

Wellhead Closure Checklist

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

Additional attachments (optional): <u> </u>	Pit Closure: <u> </u>	Tank Battery Closure: <u> </u>	Flowline Closure: <u> </u>	Partially Buried Vault Closure: <u> </u>
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Site Name & COGCC Facility Number: Timmerman #23-13	Date: 06/28/23	Remediation Project #: 29530
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Associated Wells: 05-123-22761	Age of Site: years	Number of Photos Attached: 1
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Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) 40.310575 / -104.612753	Estimated Facility Size (acres): <u> </u>
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General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)

Good condition

USCS Soil Type: Clayey Sand	Estimated Depth to Groundwater: ~15-20'
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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

Wellhead(s)

Well API	05-123-22761					
Age	years					
Condition of surface around wellhead	Good - No odor/no staining					
PID Readings	N/A - excavated upon arrival					
Condition of subsurface (staining present)	Good - No odor/no staining					
PID Readings	1.0	1.9	1.2	1.1	3.3	1.5
Sample taken? Location/Sample ID#	WH-SS-01	WH-SS-02	WH-SS-03	WH-SS-04	WH-FS-01	Background-01
Photo Number(s)	See photo log					

Other observations regarding wellheads:

Well casing cut and capped following assessment.

Summary

Was impacted soil identified? **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
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Highest PID Reading: 3.3	Total number of samples submitted to lab for analysis: 1
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If more than 10 cubic yards of impacted soil were observed:

Vertical extent:	Estimated spill volume:
N/A	N/A
Lateral extent:	Volume of soil removed:

Is additional investigation required? **No**

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
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Date Groundwater was encountered:	Commencement date of removal:
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Sheen on groundwater? Yes No	Volume of groundwater removed prior to sampling:
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Free product observed? Yes No	Volume of groundwater removed post sampling:
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Total number of samples collected:	Total Volume of groundwater removed:
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Total number of samples submitted to lab for analysis:	
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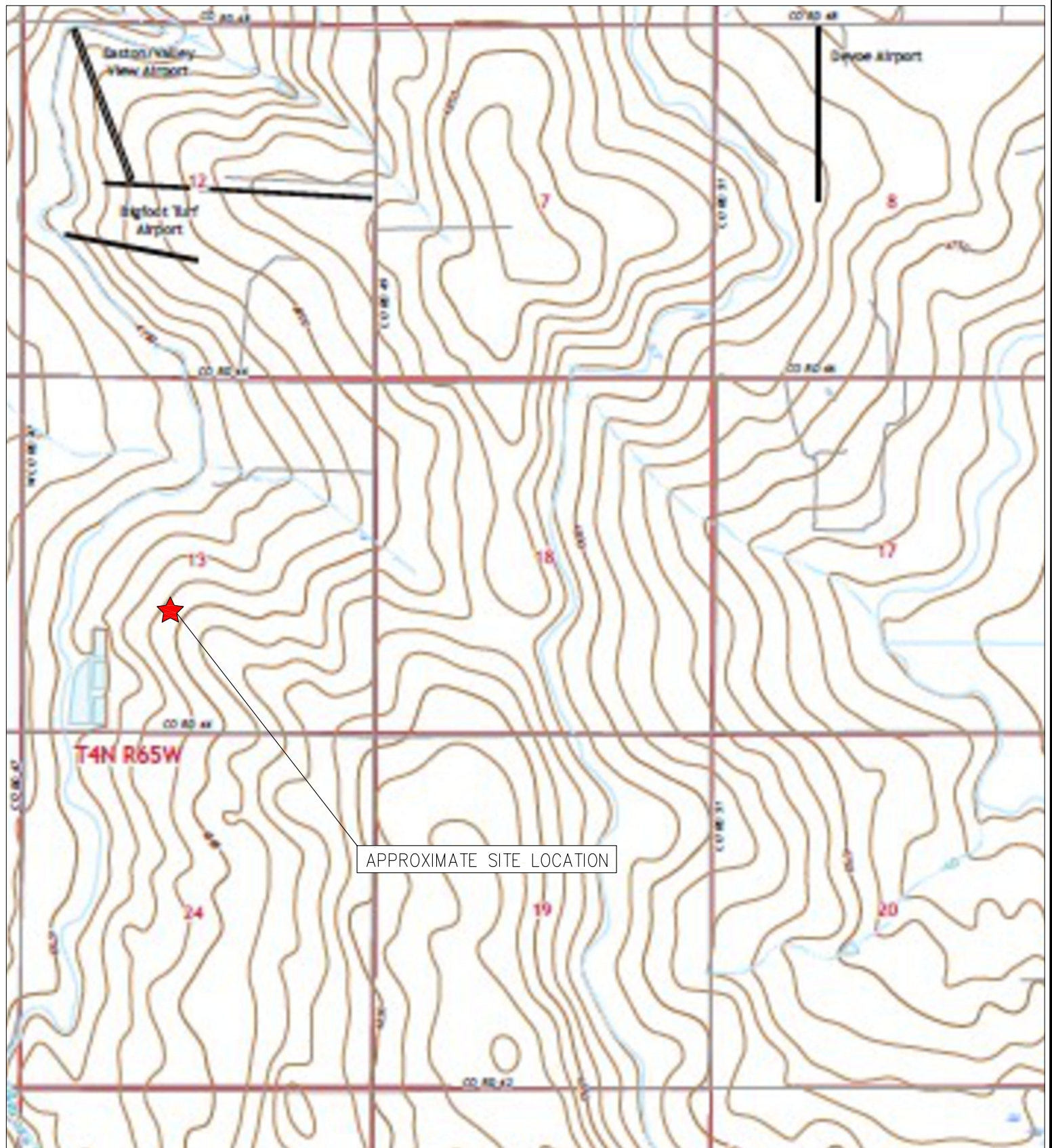


