

September 25, 2024

Noble Energy, Inc – Frenzel B 15-25

Groundwater Monitoring Report

NWSW Sec. 15, T5N, R64W

40.395921, -104.540858

Weld County, Colorado

Fremont Project No. C022-196

Facility # 285641, Remediation #24600

Site Overview – Site History

The site consists of the former Frenzel B 15-25 Flowline. A historical release was identified at the flowline during decommissioning activities on October 21, 2022. A comprehensive site investigation was undertaken to define the magnitude and extent of soil impacts. Soil impacts will be removed via excavation at and adjacent to the former flowline location. The proposed dimensions of the excavation extent are estimated to be 25'x25'x3' deep. Groundwater was encountered during the site investigation.

Conceptual Site Model*

*Data presented represents the most recent sampling event

- **Land Use** – Agricultural (Crop)
- **Soil Type (USCS)** – SW
- **Potential Receptors within ¼ mile** – Flowline is located in a Freshwater Emergent Wetland
- **Inferred Groundwater Gradient (Ft/Ft) and Flow Direction** – 0.04 (ft/ft) to the NE
- **Average Depth to Groundwater** – 3.18 feet
- **Impacted Media and Extent** – Groundwater, soil
- **LNAPL Present** – No
- **Points of Compliance** – Yes, in all cardinal and ordinal directions
- **Number of Consecutive ECMC Compliant Quarters** – three
- **Remediation Type** – MNA
- **Remediation System Operation Date(s)** – NA

Contaminants of Concern (COC)

The laboratory data indicates that the dissolved phase organic constituents were below their respective ECMC Table 915-1 standards in all six wells sampled during the August 2024 quarterly monitoring event. A copy of the laboratory's report, quality control data, and chain-of-custody documentation is attached.

Remedial Actions

Monitored natural attenuation (MNA) will be implemented at the site to address dissolved phase groundwater impacts. A no further action designation will be requested from the ECMC following observation of four consecutive quarters of groundwater compliant with the applicable ECMC Table 915-1 standards, under static conditions, at the site. The Q3 2024 sampling event marks the third consecutive quarter of ECMC-compliant groundwater at the site.

Remarks

The discussion and conclusions contained in this report represent our professional opinions. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

Please contact me at (813) 514-7730 if you require any additional information.

Fremont appreciates the opportunity to provide this service.

This report was prepared by **FREMONT ENVIRONMENTAL INC.**




9/25/2024

Date_____

Joshua J. Belanger

Consultant

Reviewed by:



9/25/2024

Date_____

Ethan D. Black, P.G.

Geologist

Attachments:

Tables

Figures

Laboratory Report

TABLE 1
SUMMARY OF GROUNDWATER ELEVATION DATA AND ORGANIC CHEMISTRY DATA
NOBLE 100322
FRENZEL B 15-25, WELD COUNTY, COLORADO
REM # 24600

Sample ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4- Trimethyl- Benzene (µg/L)	1,3,5- Trimethyl- Benzene (µg/L)	TOC Elevation (ft)	Depth to Groundwater Below TOC (ft)	Depth to Groundwater Below Ground Surface (ft)	Groundwater Elevation (ft)	LNAPL Thickness (ft)
ECMC Table 915-1 Limits		5.0	560	700	1400	140	67	67					
MW1	1/4/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	6.76	2.15	NA	4.61	NP
	5/21/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		2.39	NA	4.37	NP
	8/22/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		3.09	NA	3.67	NP
MW2	1/4/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	6.56	2.31	NA	4.25	NP
	5/21/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		2.55	NA	4.01	NP
	8/22/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		3.26	NA	3.30	NP
MW3	1/4/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	6.87	2.06	NA	4.81	NP
	5/21/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		2.32	NA	4.55	NP
	8/22/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		3.00	NA	3.87	NP
MW4	1/4/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	6.45	2.01	NA	4.44	NP
	5/21/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		2.26	NA	4.19	NP
	8/22/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		2.95	NA	3.50	NP
MW5	1/4/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	6.33	2.47	NA	3.86	NP
	5/21/2024	<1.0	<1.0	<1.0	<2.0	<1.1	<1.0	<1.0		2.70	NA	3.63	NP
	8/22/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		3.42	NA	2.91	NP
MW6	1/4/2024	<1.0	<1.0	<1.0	<2.0	<1.2	<1.0	<1.0	6.59	2.42	NA	4.17	NP
	5/21/2024	<1.0	<1.0	<1.0	<2.0	<1.3	<1.0	<1.0		2.65	NA	3.94	NP
	8/22/2024	<1.0	<1.0	<1.0	<2.0	<1.3	<1.0	<1.0		3.37	NA	3.22	NP

