

FREMONT ENVIRONMENTAL INC.

March 18, 2024

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

Subject: **Flowline Closure Data Submittal**
Wells Ranch AA 35-62-1AHNC
API # 05-123-38670
SWSW Sec. 36, T6N, R63W
Weld County, Colorado
Fremont Project No. C024-042
Facility ID #435570, Remediation #30294

Dear Mr. Peterson:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted Flowline Closure activities for the Noble Energy Inc. (Noble) Wells Ranch AA 35-62-1AHNC. Impacted soil was not encountered during abandonment activities. Details of the Wells Ranch AA 35-62-1AHNC 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 Reports

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

Flowline Closure Checklist

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

Additional Attachments:		Tank Battery Closure		Wellhead Closure		Pit Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number: WELLS RANCH AA35 ECONODE T6N-R63W-S35 L01 Facility ID: 480959		Date: 02/21/2024-02/22/2024		Remediation Project #: 30294				
Associated Wells: API: 05-123-38670 Facility ID: 435570 Wells Ranch AA 35-62-1AHNC		Age of Site: 2014		Number of Photos Attached: 11 Photos				

Starting point: (GPS coordinates and descriptions) 40.437486, -104.394080

End point: (GPS coordinates and descriptions) 40.4426494, -104.3933461

USCS Soil Type: SW Estimated Depth to Groundwater: N/A

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

Flowline type	3" Steel							
Depth	Roughly 3-4ft							
Age	2014							
Length	2,017ft							
Construction Material	GRN FBE Epoxy							
Were flowlines pulled?	Abandoned-in-Place							
Visual Integrity of lines	No Damage							
Visual impacts if trenched	N/A							
PID Readings if trenched	N/A							
Sample taken? Location/Sample ID#	FL01@6.0' FL02@6.0' GL01@7.0' GL02@7.0'							
Photo Number(s)	Photo 1A-1B, 2A-2B, & 3A-3G							

Other observations regarding on location flowlines: GL01@7.0' to GL02@7.0' is a 2" Green FBE epoxy coated steel gas line abandoned-in-place that runs from the wellhead to the on-site pad meter house. An exceedance in pH was discovered at sample locations (FL01@6.0', GL01@7.0' and GL02@7.0') and exceedances in Arsenic were discovered at all sample locations. Furthermore, local background samples collected at similar depths at both the separator and wellhead tie-in sample locations were found with exceeding pH and Arsenic levels as well. Thus, these exceedances should be contributed to native soil conditions. Refer to the inorganic soil chemistry table (Table 3) and metals in soil chemistry table (Table 4) for reference.

Summary

Was impacted soil identified?		No	Yes - less than 10 cubic yards	Yes - more than 10 cubic yards
Total number of samples field screened: 0 Samples		Total number of samples collected: 15 Samples		
Highest PID Reading: High @ 0.0ppm (All Samples)		Total number of samples submitted to lab for analysis: 15 Samples		
If more than 10 cubic yards of impacted soil were observed:				
Vertical extent: N/A		Estimated spill volume: N/A		
Lateral extent: N/A		Volume of soil removed: N/A		
Is additional investigation required? N/A				
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: N/A		Was remedial groundwater removal conducted? Yes No		
Date Groundwater was encountered: N/A		Commencement date of removal: N/A		
Sheen on groundwater? Yes No		Volume of groundwater removed prior to sampling: N/A		
Free product observed? Yes No		Volume of groundwater removed post sampling: N/A		
Total number of samples collected: N/A		Total Volume of groundwater removed: N/A		
Total number of samples submitted to lab for analysis: N/A				

TABLE 1
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
WELLS RANCH AA 35-62-1AHNC, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C024-042

Sample ID	Sample Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4-Trimethyl-Benzene (mg/kg)	1,3,5-Trimethyl-Benzene (mg/kg)	Naphthalene (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500**		
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500**		
FL01@6.0'	2/21/2024	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
GL01@7.0'	2/21/2024	7.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
FL02@6.0'	2/22/2024	6.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
GL02@7.0'	2/21/2024	7.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50