FIGURES

Figure 1: Topographic Site Location Map

Figure 2: Aerial Site Location Map

Figure 3: Soil Analytical Map



TOPOGRAPHIC SITE LOCATION MAP
 TIMMERMAN #23-13
 CLOSURE ASSESSMENT
 40.310575 / -104.612753
 NE¼ SW¼ SEC.13 T4N R65W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-22761
 REMEDIATION # 29530



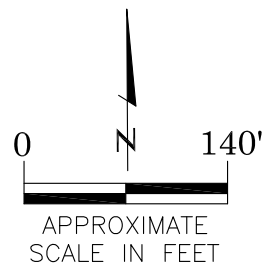
EAGLE
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LEGEND

- FORMER TIMMERMAN #23-13 WELLHEAD (PLUGGED AND ABANDONED)
- ASSOCIATED SEPARATOR
- APPROXIMATE FLOWLINE LOCATION



AERIAL SITE LOCATION MAP
 TIMMERMAN #23-13
 CLOSURE ASSESSMENT
 40.310575 / -104.612753
 NE¼ SW¼ SEC.13 T4N R65W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-22761
 REMEDIATION # 29530

FIGURE NO.
2

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JF



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LEGEND

- INITIAL ASSESSMENT BOUNDARIES
- APPROXIMATE LOCATION OF SOIL SAMPLES FIELD SCREENED, ONLY, WITH PHOTOIONIZATION DETECTOR
- APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

PARAMETERS

SAMPLE LOCATION
 DATE
 DEPTH (FEET)
 B = BENZENE (mg/kg)
 T = TOLUENE (mg/kg)
 E = ETHYLBENZENE (mg/kg)
 X = TOTAL XYLENES (mg/kg)
 N = NAPHTHALENE (mg/kg)
 G = TPH-GRO (mg/kg)
 D = TPH-DRO (mg/kg)
 R = TPH-RRO (mg/kg)
 1,2,4-TMB = 1,2,4 TRIMETHYLBENZENE (mg/kg)
 1,3,5-TMB = 1,3,5 TRIMETHYLBENZENE (mg/kg)
 Brn= BORON (mg/L)
 EC = SPECIFIC CONDUCTANCE (mmhos/cm)
 SAR= SODIUM ADSORPTION RATIO
 pH = pH (pH UNITS)
 POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (mg/kg)

mg/kg = MILLIGRAMS PER KILOGRAM
 mg/L = MILLIGRAMS PER LITER
 mmhos/cm = MILLIMHOS PER CENTIMETER

BRL = BELOW REGULATORY LIMITS

TPH-GRO = TOTAL PETROLEUM HYDROCARBONS – GASOLINE RANGE ORGANICS
 TPH-DRO = TOTAL PETROLEUM HYDROCARBONS – DIESEL RANGE ORGANICS
 TPH-RRO = TOTAL PETROLEUM HYDROCARBONS – RESIDUAL RANGE ORGANICS

NOTES:
 VALUES PRESENTED IN **BOLD** EXCEED ECMC TABLE 915-1 REGULATORY LIMITS

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

SOIL ANALYTICAL MAP
 TIMMERMAN #23-13
 CLOSURE ASSESSMENT
 40.310575 / -104.612753
 NE¼ SW¼ SEC.13 T4N R65W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-22761
 REMEDIATION # 29530

FIGURE NO.

3

DRAWN BY:

EG





TABLES

Table 1: Field Data Summary Table

Table 2: Summary of Volatile Organic Soil Chemistry Table

Table 3: Summary of Polycyclic Aromatic Hydrocarbons in Soil Data

Table 4: Summary of Soil Suitability for Reclamation

TABLE 1
FIELD DATA SUMMARY TABLE
NOBLE ENERGY 100322
TIMMERMAN #23-13, WELD COUNTY, COLORADO
REM # 29530

Sample ID	Sample Date	Depth	GPS Data		VOC Concentration (ppm)
			Latitude	Longitude	
WH-FS-01 @ 7'	6/28/2023	7	40.310577	-104.612763	3.3
WH-SS-01 @ 6'	6/28/2023	6	40.310585	-104.612764	1.0
WH-SS-02 @ 6'	6/28/2023	6	40.310579	-104.612755	1.9
WH-SS-03 @ 6'	6/28/2023	6	40.310569	-104.612764	1.2
WH-SS-04 @ 6'	6/28/2023	6	40.310578	-104.612778	1.1
Background-01 @ 2'	6/28/2023	2	40.310535	-104.612715	1.5

