

FREMONT ENVIRONMENTAL INC.

November 8, 2024

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

Subject: **Facility Closure Data Submittal**
 HOWARD USX A-66N64W 9SWSW Facility
 SWSW Sec. 9, T6N, R64W
 Weld County, Colorado
 Fremont Project No. C024-056
 Facility # 306348, Remediation # 32343

Dear Mr. Peterson:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted facility closure activities for the Noble Energy Inc. (Noble) HOWARD USX A-66N64W Facility. Impacted soil was not encountered during abandonment activities. Details of the HOWARD USX A-66N64W Facility closure activities are documented in the attached Closure Report. Groundwater was not encountered during facility abandonment activities.

Please contact me at (336) 541-3048 if you require any additional information. Fremont appreciates the opportunity to provide this service.

Sincerely,

FREMONT ENVIRONMENTAL INC.



Aaron Otilar
Consultant

Attachments:

- Facility Closure Checklist
- Tables
- Figures
- Photos
- Laboratory Report

<i>Third Party Removal Date</i>									
<i>Sample taken? Location/ Sample</i>									
<i>PID Readings</i>									
<i>Photo Number(s)</i>									

Other Facility Equipment

<i>Equipment type</i>					
<i>Equipment Condition Age</i>					
<i>Soil impacts</i>					
<i>PID Readings</i>					
<i>Sample taken? Location/ Sample</i>					
<i>Photo Number(s)</i>					

Other observations regarding other facility or third party equipment:

Summary

<i>Was impacted soil identified?</i>	
No	Yes - less than 10 cubic yards
Yes - more than 10 cubic yards	
<i>Total number of samples field screened:</i>	<i>Total number of samples collected:</i>
<i>Highest PID Reading:</i>	<i>Total number of samples submitted to lab for analysis:</i>
<i>If more than 10 cubic yards of impacted soil were observed:</i>	
<i>Vertical extent:</i>	<i>Estimated spill volume:</i>
<i>Lateral extent:</i>	<i>Volume of soil removed:</i>
<i>Is additional investigation required?</i>	
<i>Was groundwater encountered during the investigation?</i>	
No	Yes - not impacted or in contact with impacted soils
Yes - groundwater impacted and/or in contact with impacted soils	
<i>Measured depth to groundwater:</i>	<i>Was remedial groundwater removal conducted? Yes No</i>
<i>Date Groundwater was encountered:</i>	<i>Commencement date of removal:</i>
<i>Sheen on groundwater? Yes No</i>	<i>Volume of groundwater removed prior to sampling:</i>
<i>Free product observed? Yes No</i>	<i>Volume of groundwater removed post sampling:</i>
<i>Total number of samples collected:</i>	<i>Total Volume of groundwater removed:</i>
<i>Total number of samples submitted to lab for analysis:</i>	

Buried or Partially Buried Vessel Closure Checklist

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

Additional attachments (optional):		Pit Closure		Wellhead Closure		Flowline Closure		Tank Battery Closure	
Site Name & COGCC Facility Number:		Date:						Remediation Project #:	
Associated Wells:		Age of Site:						Number of Photos Attached:	
Location: (GPS coordinates of vault or southeastern tank berm for multiple)							Estimated Facility Size (acres):		
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)									
USCS Soil Type:				Estimated Depth to Groundwater:					
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)									
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)									
Buried or Partially Buried Vessels									
Tank Contents									
Size (barrels)									
Age									
Construction Material									
Visual Integrity of Tank									
Condition of tank Foundation									
PID Readings									
Condition of Jumps Lines									
PID Readings									
Sample taken? Location/Sample ID#									
Photo Number(s)									
Other observations regarding partially buried vessels:									
Summary									
Was impacted soil identified?									
No			Yes - less than 10 cubic yards			Yes - more than 10 cubic yards			
Total number of samples field screened:				Total number of samples collected:					
Highest PID Reading:				Total number of samples submitted to lab for analysis:					
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?									
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
HOWARD USX A-66N64W 9SWSW FACILITY, WELD COUNTY, COLORADO
REM # 32343

