



## **Facility Closure Investigation and Environmental Summary**

Reichert 09-05 Wellhead

ECMC Remediation Project #34125

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**



La Salle

Todd Ave

County Road 50

County Road 50

Sunset Dr

4681 ft

S 2nd St

Union Ditch

South Branch Union Ditch

85

County Road 37

County Road 41

County Road 48

County Road 48

48

Western Maud Ditch

County Road 39

County Road 43

County Road 41

Behrens Reservoir

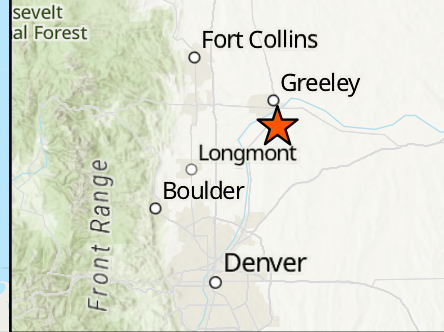
County Road 46

County Road 46

46

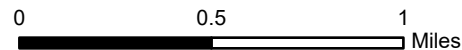
County Road 46

4711 ft

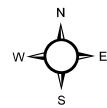


**LEGEND**

★ Site Location



1 inch = 0.5 Mile



Project No: 024-195

Map By: JW

Date: 06/29/2024

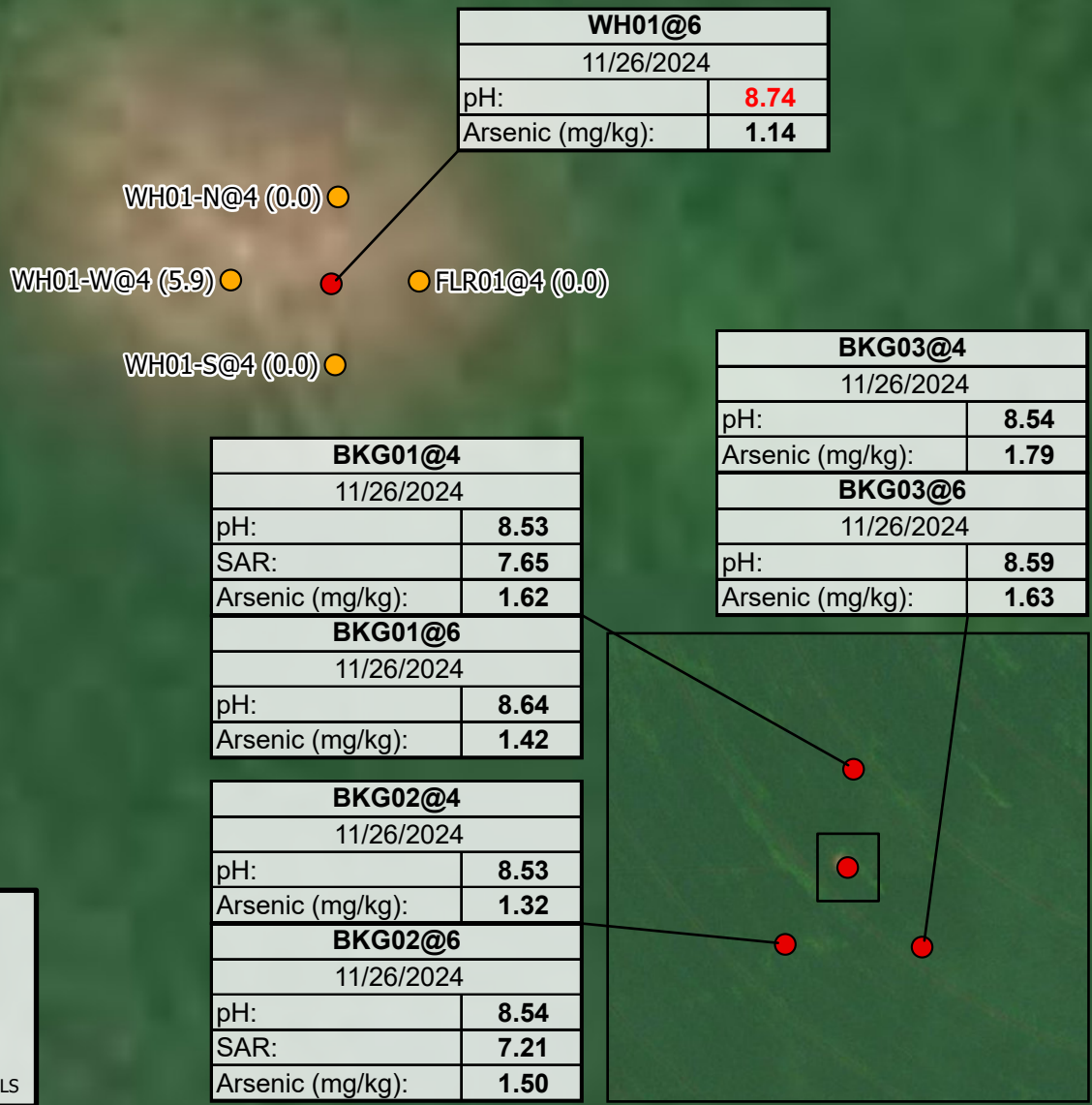
**REICHERT 09-05 WELLHEAD  
GENERAL LOCATION MAP**  
NOBLE ENERGY  
SW 1/4 NW 1/4 SECTION 9  
T4N R65W, 6TH PM  
WELD COUNTY, COLORADO



