

FREMONT ENVIRONMENTAL INC.

December 6, 2024

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

Subject: **Flowline Closure Data Submittal**
 SLW Green State BB18-09
 API # 05-123-19257
 NESE Sec. 18, T5N, R63W
 Weld County, Colorado
 Fremont Project No. C024-233
 Remediation # 36766

Dear Mr. Peterson:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted flowline closure activities for the Noble Energy Inc. (Noble) SLW Green State BB18-09. Impacted soil was not encountered during abandonment activities. Details of the SLW Green State BB18-09 flowline closure activities are documented in the attached Closure Report. Groundwater was not encountered during flowline abandonment activities.

Please contact me at (813) 514-7730 if you require any additional information. Fremont appreciates the opportunity to provide this service.

Sincerely,

FREMONT ENVIRONMENTAL INC.



Joshua J. Belanger
Consultant

Attachments:

- Facility 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> SLW Green State BB18-09, #05-123-19257		<i>Date:</i> 10/16/2024		<i>Remediation Project #:</i> 36766				
<i>Associated Wells:</i> SLW Green State BB18-09		<i>Age of Site:</i> 2012		<i>Number of Photos Attached:</i> 7				

Starting point: (GPS coordinates and descriptions)
40.3963232, -104.4793489

End point: (GPS coordinates and descriptions)
40.3971601, -104.4731861

USCS Soil Type: SC *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>	Multiphase							
<i>Depth</i>	~5 feet							
<i>Age</i>	2012							
<i>Length</i>	2086 feet							
<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>	N/A							
<i>Sample taken? Location/Sample ID#</i>	Yes, See attached							
<i>Photo Number(s)</i>	See Attached							

Other observations regarding on location flowlines:
None Observed

Summary

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

Total number of samples field screened: 8 *Total number of samples collected:* 8

Highest PID Reading: 1.0 *Total number of samples submitted to lab for analysis:* 8

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 additional investigation required

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
SLW GREEN STATE BB-09 FLOWLINE, WELD COUNTY, COLORADO
REM # 36766

Sample ID	Sample Date	Depth	GPS Data		PDOP Value	VOC Concentration (ppm)
			Latitude	Longitude		
FL01-3.0	10/16/2024	3.0FT	40.3972944	-104.4733566	1.0	0.8
FL01RW-3.0	10/16/2024	3.0FT	40.3971513	-104.4731945	0.9	0.7
FL02-3.0	10/16/2024	3.0FT	40.3971340	-104.4745878	0.9	0.8
FL03-3.0	10/16/2024	3.0FT	40.3971421	-104.4764181	0.9	1.0
FL04-3.0	10/16/2024	3.0FT	40.3971625	-104.4776655	0.8	0.7
FL05-3.0	10/16/2024	3.0FT	40.3971908	-104.4787280	0.9	0.7
FL06-3.0	10/16/2024	3.0FT	40.3972140	-104.4794130	0.9	0.6
Sep01FL-3.0	10/15/2024	3.0FT	40.3963019	-104.4793795	0.9	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
SLW GREEN STATE BB-09 FLOWLINE, WELD COUNTY, COLORADO
REM # 36766

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**		
FL01-3.0	10/16/2024	3.0FT	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FL01RW-3.0	10/16/2024	3.0FT	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FL02-3.0	10/16/2024	3.0FT	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FL03-3.0	10/16/2024	3.0FT	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FL04-3.0	10/16/2024	3.0FT	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FL05-3.0	10/16/2024	3.0FT	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FL06-3.0	10/16/2024	3.0FT	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
Sep01FL-3.0	10/15/2024	3.0FT	<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
SLW GREEN STATE BB-09 FLOWLINE, WELD COUNTY, COLORADO
REM # 36766