1. Bold values exceed the ECMC limit(s)

2. Red highlighted groundwater analytical values indicate a regulatory exceedance

NP - No measurable LNAPL, NA - Not Analyzed, INA - Inaccessible, IW - Insufficient Water, DES - Destroyed

TABLE 2
SUMMARY OF INORGANIC GROUNDWATER CHEMISTRY DATA
NOBLE 100322
FRENZEL B 15-25, WELD COUNTY, COLORADO
REM # 24600

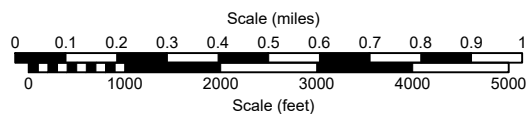
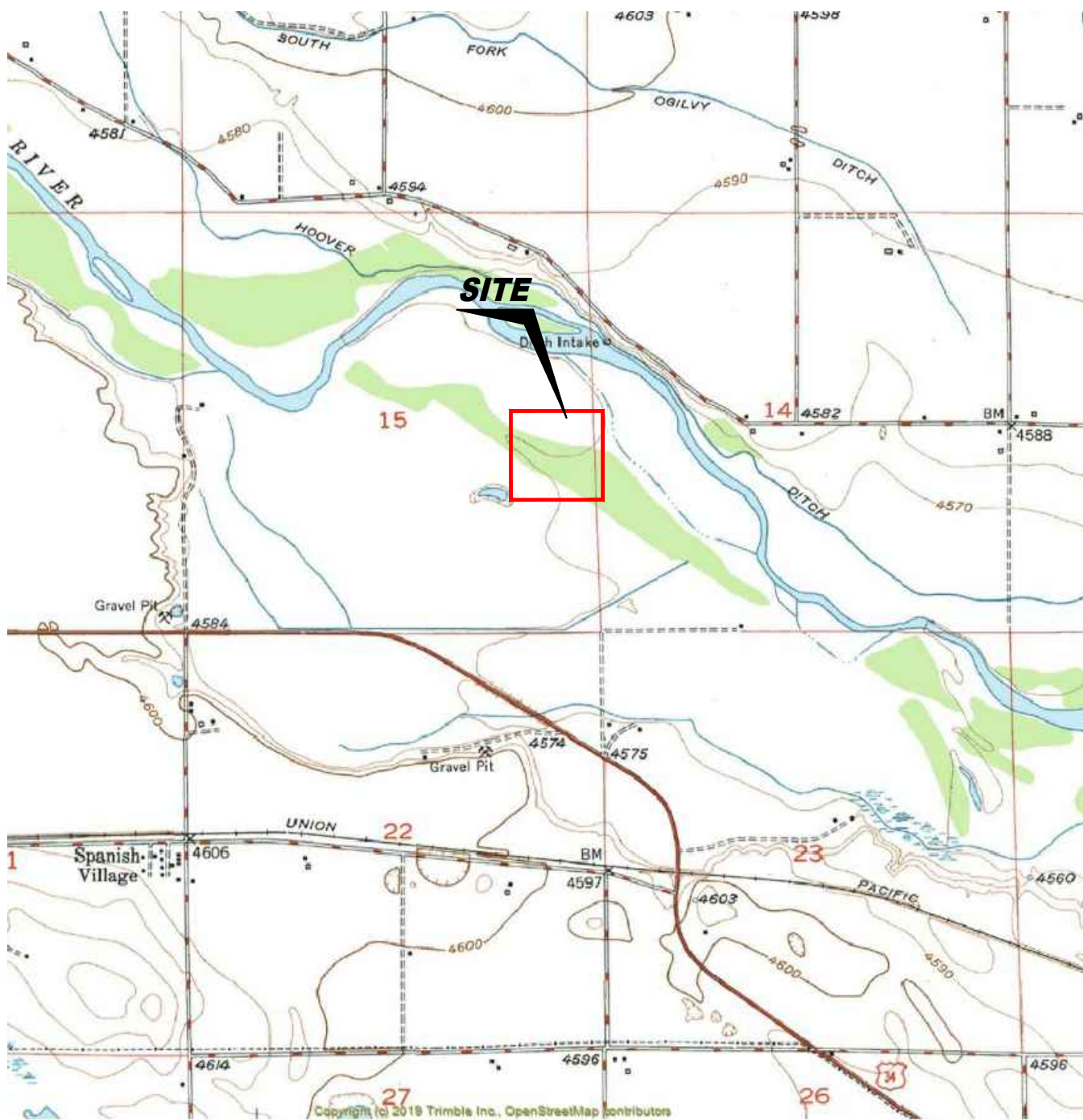
Sample ID	Sample Date	Total Dissolved Solids (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)
ECMC Table 915-1 Limits		<1.25 x local background	250 or <1.25 x local background	250 or <1.25 x local background
MW1	1/4/2024	931	162	419
	5/21/2024	994	199	719
	8/22/2024	816	114	308
MW2	1/4/2024	923	154	374
	5/21/2024	878	175	695
	8/22/2024	820	120	317
MW3	1/4/2024	899	152	371
	5/21/2024	829	199	646
	8/22/2024	795	111	301
MW4	1/4/2024	861	142	338
	5/21/2024	794	144	603
	8/22/2024	792	118	314
MW5	1/4/2024	1160	210	509
	5/21/2024	874	160	618
	8/22/2024	800	120	315
MW6	1/4/2024	1080	179	493
	5/21/2024	872	141	662
	8/22/2024	873	125	337
Background Concentration (Current)		994	-	376

