



Facility Closure Investigation and Environmental Summary

Ocoma C17-15 Wellhead

ECMC Remediation Project # 34772

Weld County, Colorado

Attachments:

Figure 1 – General Location Map

Figure 2 – Wellhead Soil Sample and Field Screening Locations

Table 1 – Soil Sample and Field Screening Location Information

Table 2 – Soil Analytical Results Summary Table – Volatile Organics

Table 3 – Soil Analytical Results Summary Table – PAHs

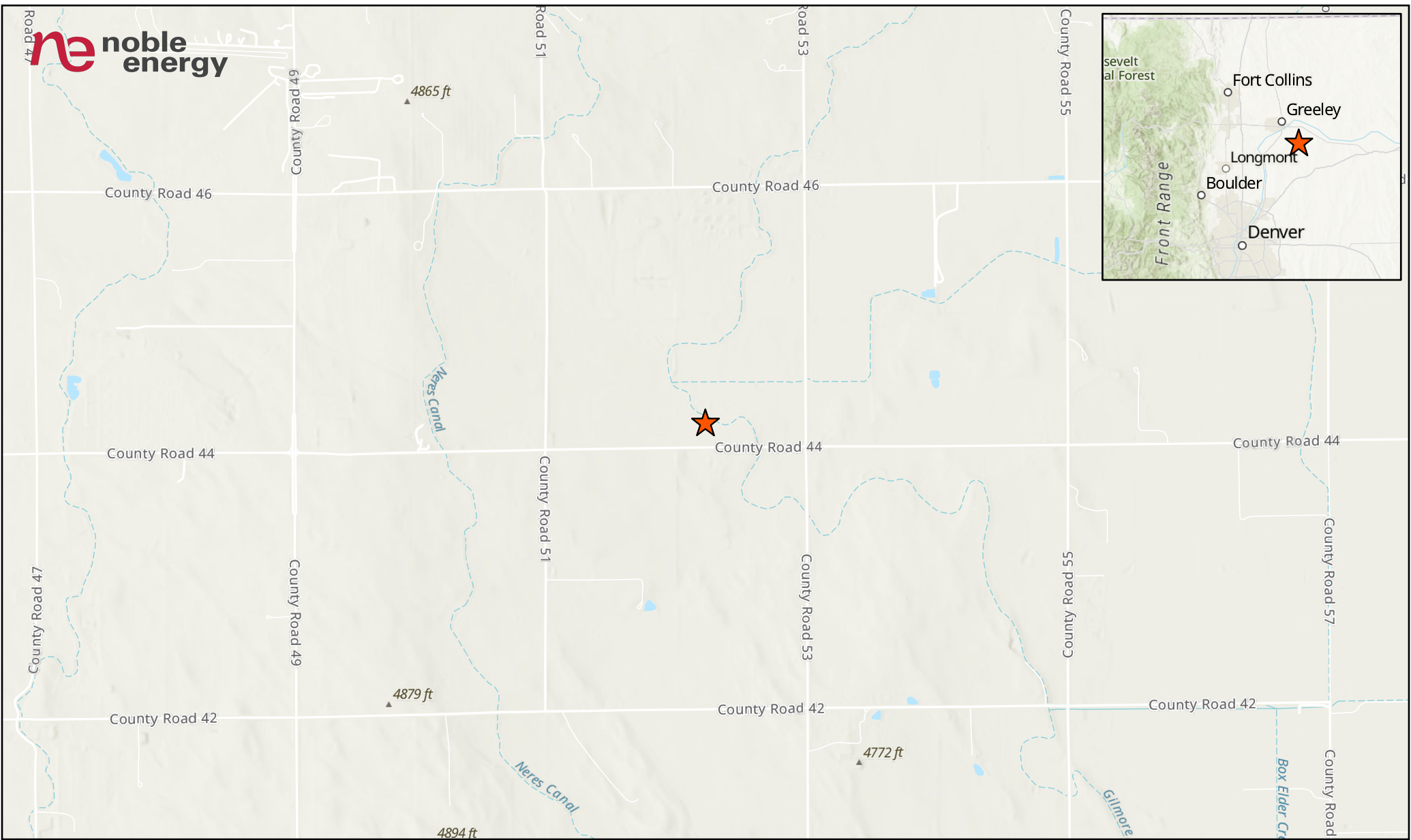
Table 4 – Soil Analytical Results Summary Table – Soil Suitability