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
FL01-3.0	10/16/2024	3.0FT	<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
FL01RW-3.0	10/16/2024	3.0FT	<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	0.0154
FL02-3.0	10/16/2024	3.0FT	<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
FL03-3.0	10/16/2024	3.0FT	<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
FL04-3.0	10/16/2024	3.0FT	<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
FL05-3.0	10/16/2024	3.0FT	<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
FL06-3.0	10/16/2024	3.0FT	<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
Sep01FL-3.0	10/15/2024	3.0FT	<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
SLW GREEN STATE BB-09 FLOWLINE, WELD COUNTY, COLORADO
REM # 36766

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
FL01-3.0	10/16/2024	3.0FT	6.74	0.256	0.0922	<2.00
FL01RW-3.0	10/16/2024	3.0FT	7.87	0.803	0.199	<2.00
FL02-3.0	10/16/2024	3.0FT	8.63	0.165	0.0283	<2.00
FL03-3.0	10/16/2024	3.0FT	7.30	0.0992	0.0188	<2.00
FL04-3.0	10/16/2024	3.0FT	6.49	0.129	0.265	<2.00
FL05-3.0	10/16/2024	3.0FT	8.54	0.0861	0.0173	<2.00
FL06-3.0	10/16/2024	3.0FT	7.49	3.21	0.0724	<2.00
Sep01FL-3.0	10/15/2024	3.0FT	5.52	0.0914	0.0151	<2.00
Maximum Root Background Concentration (0 - 3 ft)			NA	NA	NA	NA
Average Root Background Concentration (0 - 3 ft)			NA	NA	NA	NA
Maximum Background Concentration			NA	NA	NA	NA
Average Background Concentration			NA	NA	NA	NA

1. Bold faced values exceed the ECMC Table 915-1 limit(s)
 2. Blue highlighted soil analytical values indicate a regulatory exceedance
- NA - Not analyzed

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE 100322
SLW GREEN STATE BB-09 FLOWLINE, WELD COUNTY, COLORADO
REM # 36766

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
FL01-3.0	10/16/2024	3.0FT	0.666	24.7	<0.200	<0.30	1.26	5.16	0.978	<0.260	0.238	5.92
FL01RW-3.0	10/16/2024	3.0FT	0.886	39.2	<0.200	<0.30	1.60	8.77	1.50	<0.260	0.735	6.40
FL02-3.0	10/16/2024	3.0FT	0.968	39.1	<0.200	<0.30	1.07	2.85	1.06	<0.260	0.207	4.66
FL03-3.0	10/16/2024	3.0FT	0.636	18.9	<0.200	<0.30	0.836	2.76	0.899	<0.260	0.242	4.07
FL04-3.0	10/16/2024	3.0FT	0.639	17.1	<0.200	<0.30	0.887	3.40	0.738	<0.260	0.173	3.84
FL05-3.0	10/16/2024	3.0FT	1.12	54.3	<0.200	<0.30	1.25	3.45	1.20	<0.260	0.166	5.11
FL06-3.0	10/16/2024	3.0FT	0.964	32.5	<0.200	<0.30	0.863	4.70	0.978	<0.260	0.121	4.30
Sep01FL-3.0	10/15/2024	3.0FT	1.37	24.3	<0.200	<0.30	2.23	4.39	2.05	<0.260	<0.0200	8.75
Maximum Root Zone Background Concentration (0 - 3 ft)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
125% Average Root Zone Background Concentration (0 - 3 ft)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Maximum Background Concentration			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
125% Average Background Concentration			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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)

* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed

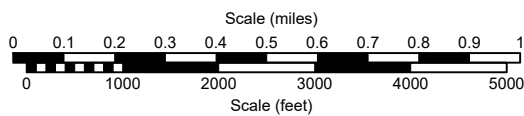
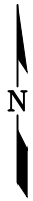
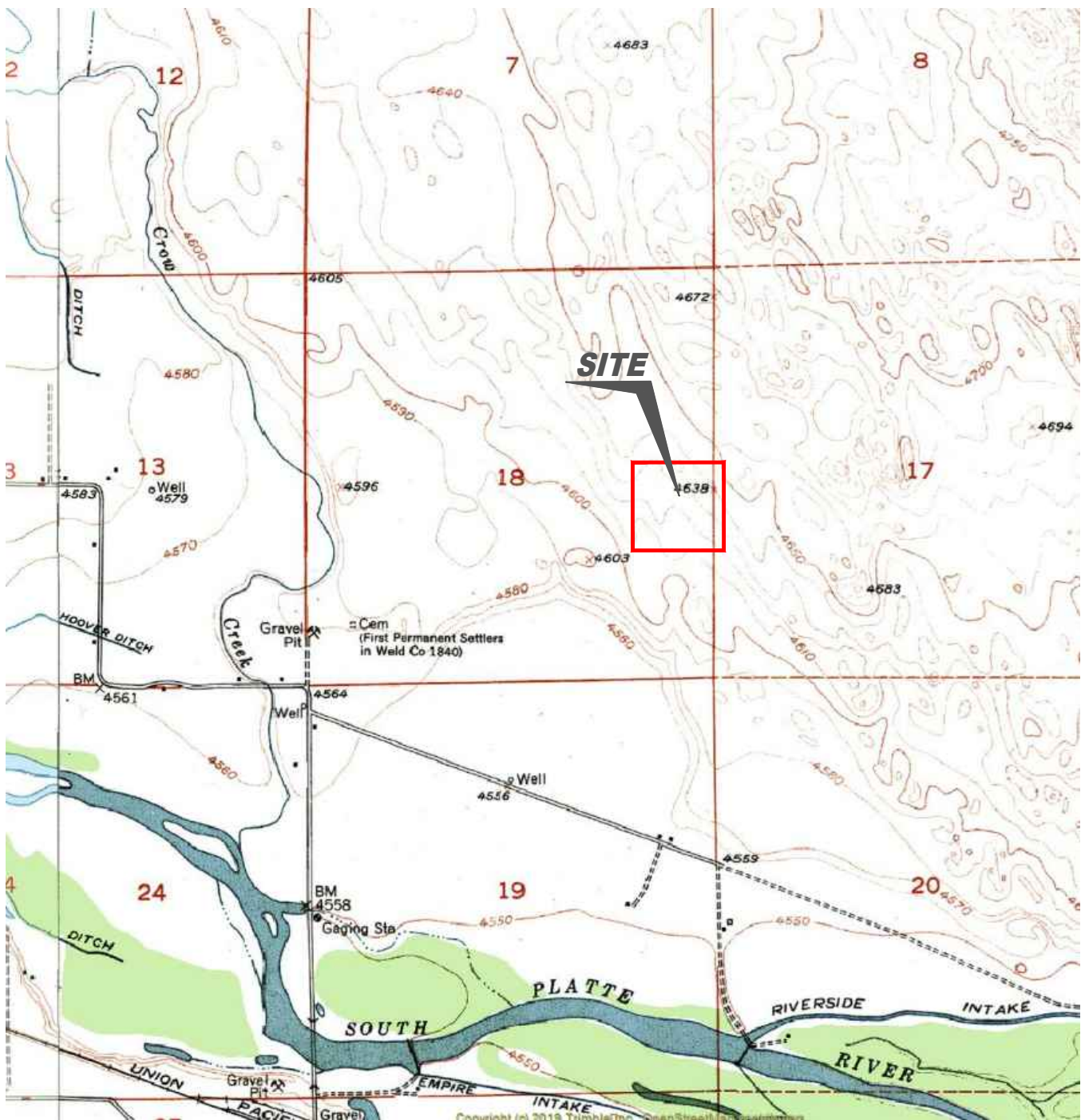
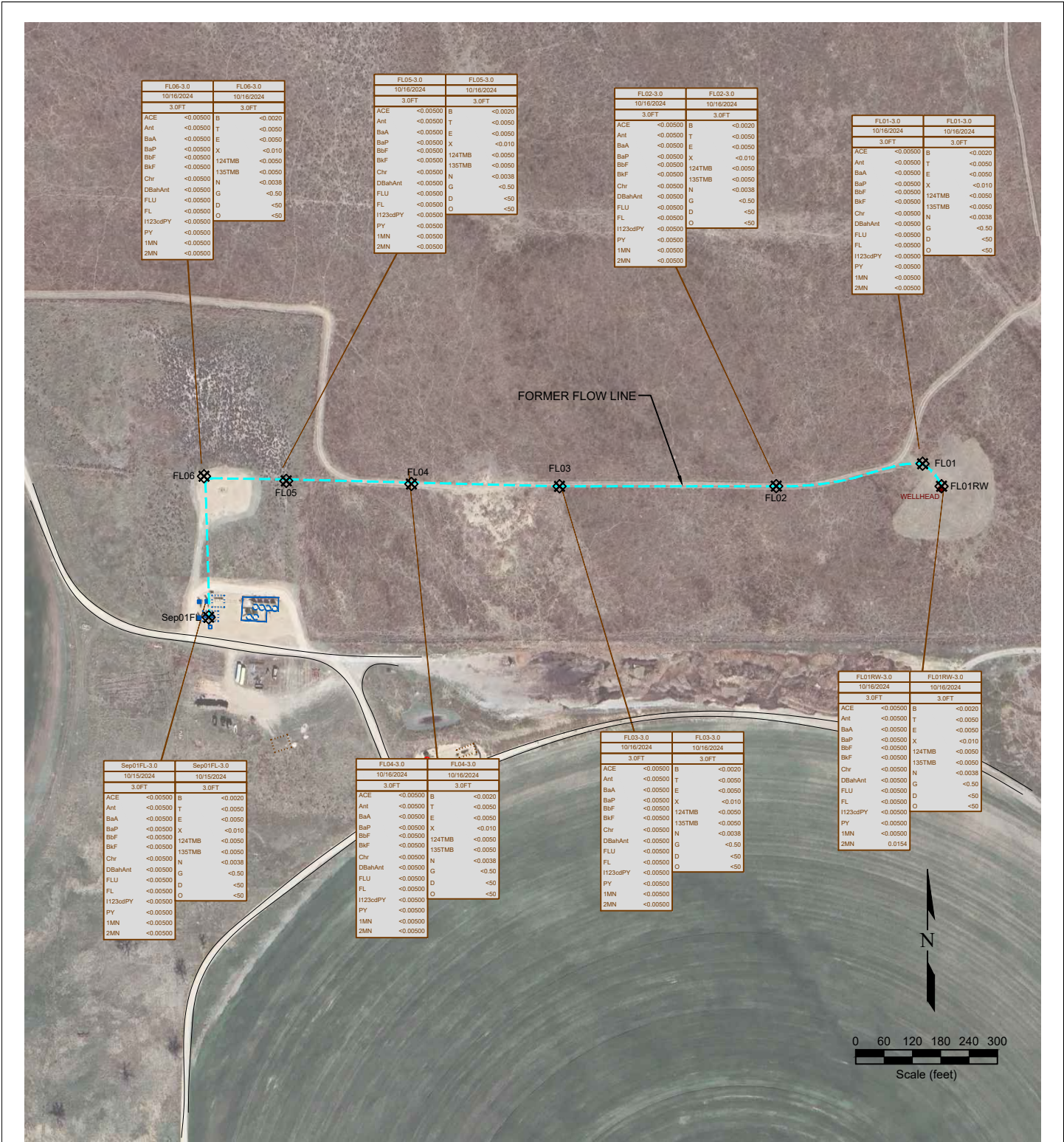