1843 Sunlight Dr.  
Longmont, CO 80504  
303.378.4036

Figure

1

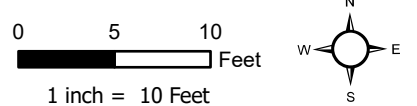


**LABEL LEGEND**  
 XXXX@X: SAMPLE NAME @ DEPTH IN FEET  
 WH: WELLHEAD SAMPLE  
 FLR: FLOWLINE RISER SAMPLE  
 BKG: BACKGROUND SAMPLE  
 SAR: SODIUM ADSORPTION RATIO  
**BOLD**: ABOVE ECMC TABLE 915-1 STANDARDS  
**BOLD**: ABOVE ECMC TABLE 915-1 GWSSL, REPRESENTATIVE OF BACKGROUND LEVELS

**Legend**

- Soil Sample
- Screening Location

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



Project No: 024-195	<b>REICHERT 09-05 WELLHEAD          SOIL SAMPLE AND FIELD SCREENING LOCATIONS</b> NOBLE ENERGY SW 1/4 NW 1/4 SECTION 9 T4N R65W, 6TH PM WELD COUNTY, COLORADO		610 Garrison St., Unit T Lakewood, CO 80215 303.378.4036	Figure
Map By: JW				2
Date: 04/30/2025				

Cherov, Figure 2 - Template Noble Wellhead - Soil Sample and Field Screening Locations

## **TABLES**

**TABLE 1**  
**FIELD DATA SUMMARY TABLE**  
**NOBLE 100322**  
**REICHERT 09-05 WELLHEAD, WELD COUNTY, COLORADO**  
**REM # 34125**

Sample ID	Sample Date	Depth (ft)	GPS Data		PDOP Value	VOC Concentration (ppm)
			Latitude	Longitude		
WH01@6	5/13/2024	6	40.328923	-104.675206	NM	14.6
FLR01@4	5/13/2024	4	40.328923	-104.675189	NM	0.0
WH01-N@4	5/13/2024	4	40.328935	-104.675204	NM	0.0
WH01-W@4	5/13/2024	4	40.328923	-104.675225	NM	5.9
WH01-S@4	5/13/2024	4	40.328911	-104.675205	NM	0.0
WH01@6	11/26/2024	6	40.328923	-104.675206	NM	0.4
BKG01@4	11/26/2024	4	40.329285	-104.675173	NM	0.1
BKG01@6	11/26/2024	6	40.329285	-104.675173	NM	0.0
BKG02@4	11/26/2024	4	40.328641	-104.675510	NM	0.2
BKG02@6	11/26/2024	6	40.328641	-104.675510	NM	0.0
BKG03@4	11/26/2024	4	40.328626	-104.674850	NM	0.0
BKG03@6	11/26/2024	6	40.328626	-104.674850	NM	0.0
BKG01@4'	3/27/2025	4	40.328586	-104.675545	NM	NM
BKG01@6'	3/27/2025	6	40.328586	-104.675545	NM	NM
BKG02@4'	3/27/2025	4	40.329133	-104.675552	NM	NM
BKG02@6'	3/27/2025	6	40.329133	-104.675552	NM	NM
BKG03@4'	3/27/2025	4	40.329096	-104.674837	NM	NM
BKG03@6'	3/27/2025	6	40.329096	-104.674837	NM	NM

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

ft = Feet

TABLE 2  
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA  
NOBLE 100322  
REICHERT 09-05 WELLHEAD, WELD COUNTY, COLORADO  
REM # 34125

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**		
WH01@6	5/13/2024	6	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	0.456	0.456	<25.0	<100
FLR01@4	5/13/2024	4	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<125.200	<0.200	<25.0	<100
WH01@6	11/26/2024	6	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<125.200	<0.200	<25.0	<100

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
- (<) = Analytical result is less than the indicated laboratory reporting limit.  
TPH-GRO = Total petroleum hydrocarbons - gasoline range organics  
TPH-DRO = Total petroleum hydrocarbons - diesel range organics  
TPH-ORO = Total petroleum hydrocarbons - oil range organics  
mg/kg = Milligrams per kilogram  
ft = Feet  
AP = Analysis pending  
NA = Not analyzed

TABLE 3  
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA  
NOBLE 100322  
REICHERT 09-05 WELLHEAD, WELD COUNTY, COLORADO  
REM # 34125

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
WH01@6	5/13/2024	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	0.003	0.003
FLR01@4	5/13/2024	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
WH01@6	11/26/2024	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

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

(<) = Analytical result is less than the indicated laboratory reporting limit.