Bold faced values exceed the ECMC Table 915-1 concentrations

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

Green highlighted cells indicate soil removed via excavation

* Indicates laboratory minimum detection limit in excess of SSL

** Summation of GRO+DRO+ORO must be less than 500 mg/kg

NA - Not analyzed

TABLE 2
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
WELLS RANCH AA 35-62-1AHNC, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C024-042

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@6.0'	2/21/2024	6.0 Ft	<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
GL01@7.0'	2/21/2024	7.0 Ft	<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@6.0'	2/22/2024	6.0 Ft	<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
GL02@7.0'	2/21/2024	7.0 Ft	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Bold faced values exceed the ECMC Table 915-1 concentrations

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

* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed

Green highlighted cells indicate soil removed via excavation

TABLE 3
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE ENERGY INC.
WELLS RANCH AA 35-62-1AHNC, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C024-042

Sample ID	Sample Date	Depth (ft)	pH	EC (mmhos/cm)	SAR	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
Max. Background Concentration (or Concentration Range)			8.70	-	-	-
FL01@6.0'	2/21/2024	6.0 Ft	8.35	0.270	0.485	<2.00
GL01@7.0'	2/21/2024	7.0 Ft	8.51	0.207	0.282	<2.00
FL02@6.0'	2/22/2024	6.0 Ft	8.28	0.344	0.505	<2.00
GL02@7.0'	2/21/2024	7.0 Ft	8.56	0.356	1.60	<2.00
BKG01@6.0'	2/21/2024	6.0 Ft	8.69	0.112	0.101	<2.00
BKG01@7.0'	2/21/2024	7.0 Ft	8.53	0.162	0.552	<2.00
BKG02@6.0'	2/21/2024	6.0 Ft	7.96	0.420	0.501	<2.00
BKG02@7.0'	2/21/2024	7.0 Ft	8.23	0.221	0.235	<2.00
BKG03@6.0'	2/22/2024	6.0 Ft	8.17	0.0770	0.0631	<2.00
BKG03@7.0'	2/22/2024	7.0 Ft	8.63	0.111	0.0919	<2.00
BKG04@6.0'	2/22/2024	6.0 Ft	8.70	0.150	0.249	<2.00
BKG04@7.0'	2/22/2024	7.0 Ft	8.62	0.142	0.250	<2.00
BKG05@6.0'	2/22/2024	6.0 Ft	8.12	0.914	0.973	<2.00
BKG06@6.0'	2/22/2024	6.0 Ft	8.46	0.150	0.0882	<2.00
BKG07@6.0'	2/22/2024	6.0 Ft	8.32	0.176	0.263	<2.00

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

Green highlighted cells indicate soil removed via excavation

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

NA - Not analyzed

Local Background Samples (BKG01, BG02, BKG03, BKG04, BKG05, BKG06, BKG07)

TABLE 4
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
WELLS RANCH AA 35-62-1AHNC, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C024-042

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
125% Max. Background Concentration			7.47	-	-	-	-	-	-	-	-	-
FL01@6.0'	2/21/2024	6.0 Ft	3.68	80.6	<0.200	<0.30	3.50	6.82	3.99	<0.260	0.0535	14.0
GL01@7.0'	2/21/2024	7.0 Ft	2.05	78.9	<0.200	<0.30	1.67	4.42	2.04	<0.260	0.0360	9.98
FL02@6.0'	2/22/2024	6.0 Ft	3.23	73.1	<0.200	<0.30	2.54	5.79	3.25	<0.260	0.0465	12.8
GL02@7.0'	2/21/2024	7.0 Ft	3.31	35.6	<0.200	<0.30	2.99	7.27	2.31	<0.260	0.0571	14.9
BKG01@6.0'	2/21/2024	6.0 Ft	4.64	64.8	<0.200	<0.30	2.79	5.33	3.23	<0.260	0.0430	12.0
BKG01@7.0'	2/21/2024	7.0 Ft	5.90	97.9	0.348	<0.30	3.09	6.35	4.04	<0.260	0.0434	13.6
BKG02@6.0'	2/21/2024	6.0 Ft	5.98	98.0	<0.200	<0.30	3.20	8.11	5.07	<0.260	0.0635	15.0
BKG02@7.0'	2/21/2024	7.0 Ft	4.49	74.1	<0.200	<0.30	2.50	5.31	3.18	<0.260	0.0414	11.6
BKG03@6.0'	2/22/2024	6.0 Ft	2.95	36.0	<0.200	<0.30	1.71	3.40	1.92	<0.260	0.0294	7.96
BKG03@7.0'	2/22/2024	7.0 Ft	2.65	68.1	<0.200	<0.30	1.69	3.68	1.78	<0.260	0.0232	7.21
BKG04@6.0'	2/22/2024	6.0 Ft	2.92	83.5	<0.200	<0.30	1.99	8.08	2.92	<0.260	0.0350	9.01
BKG04@7.0'	2/22/2024	7.0 Ft	2.22	34.8	<0.200	<0.30	1.61	2.83	1.85	<0.260	0.0345	7.98
BKG05@6.0'	2/22/2024	6.0 Ft	3.49	44.9	0.285	<0.30	4.84	8.74	5.24	<0.260	0.0607	25.3
BKG06@6.0'	2/22/2024	6.0 Ft	3.34	81.4	<0.200	<0.30	2.75	4.55	3.57	<0.260	0.0433	11.5
BKG07@6.0'	2/22/2024	6.0 Ft	3.72	53.7	<0.200	<0.30	2.80	6.16	3.26	<0.260	0.0491	12.0