Sample ID	Sample Date	Depth	GPS Data		PDOP Value	VOC Concentration (ppm)
			Latitude	Longitude		
AST01@0.5'	03/07/2024	0.5'	-104.5641370	40.4962559	1.00	6.5
PWV01-B@5'	03/07/2024	5'	-104.5641518	40.4962139	1.00	3.5
PWV01-E@2'	03/07/2024	2'	-104.5641288	40.4962068	1.00	4.2
SEP01-DL@2'	03/07/2024	2'	-104.5641850	40.4960646	0.90	6.2
BKG01@0.5'	03/07/2024	0.5'	-104.5640791	40.4959272	-	1.2
BKG01@2'	03/07/2024	2'	-104.5640791	40.4959272	-	1.3
BKG01@5'	03/07/2024	5'	-104.5640791	40.4959272	-	1.1
BKG02@0.5'	03/07/2024	0.5'	-104.5640201	40.4961924	-	1.4
BKG02@2'	03/07/2024	2'	-104.5640201	40.4961924	-	1.2
BKG02@5'	03/07/2024	5'	-104.5640201	40.4961924	-	1.1
BKG03@0.5'	03/07/2024	0.5'	-104.5637465	40.4953561	-	1.1
BKG03@2'	03/07/2024	2'	-104.5637465	40.4953561	-	1.0
BKG03@5'	03/07/2024	5'	-104.5637465	40.4953561	-	0.9

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

 = Source material characterization sample, excavated and transported off site for disposal.

 = Material excavated and transported off site for disposal.

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE 100322
HOWARD USX A-66N64W 9SWSW FACILITY, WELD COUNTY, COLORADO
REM # 32343

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**		
AST01@0.5'	03/07/2024	0.5'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
PWV01-B@5'	03/07/2024	5'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
PWV01-E@2'	03/07/2024	2'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
SEP01-DL@2'	03/07/2024	2'	<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

= Source material characterization sample, excavated and transported off site for disposal.

= Material excavated and transported off site for disposal.

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE 100322
HOWARD USX A-66N64W 95WSW FACILITY, WELD COUNTY, COLORADO
REM # 32343

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
AST01@0.5'	03/07/2024	0.5'	<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
PWV01-B@5'	03/07/2024	5'	<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
PWV01-E@2'	03/07/2024	2'	<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-DL@2'	03/07/2024	2'	<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

= Source material characterization sample, excavated and transported off site for disposal.

= Material excavated and transported off site for disposal.

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE 100322
HOWARD USX A-66N64W 9SWSW FACILITY, WELD COUNTY, COLORADO
REM # 32343

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
AST01@0.5'	03/07/2024	0.5'	7.98	0.222	0.128	<2.00
PWV01-B@5'	03/07/2024	5'	8.50	0.153	0.243	<2.00
PWV01-E@2'	03/07/2024	2'	8.10	0.780	0.516	<2.00
SEP01-DL@2'	03/07/2024	2'	8.08	0.348	0.197	<2.00
BKG01@0.5'	03/07/2024	0.5'	7.82	1.050	1.86	<2.00
BKG01@2'	03/07/2024	2'	8.39	0.475	2.28	<2.00
BKG01@5'	03/07/2024	5'	8.31	0.919	1.43	<2.00
BKG02@0.5'	03/07/2024	0.5'	7.88	0.780	1.32	<2.00
BKG02@2'	03/07/2024	2'	8.43	0.447	2.28	<2.00
BKG02@5'	03/07/2024	5'	8.39	0.664	1.45	<2.00
BKG03@0.5'	03/07/2024	0.5'	8.26	0.562	0.764	<2.00
BKG03@2'	03/07/2024	2'	8.36	0.456	2.21	<2.00
BKG03@5'	03/07/2024	5'	8.38	0.245	1.35	<2.00
Maximum Root Background Concentration (0 - 3 ft)			8.43	1.050	2.28	NA
Average Root Background Concentration (0 - 3 ft)			8.19	0.628	1.79	NA
Maximum Background Concentration			8.43	1.050	2.28	NA
Average Background Concentration			8.25	0.622	1.66	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

= Source material characterization sample, excavated and transported off site for disposal.