1. Bold values exceed the ECMC limit(s)

2. Blue highlighted groundwater analytical values indicate a regulatory exceedance

NP - No measurable LNAPL, NA - Not Analyzed, INA - Inaccessible, IW - Insufficient Water, DES - Destroyed

MW-3 was chosen as the upgradient/cross gradient background well.



USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1

SITE LOCATION MAP

NOBLE ENERGY, INC. ~ FRENZEL B15-25
 NWSW Sec. 15, T5N, R64W, 6th PM
 Weld County, Colorado
 40.395921 °, -104.540770°

Project # C022-196	API # 05-123-24009	Facility # 285641
Date 9/26/24	Remediation # 24600	Filename 22196T






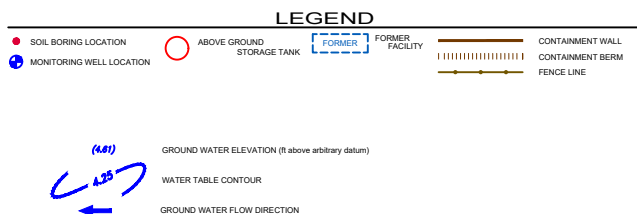
LEGEND

- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- CONTAINMENT WALL
- CONTAINMENT BERM
- FENCE LINE


**Figure 2
SITE MAP**

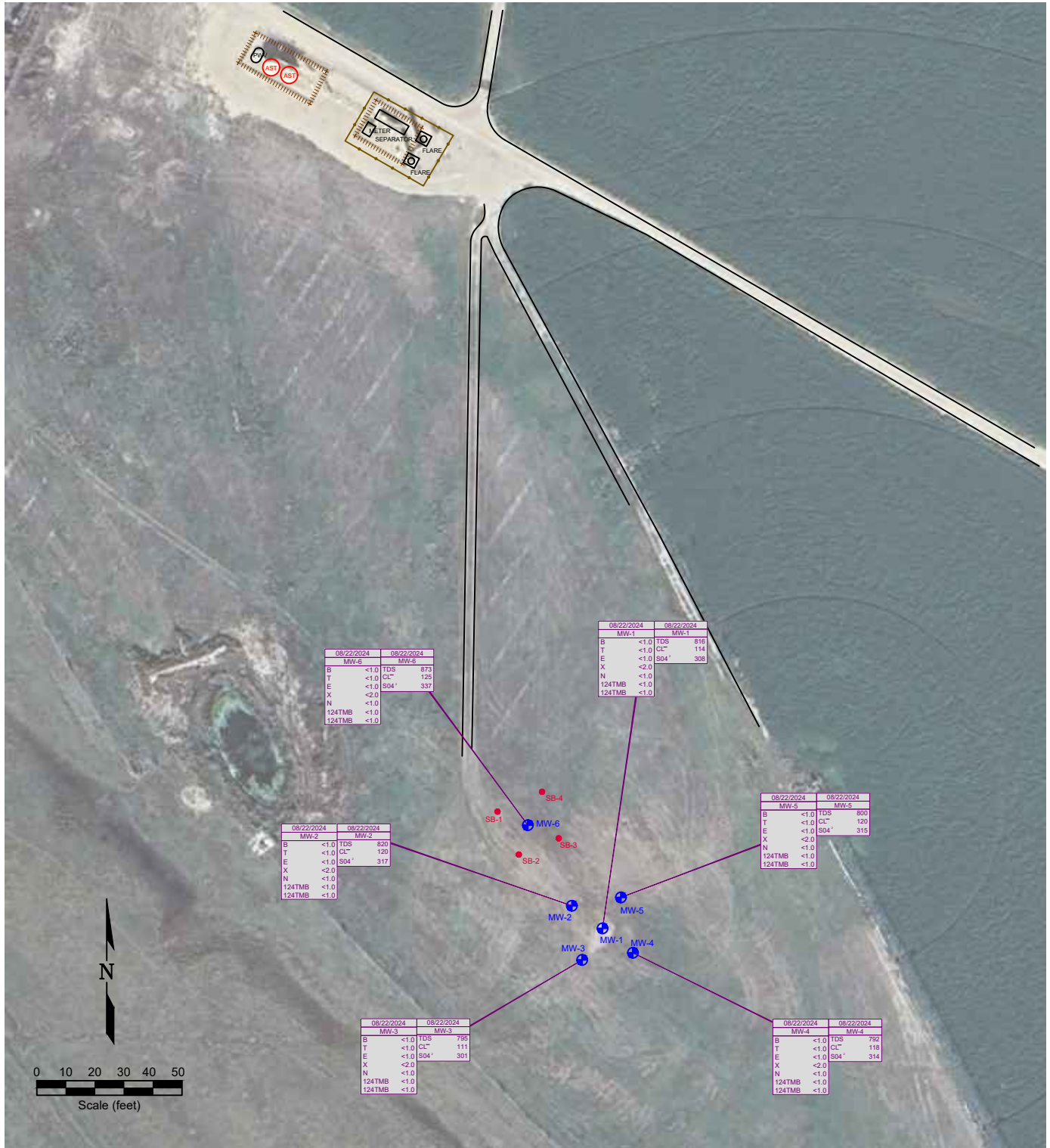
NOBLE ENERGY, INC. ~ FRENZEL B 15-25
 NWSW Sec.15, T5N, R64W, 6th PM
 Weld County, Colorado
 40.395921 ° , -104.540770°

Project No. C022-196	Facility # 05-123-24009	Drawn By 285641	