Bold faced values exceed the ECMC Table 915-1 concentrations

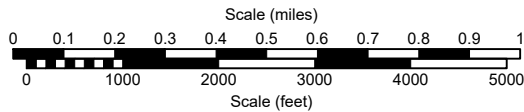
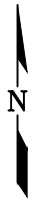
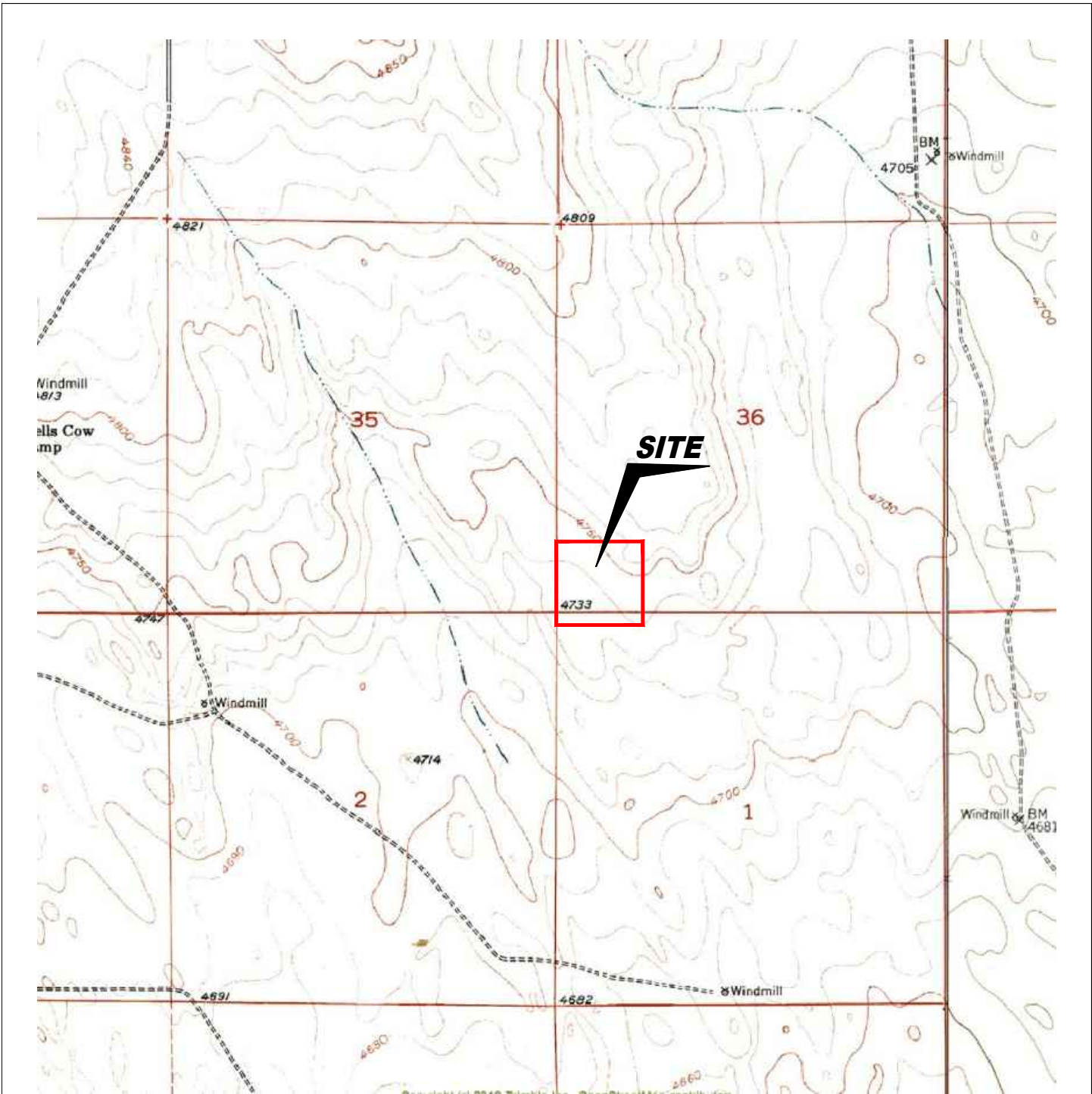
Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