= Material excavated and transported off site for disposal.

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE 100322
HOWARD USX A-66N64W 9SWSW FACILITY, WELD COUNTY, COLORADO
REM # 32343

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
AST01@0.5'	03/07/2024	0.5'	1.32	19.9	<0.200	<0.30	3.05	3.01	2.28	<0.260	<0.0200	8.36
PWV01-B@5'	03/07/2024	5'	3.71	109	0.258	<0.30	19.50	20.40	5.30	<0.260	0.0555	83.2
PWV01-E@2'	03/07/2024	2'	4.67	122	0.295	<0.30	10.20	13.70	5.95	<0.260	0.0556	33.8
SEP01-DL@2'	03/07/2024	2'	4.38	84.7	0.457	<0.30	5.46	7.19	8.43	<0.260	0.0333	21.5
BKG01@0.5'	03/07/2024	0.5'	4.16	53.5	<0.200	<0.30	11.7	6.05	4.33	<0.260	0.0305	25.7
BKG01@2'	03/07/2024	2'	7.23	21.9	<0.200	<0.30	4.19	5.55	4.28	<0.260	0.0240	22.6
BKG01@5'	03/07/2024	5'	2.06	51.6	0.225	<0.30	4.35	7.00	4.90	<0.260	0.0258	24.3
BKG02@0.5'	03/07/2024	0.5'	6.64	94.3	0.396	<0.30	18.6	12.0	7.36	0.295	0.0626	38.2
BKG02@2'	03/07/2024	2'	11.80	40.7	0.333	<0.30	5.85	10.8	5.54	<0.260	0.0492	26.9
BKG02@5'	03/07/2024	5'	2.00	36.2	<0.200	<0.30	3.84	6.0	4.54	<0.260	0.0348	23.7
BKG03@0.5'	03/07/2024	0.5'	3.29	44.4	<0.200	<0.30	12.0	5.76	4.52	<0.260	0.0345	25.2
BKG03@2'	03/07/2024	2'	10.30	29.5	0.232	<0.30	4.85	9.73	4.87	<0.260	0.0449	26.5
BKG03@5'	03/07/2024	5'	2.06	28.9	<0.200	<0.30	4.22	6.05	4.24	<0.260	0.0289	24.7
Maximum Root Zone Background Concentration (0 - 3 ft)			11.80	94.3	0.396	NA	18.6	12.00	7.36	0.295	0.0626	38.2
125% Average Root Zone Background Concentration (0 - 3 ft)			9.05	59.2	0.400	NA	11.91	10.39	6.44	0.369	0.0512	34.4
Maximum Background Concentration			11.80	94.3	0.396	NA	18.6	12.00	7.36	0.295	0.0626	38.2
125% Average Background Concentration			6.88	55.7	0.371	NA	9.67	9.58	6.19	0.369	0.0466	33.0

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

= Source material characterization sample, excavated and transported off site for disposal.

= Material excavated and transported off site for disposal.

Howard USX A-66N64W 9SWSW Facility

Sample Date: 03/07/2024

Legal Description: SWSW Sec.9 T6N R64W M6


Lat/Long: 40.496024,-104.564194


Facility# 306348

Remediation Project #:32343

Fremont Project Number:C024-056

Legend

 Excavation Extent

 Soil Sample Location



AST01@0.5'
PWV-N@2'
PWV-W@2' PWV-B@5'
PWV-E@2'
PWV-S@2'

BKG02

SEP-DL@2'

FL05@2'

ECD01

BKG01



Photo Log



Description:

#1 HOWARD USX A-66N64W 9SWSW - ECD

Photo Log



Description:

#2 HOWARD USX A-66N64W 9SWSW - Separator Excavation



Description:

#3 HOWARD USX A-66N64W 9SWSW - Produced Water Vault Excavation

Photo Log



Description:

#4 HOWARD USX A-66N64W 9SWSW - Produced Water Vault Excavation and AST to NE