Figure 1
SITE LOCATION MAP

Noble Energy, Inc.
SLW Green State BB 18-09
 NESE Sec. 18, T5N, R63W, 6th PM
 Weld County, Colorado
 40.397159°, -104.473185°

Project # C024-234	API # 05-123-19257	Facility #
Date 2/10/25	Remediation # 36766	Filename 24234T





LEGEND

● WELL HEAD LOCATION

○ ABOVE GROUND STORAGE TANK

⊠ FORMER FACILITY

--- FORMER FLOW LINE

--- FENCE LINE

||||| CONTAINMENT BERM

--- CONTAINMENT WALL

SAMPLE ID	SAMPLE ID	SAMPLE ID	SAMPLE ID		
DATE	DATE	DATE	DATE		
DEPTH	DEPTH (ft)	DEPTH	DEPTH (ft)		
ACE	<0.00500	ACENAPHTHENE (mg/kg)	B	<0.00200	BENZENE (mg/kg)
Ant	<0.00500	ANTHRACENE (mg/kg)	T	<0.00500	TOLUENE (mg/kg)
BaA	<0.00500	BENZO (A) ANTHRACENE (mg/kg)	E	<0.00500	ETHYLBENZENE (mg/kg)
BaP	<0.00500	BENZO (A) PYRENE (mg/kg)	X	<0.010	TOTAL XYLENES (mg/kg)
BbF	<0.00500	BENZO (B) FLUORANTHENE (mg/kg)	124TMB	<0.00500	1,2,4-TRIMETHYLBENZENE (mg/kg)
BbF	<0.00500	BENZO (K) FLUORANTHENE (mg/kg)	135TMB	<0.00500	1,3,5-TRIMETHYLBENZENE (mg/kg)
Chr	<0.00500	CHRYSENE (mg/kg)	N	<0.0038	NAPHTHALENE (mg/kg)
DBahAnt	<0.00500	DIBENZO (A,H) ANTHRACENE (mg/kg)	G	<0.50	TPH-GRO (mg/kg)
FLU	<0.00500	FLUORANTHENE (mg/kg)	D	<0.50	TPH-ORO (mg/kg)
FL	<0.00500	FLUCRENE (mg/kg)	O	<0.50	TPH-CRO (mg/kg)
1123cdPY	<0.00500	INDENO (1,2,3-CD) PYRENE (mg/kg)			
PY	<0.00500	PIRENE (mg/kg)			
1MN	<0.00500	1-METHYLNAPHTHALENE (mg/kg)			
2MN	<0.00500	2-METHYLNAPHTHALENE (mg/kg)			

Figure 3

ORGANIC SOIL CHEMISTRY MAP

Noble Energy, Inc.