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 ENERGY 100322
TIMMERMAN #23-13, WELD COUNTY, COLORADO
REM # 29530

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**		
WH-FS-01 @ 7'	6/28/2023	7	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00380	<500	<0.200	<25.0	<100

1. Bold values are equal to or 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 ENERGY 100322
TIMMERMAN #23-13, WELD COUNTY, COLORADO
REM # 29530

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
WH-FS-01 @ 7'	6/28/2023	7	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00201	<0.00201

1. Bold values are equal to or 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 ENERGY 100322
TIMMERMAN #23-13, WELD COUNTY, COLORADO
REM # 29530

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
WH-FS-01 @ 7'	6/28/2023	7	8.47	2.30	3.32	0.521
Background-01 @ 2'	6/28/2023	2	7.90	NA	NA	NA
Maximum Background Concentration			7.90			

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



ATTACHMENT A

Photo Log

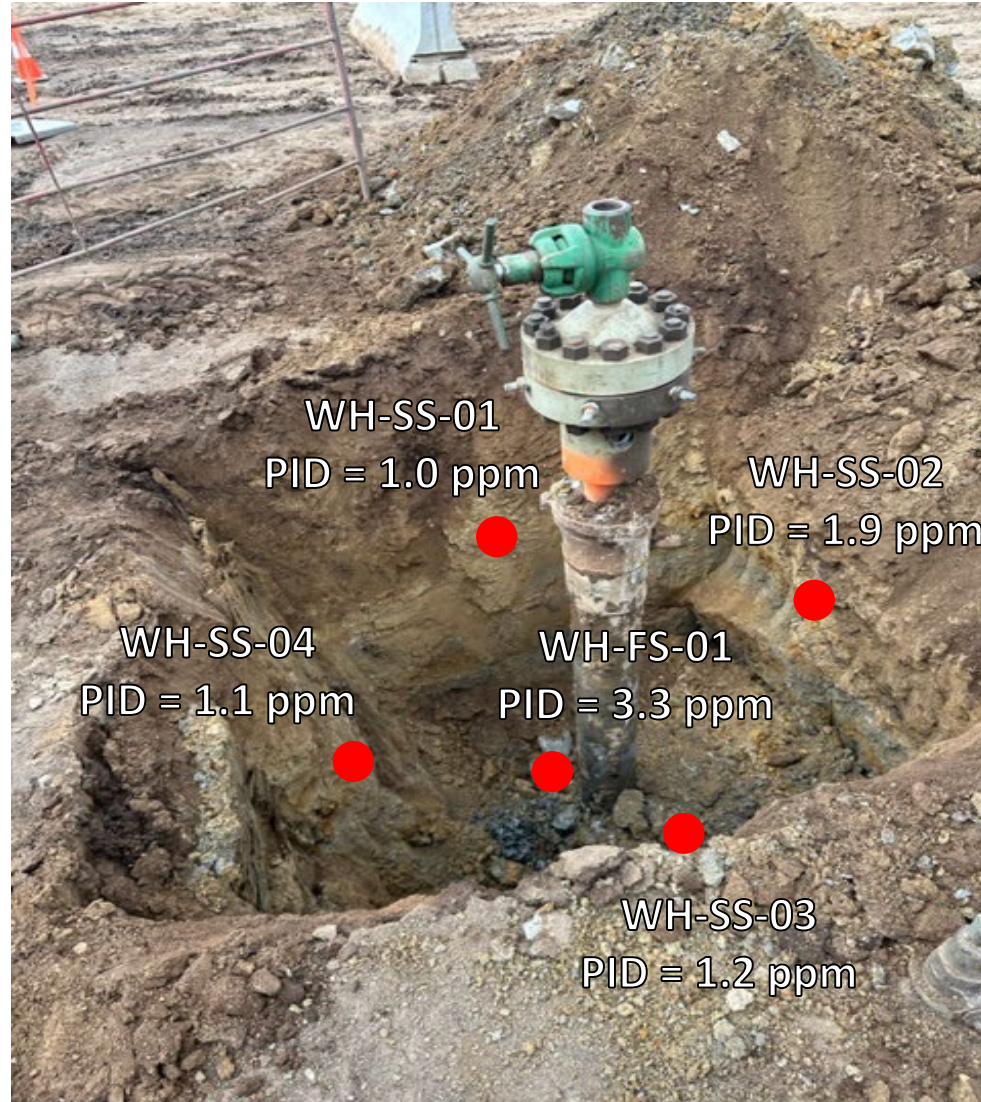
Timmerman #23-13
API # 05-123-22761
Remediation # 29530

Closure Assessment

June 2023



Wellhead Excavation – 06/28/23



Looking north

No petroleum hydrocarbon staining or odor observed