Date 10/1/24	Reviewed By 24600	Filename 22196Q	



NOBLE ENERGY, INC. ~ FRENZEL B 15-25
NWSW Sec.15, T5N, R64W, 6th PM
Weld County, Colorado
40.395921 °, -104.540770°

Project No. C022-196	Facility # 05-123-24009	Drawn By 285641	
Date 11/6/24	Reviewed By 24600	Filename 22196Q	



LEGEND

- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- CONTAINMENT WALL
- CONTAINMENT BERM
- FENCE LINE

08/22/2024	DATE SAMPLED	08/22/2024	DATE SAMPLED
MW-1	SAMPLE ID	MW-1	SAMPLE ID
B	BENZENE (ug/L)	TDS	TOTAL DISSOLVED SOLIDS (mg/L)
T	TOLUENE (ug/L)	CL ⁻	CHLORIDE ION (mg/L)
E	ETHYLBENZENE (ug/L)	S04 ⁻	SULFATE ION (mg/L)
X	TOTAL XYLENES (ug/L)		
N	NAPHTHALENE (ug/L)		
124TMB	1,2,4-TRIMETHYLBENZENE (ug/L)		
124TMB	1,3,5-TRIMETHYLBENZENE (ug/L)		

Figure 4

GROUNDWATER CHEMISTRY MAP August 22, 2024

NOBLE ENERGY, INC. ~ FRENZEL B 15-25
NWSW Sec.15, T5N, R64W, 6th PM
Weld County, Colorado
40.395921 ° , -104.540770°

Project No. C022-196	Facility # 05-123-24009	Drawn By 285641	REMONTE ENVIRONMENTAL
Date 10/1/24	Reviewed By 24600	Filename 22196Q	