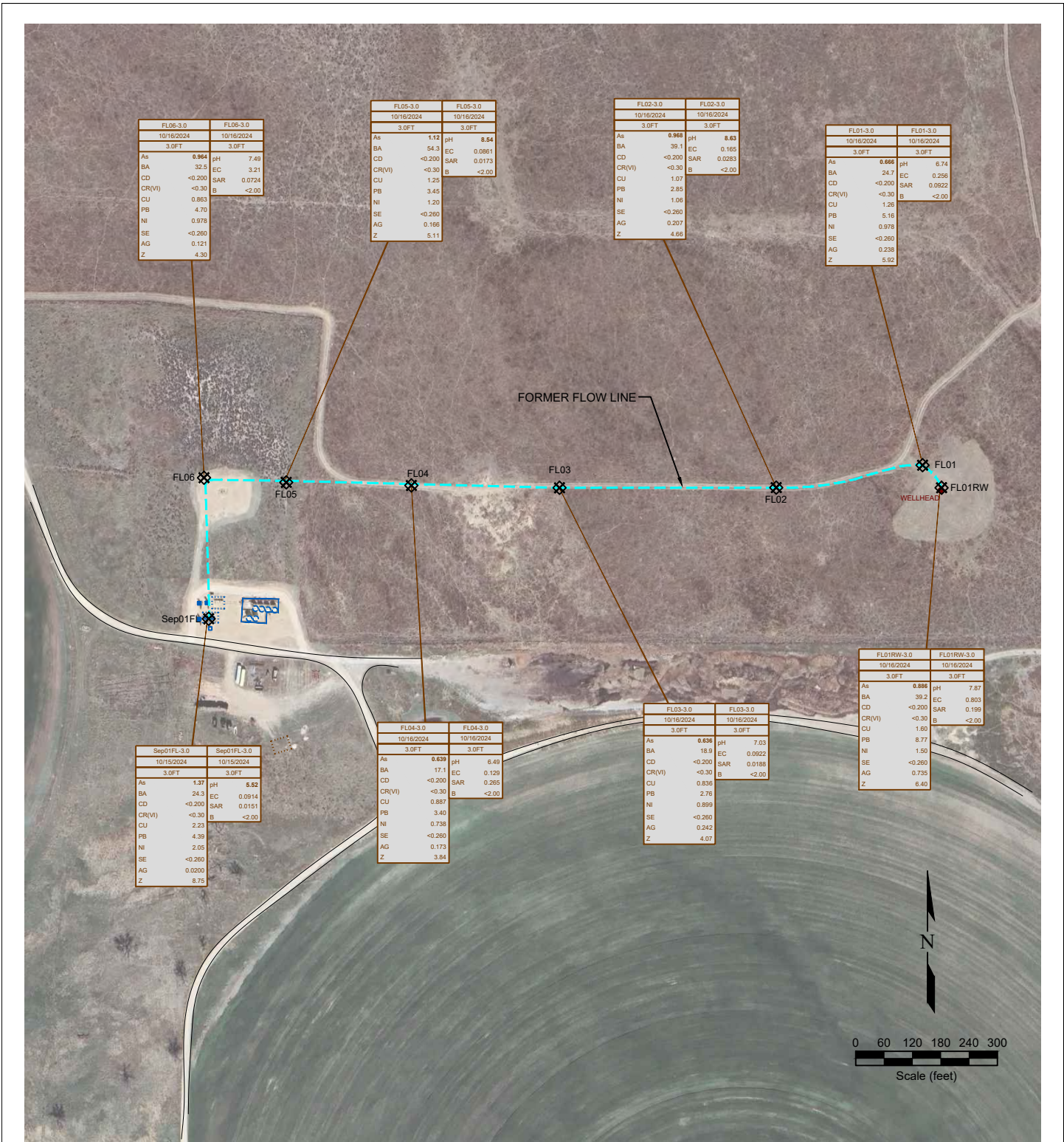
SLW Green State BB 18-09

NESE Sec. 18, T5N, R63W, 6th PM

Weld County, Colorado

40.397159°, -104.473185°

Project No. C024-234	API # 05-123-19257	Facility #
Date 2/10/25	Remediation # 36766	Filename 24234Q



LEGEND

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

SAMPLE DATE	SAMPLE ID	DATE SAMPLED	DEPTH (ft)	SAMPLE DATE	SAMPLE ID	DATE SAMPLED	DEPTH (ft)
	As		<-0.01		pH		<-0.01
	BA		<-0.01		EC		7.00
	CD		<-0.01		SAR		<-1
	CR(VI)		<-0.05		B		<-3
	CU		<-0.01				
	PB		<-0.05				
	NI		<-0.05				
	SE		<-0.5				
	AG		<-0.05				
	Z		<-0.05				

Figure 4
METALS AND INORGANIC SOIL CHEMISTRY MAP

Noble Energy, Inc.
SLW Green State BB 18-09
 NESE Sec. 18, T5N, R63W, 6th PM
 Weld County, Colorado
 40.397159°, -104.473185°

Project No. C024-234	API # 05-123-19257	Facility #	
Date 2/10/25	Remediation # 36766	Filename 24234Q	

Photo Log



Description:

SLW GREEN Vince state BB18-9 flowline. FL01RW-3.0

Photo Log



Description:

FL01

Photo Log



Description:

FL02

Photo Log



Description:

FL03

Photo Log



Description:

FL04

Photo Log



Description:

FL05

Photo Log



Description:

FL06