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-ORO = Total petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

ft = Feet

AP = Analysis pending

NA = Not analyzed

TABLE 4  
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION  
NOBLE 100322  
REICHERT 09-05 WELLHEAD, WELD COUNTY, COLORADO  
REM # 34125

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
WH01@6	5/13/2024	6	<b>8.34</b>	0.422	3.25	0.156
FLR01@4	5/13/2024	4	7.77	0.146	1.95	<0.0992
WH01@6	11/26/2024	6	<b>8.74</b>	0.304	2.75	<0.0995
BKG01@4	11/26/2024	4	<b>8.53</b>	0.339	<b>7.65</b>	<0.101
BKG01@6	11/26/2024	6	<b>8.64</b>	0.465	4.96	<0.101
BKG02@4	11/26/2024	4	<b>8.53</b>	0.176	3.93	0.187
BKG02@6	11/26/2024	6	<b>8.54</b>	0.258	<b>7.21</b>	0.101
BKG03@4	11/26/2024	4	<b>8.54</b>	0.277	5.25	0.233
BKG03@6	11/26/2024	6	<b>8.59</b>	0.49	5.03	<0.101
BKG01@4'	3/27/2025	4	<b>8.47</b>	0.231	1.33	<2.00
BKG01@6'	3/27/2025	6	<b>9.03</b>	0.614	0.982	<2.00
BKG02@4'	3/27/2025	4	7.44	0.506	1.65	<2.00
BKG02@6'	3/27/2025	6	<b>9.28</b>	0.292	0.521	<2.00
BKG03@4'	3/27/2025	4	8.18	3.02	5.81	<2.00
BKG03@6'	3/27/2025	6	7.90	3.66	4.43	<2.00
Maximum Background Concentration at 4 feet			8.54	3.02	7.65	NA
Maximum Background Concentration at 6 feet			9.28	3.66	7.21	NA

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within background concentrations.

2. **Bold** faced values exceed the ECMC Table 915-1 limit(s) and native background concentrations.

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

AP = Analysis pending

NA = Not analyzed

TABLE 5  
SUMMARY OF METALS IN SOIL CHEMISTRY DATA  
NOBLE 100322  
REICHERT 09-05 WELLHEAD, WELD COUNTY, COLORADO  
REM # 34125

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
WH01@6	5/13/2024	6	1.69	47.3	0.118	<0.0974*	<9.53	12.0	4.49	<0.248	<0.0953	<35.3
FLR01@4	5/13/2024	4	1.66	40.7	<0.0986	<0.144*	<9.86	4.33	4.44	<0.256	<0.0986	<36.5
WH01@6	11/26/2024	6	1.14	32.0	<0.0843	<0.20*	<8.43	4.01	3.44	<0.219	<0.0843	<31.2
BKG01@4	11/26/2024	4	1.62	51.2	<0.0959	<0.20*	<9.59	4.98	4.98	<0.249	<0.0959	<35.5
BKG01@6	11/26/2024	6	1.42	46.1	<0.0931	<0.20*	<9.31	4.52	4.19	<0.242	<0.0931	<34.4
BKG02@4	11/26/2024	4	1.32	45.9	<0.0849	<0.20*	<8.49	4.62	4.77	<0.221	<0.0849	<31.4
BKG02@6	11/26/2024	6	1.50	42.7	<0.0899	<0.20*	<8.99	4.52	4.66	<0.234	<0.0899	<33.3
BKG03@4	11/26/2024	4	1.79	55.2	<0.0939	<0.20*	<9.39	5.20	4.96	<0.244	<0.0939	<34.7
BKG03@6	11/26/2024	6	1.63	43.9	<0.0877	<0.20*	<8.77	4.63	4.38	<0.228	<0.0877	<32.5
BKG01@4'	3/27/2025	4	0.381	41.9	<0.200	<0.30*	2.96	3.40	3.14	<0.260	<0.0200	3.51
BKG01@6'	3/27/2025	6	0.349	40.3	<0.200	<0.30*	3.28	3.85	3.33	<0.260	<0.0200	3.91
BKG02@4'	3/27/2025	4	0.425	60.3	<0.200	<0.30*	4.14	4.27	4.67	<0.260	<0.0200	4.32
BKG02@6'	3/27/2025	6	0.379	58.2	<0.200	<0.30*	3.44	4.17	3.96	<0.260	<0.0200	3.68
BKG03@4'	3/27/2025	4	0.541	96.2	<0.200	<0.30*	7.68	7.57	8.04	<0.260	<0.0200	7.04
BKG03@6'	3/27/2025	6	0.690	69.9	<0.200	<0.30*	6.24	18.1	6.27	<0.260	<0.0200	9.06
1.25x Maximum Background Concentration at 4 feet			2.24	120	NA	NA	9.60	9.46	10.1	NA	NA	8.80
1.25x Maximum Background Concentration at 6 feet			2.04	87.4	NA	NA	7.80	22.6	7.84	NA	NA	11.3

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.