Table 5 – Soil Analytical Results Summary Table – Metals

Attachment A: Photographic Log

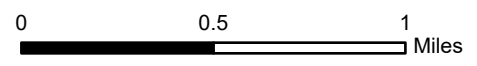
Attachment B: Facility Closure Checklists

FIGURES

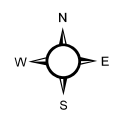


LEGEND

 Site Location



1 inch = 0.5 Mile



Project No:	024-225
Map By:	JW
Date:	06/28/2024

**OCOMA C17-15 WELLHEAD
GENERAL LOCATION MAP**
NOBLE ENERGY
SW 1/4 SE 1/4 SECTION 17
T4N R64W, 6TH PM
WELD COUNTY, COLORADO



1843 Sunlight Dr.
Longmont, CO 80504
303.378.4036

Figure
1



WH01@6	
5/20/2024	
pH:	8.35
Arsenic (mg/kg):	2.03

FLR01@4	
5/20/2024	
pH:	8.41
Arsenic (mg/kg):	3.85

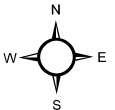
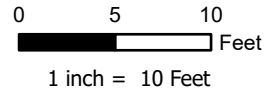
LABEL LEGEND
 XXXX@X: SAMPLE NAME @ DEPTH IN FEET
 WH: WELLHEAD SAMPLE
 FLR: FLOWLINE RISER SAMPLE
BOLD: ABOVE ECMC TABLE 915-1 GWSSL



Legend

- Soil Sample
- Screening Location
- Proposed Background Sample

NOTES:
 - Sample Label (PID Result in ppm)
 - ppm = parts per million
 - PID = photoionization detector



Project No: 024-225	OCOMA C17-15 WELLHEAD SOIL SAMPLE AND FIELD SCREENING LOCATIONS NOBLE ENERGY SW 1/4 SE 1/4 SECTION 17 T4N R64W, 6TH PM WELD COUNTY, COLORADO		610 Garrison St., Unit T Lakewood, CO 80215 303.378.4036	Figure
Map By: JW				2
Date: 03/03/2025				

Chiron, Figure 2 - Template Noble Wellhead w Backgrounds - Soil Sample and Field Screening Locations

TABLES

TABLE 1
FIELD DATA SUMMARY TABLE
NOBLE 100322
OCOMA C17-15 WELLHEAD, WELD COUNTY, COLORADO
REM # 34772

Sample ID	Sample Date	Depth (ft-bgs)	GPS Data Latitude/Longitude		VOC Concentration (ppm)
WH01@6	5/20/2024	6	40.306593	-104.572402	0.0
FLR01@4	5/20/2024	4	40.306560	-104.572405	0.0
WH01-W@4	5/20/2024	4	40.306588	-104.572433	0.0
WH01-E@4	5/20/2024	4	40.306587	-104.572374	0.1
WH01-N@4	5/20/2024	4	40.306614	-104.572402	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).

ppm = Parts per million

ft-bgs = feet below ground surface

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE 100322
OCOMA C17-15 WELLHEAD, WELD COUNTY, COLORADO
REM # 34772

Sample ID	Sample Date	Depth (ft-bgs)	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**		
WH01@6	5/20/2024	6	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<125.200	<0.200	<25.0	<100
FLR01@4	5/20/2024	4	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<125.200	<0.200	<25.0	<100

