<0.01		CU	<0.01		CU	<0.01		CU	<0.01	
BKF	<0.00500		PB	<0.01		PB	<0.01		PB	<0.01		PB	<0.01	
Chr	<0.00500		NI	<0.01		NI	<0.01		NI	<0.01		NI	<0.01	
DBahAnt	<0.00500		SE	<0.01		SE	<0.01		SE	<0.01		SE	<0.01	
FLU	<0.00500		AG	<0.01		AG	<0.01		AG	<0.01		AG	<0.01	
FL	<0.00500		Z	<0.01		Z	<0.01		Z	<0.01		Z	<0.01	
1123cdPY	<0.00500													
PY	<0.00500													
1MN	<0.00500													
2MN	<0.00500													

Figure 3
SOIL CHEMISTRY MAP

NOBLE ~ LUCCI B 1-22
SENE Sec. 1, T5N, R64W, 6th PM
Weld County, Colorado
40.428490°, -104.493479°

Project No. CO24-046	API # 05-123-25940	Facility #	
Date 9/20/24	Remediation # 33561	Filename 24046QFL	

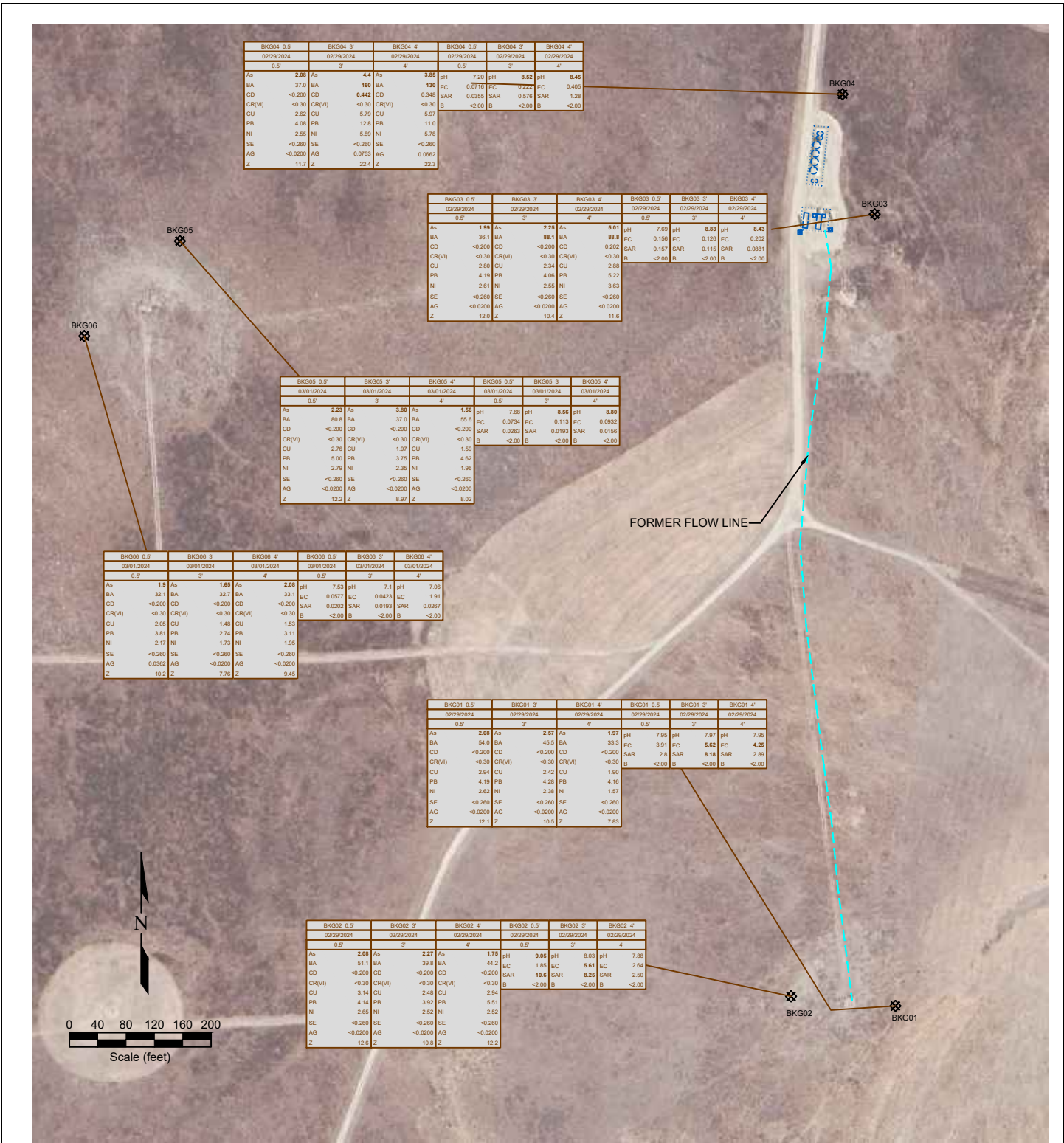


Figure 4
BACKGROUND SAMPLE SOIL CHEMISTRY MAP

NOBLE ~ LUCCI B 1-22
SENE Sec. 1, T5N, R64W, 6th PM
Weld County, Colorado
40.428490°, -104.493479°

LEGEND

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

SAMPLE ID	DEPTH (ft)	DATE SAMPLED	SAMPLE ID	DEPTH (ft)	DATE SAMPLED
As	<-0.01	ARSENIC (mg/kg)	pH	<-0.01	pH (pH units)
BA	<-0.01	BARIUM (mg/kg)	EC	7.00	EC (mmhos/cm)
CD	<-0.01	CADMIUM (mg/kg)	SAR	<-	SAR (units)
CR(V)	<-0.01	CHROMIUM (mg/kg)	B	<-	BORON (mg/kg)
CU	<-0.01	COPPER (mg/kg)			
PB	<-0.01	LEAD (mg/kg)			
Ni	<-0.01	NICKEL (mg/kg)			
SE	<-0.01	SELENIUM (mg/kg)			
AG	<-0.01	SILVER (mg/kg)			
Z	<-0.01	ZINC (mg/kg)			

Project No. CO24-046	API # 05-123-25940	Facility #
Date 9/20/24	Remediation # 33561	Filename 24046QFLBKG



Photo Log



Description:

#1-FL01 3'- No staining or odor

Photo Log



Description:

#2-FL02 3'- No staining or odor

Photo Log



Description:

#3-FL03 4'- No staining or odor



Description:

#4-FL04 4'- No staining or odor

Photo Log



Description:

#5-FL05 3'- No staining or odor

Photo Log



Description:

#6-FL06 4'- No staining or odor



Description:

#7-FL07 3'- No staining or odor

Photo Log



Description:

#8-FL08 3'- No staining or odor



Description:

#9-FL09 3'- No staining or odor

Photo Log



Description:

#10-FL10 3'- No staining or odor



Description:

#11-FL11 3'- No staining or odor