* Indicates laboratory minimum detection limit in excess of SSL

Green highlighted cells indicate soil removed via excavation

NA - Not analyzed

Local Background Samples (BKG01, BG02, BKG03, BKG04, BKG05, BKG06, BKG07)

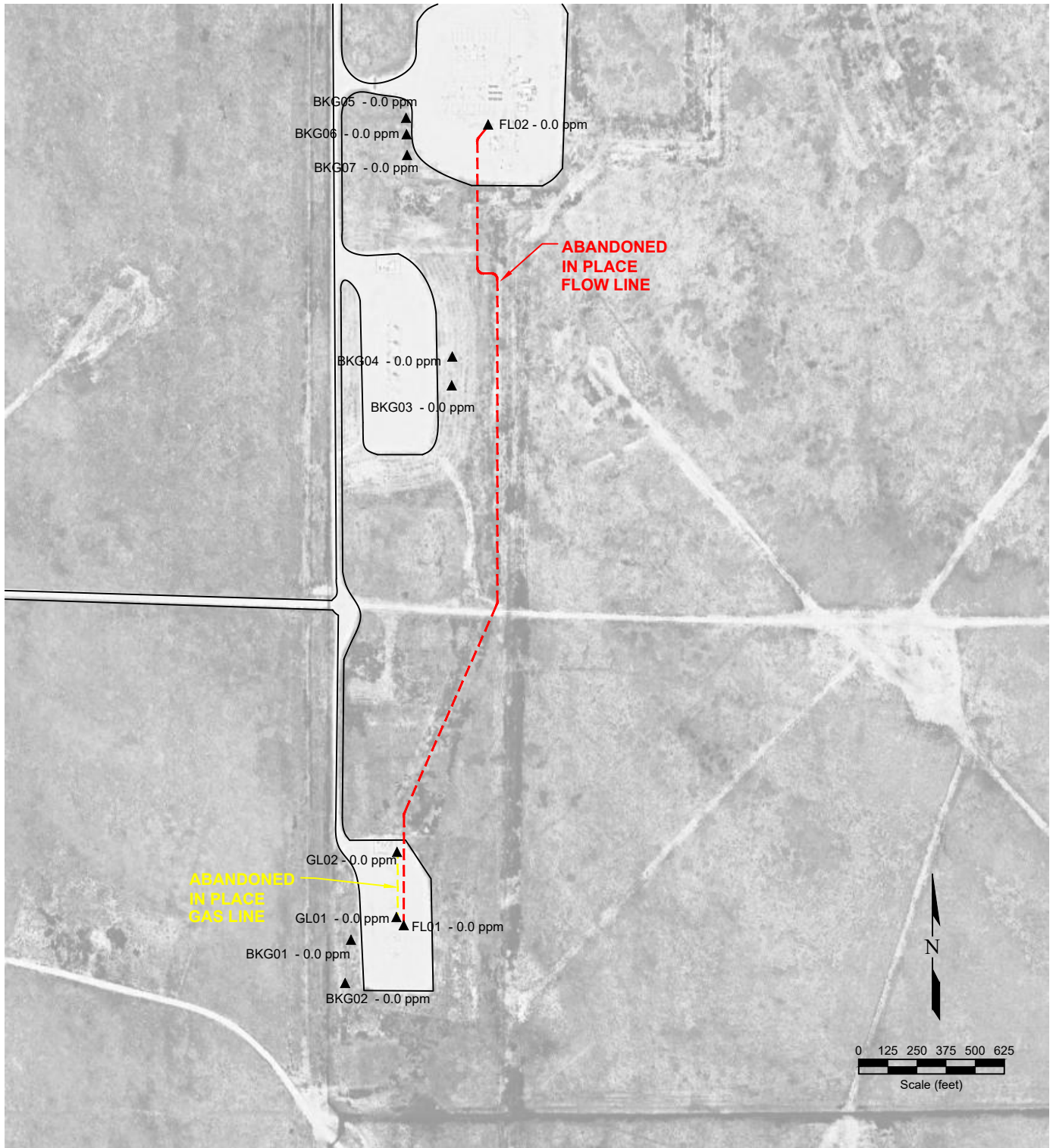


USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP
Noble Energy Inc ~ Wells Ranch AA35-62-1AHNC

SWSW Sec. 36, T6N, R63W, 6th PM
 Weld County, Colorado
 40.437499°, -104.394114°

Project # CO24-042	API # 05-123-38670	Facility #	
Date 8/3/24	Remediation # 30294	Filename 24042T2	



LEGEND

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

Figure 2
SITE MAP

Noble Energy Inc ~ Wells Ranch AA35-62-1AHNC

SWSW Sec. 36, T6N, R63W, 6th PM
Weld County, Colorado
40.437499°, -104.394114°

Project No. CO24-042	API # 05-123-38670	Facility #
Date 8/3/24	Remediation # 30294	Filename 24042Q2