1. Grey highlighted soil analytical values indicate result is less than laboratory reporting limit

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

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-ORO = Total petroleum hydrocarbons - oil range organics

ft-bgs - feet below ground surface

mg/kg - milligrams per kilogram

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE 100322
OCOMA C17-15 WELLHEAD, WELD COUNTY, COLORADO
REM # 34772

Sample ID	Sample Date	Depth (ft-bgs)	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
WH01@6	5/20/2024	6	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
FLR01@4	5/20/2024	4	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002

1. Grey highlighted soil analytical values indicate result is less than laboratory reporting limit
ft-bgs - feet below ground surface
mg/kg - milligrams per kilogram

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE 100322
OCOMA C17-15 WELLHEAD, WELD COUNTY, COLORADO
REM # 34772

Sample ID	Sample Date	Depth (ft-bgs)	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
WH01@6	5/20/2024	6	8.35	0.295	0.530	<0.0984
FLR01@4	5/20/2024	4	8.41	0.306	0.536	0.221

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s)

2. Brown highlighted soil analytical values indicate a regulatory exceedance.

3. Grey highlighted soil analytical values indicate result is less than laboratory reporting limit

ft-bgs - feet below ground surface

EC - Electrical Conductivity

SAR - Sodium adsorption ratio

mmhos/cm - millimhos per centimeter

mg/L - milligrams per liter

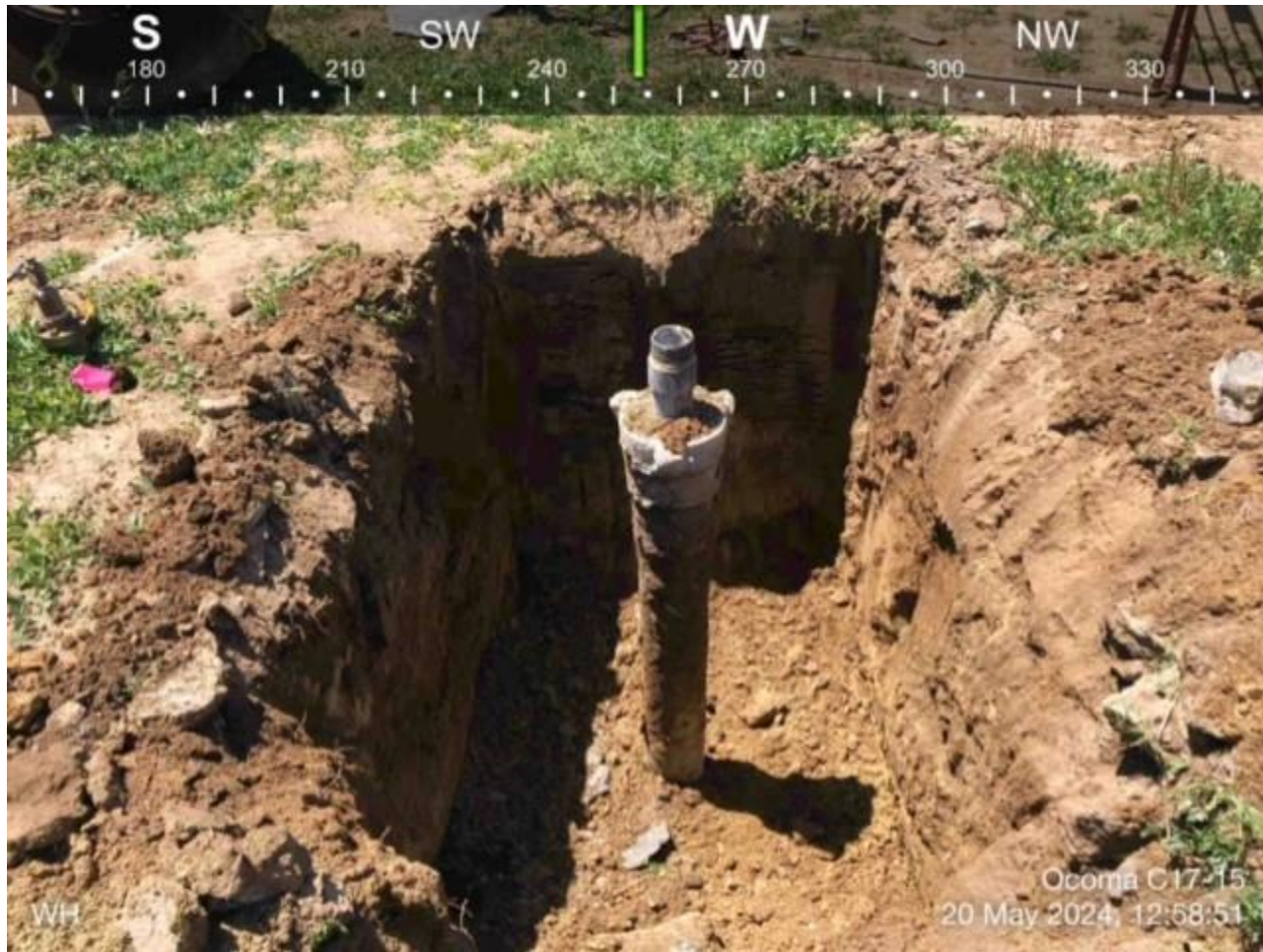
TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE 100322
OCOMA C17-15 WELLHEAD, WELD COUNTY, COLORADO
REM # 34772