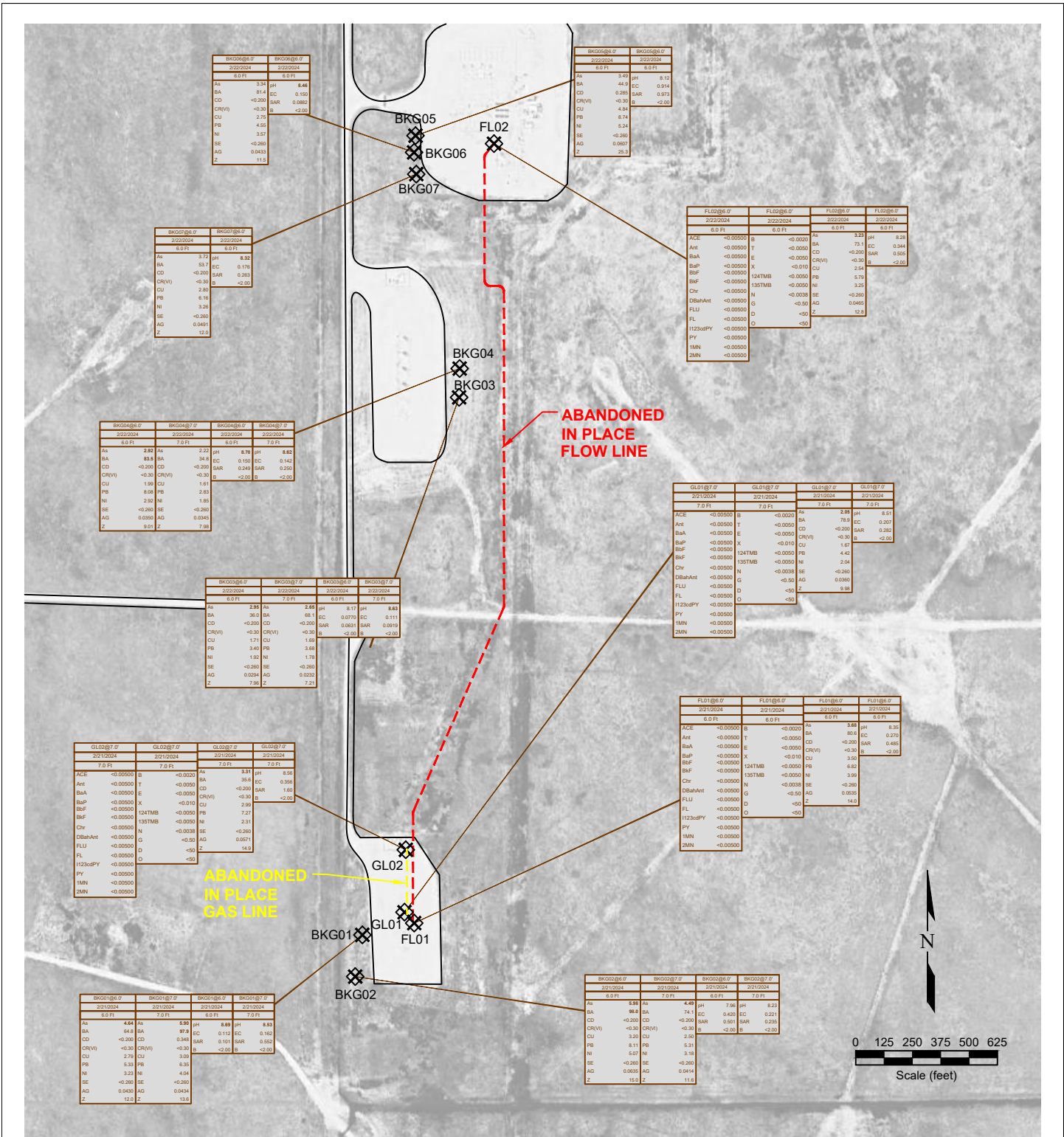


Figure 3
SOIL CHEMISTRY MAP
 Noble Energy Inc ~ Wells Ranch AA35-62-1AHNC

SWSW Sec. 36, T6N, R63W, 6th PM
 Weld County, Colorado
 40.437499°, -104.394114°

Project No. CO24-042	API # 05-123-38670	Facility #
Date 8/3/24	Remediation # 30294	Filename 24042Q2



SAMPLE ID	SAMPLE ID	SAMPLE ID	SAMPLE ID	SAMPLE ID	SAMPLE ID
DATE	DATE	DATE	DATE	DATE	DATE
DEPTH	DEPTH (ft)	DEPTH	DEPTH (ft)	DEPTH	DEPTH (ft)
ACE	<0.0050	ACENAPHTHENE (mg/kg)	BA	88.8	74.1
Ant	<0.0050	ANTHRACENE (mg/kg)	EC	0.420	EC 0.201
BaA	<0.0050	BENZO (A) ANTHRACENE (mg/kg)	EB	0.901	SAR 0.235
BaP	<0.0050	BENZO (A) PYRENE (mg/kg)	FLU	<0.0050	FLUORANTHENE (mg/kg)
BaF	<0.0050	BENZO (B) FLUORANTHENE (mg/kg)	FLU	<0.0050	FLUORANTHENE (mg/kg)
BaP	<0.0050	BENZO (K) FLUORANTHENE (mg/kg)	FLU	<0.0050	FLUORENE (mg/kg)
Chr	<0.0050	CHRYSENE (mg/kg)	FLU	<0.0050	INDENO (1,2,3-CD) PYRENE (mg/kg)
DBahAnt	<0.0050	DBENZO (A,H) ANTHRACENE (mg/kg)	FLU	<0.0050	1-METHYLNAPHTHALENE (mg/kg)
FLU	<0.0050	FLUORANTHENE (mg/kg)	FLU	<0.0050	2-METHYLNAPHTHALENE (mg/kg)
FLU	<0.0050	FLUORENE (mg/kg)	FLU	<0.0050	
1123cdPY	<0.0050		FLU	<0.0050	
PY	<0.0050		FLU	<0.0050	
1MN	<0.0050		FLU	<0.0050	
2MN	<0.0050		FLU	<0.0050	

Photo Log



Description:

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