Sample ID	Sample Date	Depth (ft-bgs)	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
WH01@6	5/20/2024	6	2.03	32.9	<0.0892	<0.144*	<8.92	8.65	4.32	<0.232	<0.0892	<33.0
FLR01@4	5/20/2024	4	3.85	56.3	0.125	<0.144*	<9.16	10.2	7.44	<0.238	<0.0916	37.0

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s)
 2. Red highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
 3. Grey highlighted soil analytical values indicate result is less than laboratory reporting limit
- * Indicates laboratory reporting or minimum detection limit in excess of SSL
- ft-bgs - feet below ground surface
mg/kg - milligrams per kilogram

**ATTACHMENT A
PHOTOGRAPHIC LOG**

Ocoma C17-15 Wellhead Photographic Log



Ocoma C17-15 Wellhead Photographic Log



Ocoma C17-15 Wellhead Photographic Log



Ocoma C17-15 Wellhead Photographic Log



**ATTACHMENT B
FACILITY CLOSURE CHECKLISTS**

Wellhead Closure Checklist

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

Additional attachments (optional):		Pit Closure		Tank Battery Closure		Flowline Closure		Partially Buried Vault Closure	
Site Name & COGCC Facility Number: Ocoma C17-15, 245698		Date: 05/20/2024						Remediation Project #: 34772	
Associated Wells: NA		Age of Site: 6/13/1987- spud date						Number of Photos Attached: 4	
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) 40.306560 / -104.572390								Estimated Facility Size (acres): ~0.02	

General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)

Overall good

USCS Soil Type: **Silty Sand (SM)** Estimated Depth to Groundwater: **Unknown as none encountered**

Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)

None observed or encountered

Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)

None observed or encountered

Wellhead(s)

Well API	05-123-13493					
Age	6/13/1987- spud date					
Condition of surface around wellhead	Good					
PID Readings	0.0 ppm to 0.1 ppm					
Condition of subsurface (staining present)	Good					
PID Readings	0.0 ppm to 0.1 ppm					
Sample taken? Location/Sample ID#	WH01@6, FLR01@4					
Photo Number(s)	1-4					

Other observations regarding wellheads:

Summary

Was impacted soil identified?		
<input checked="" type="checkbox"/> No	Yes - less than 10 cubic yards	Yes - more than 10 cubic yards
Total number of samples field screened: 5	Total number of samples collected: 5	
Highest PID Reading: 0.1 ppm	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?		
Was groundwater encountered during the investigation?		
<input checked="" type="checkbox"/> 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:		