2. **Red** faced values exceed the ECMC Table 915-1 limit(s) and native background concentrations.

3. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL).

4. Non-detect background results accounted for in the highest background concentration by using the reporting limit.

ECMC = Energy & Carbon Management Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

mg/kg = Milligrams per kilogram

ft = Feet

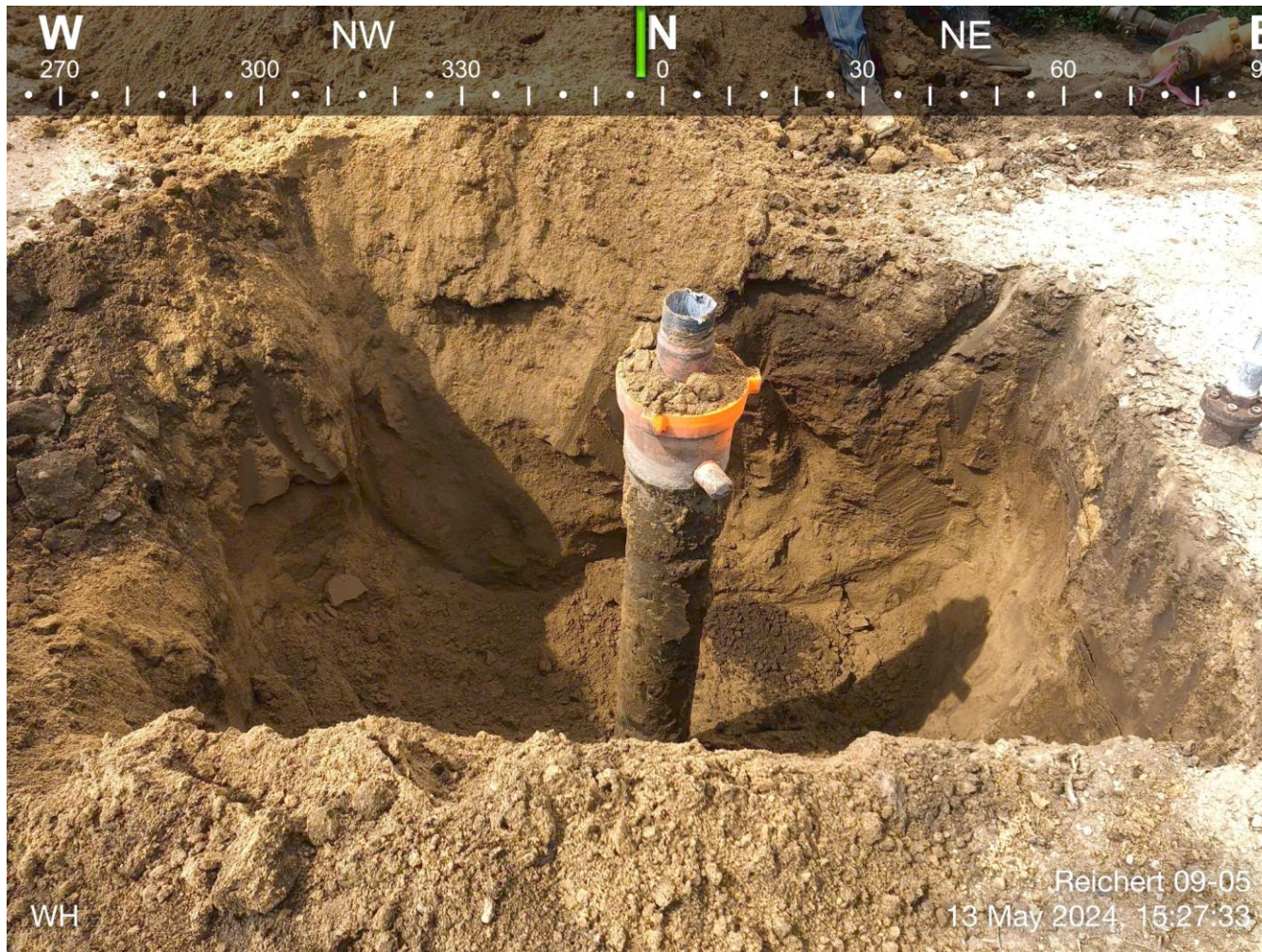
\* Indicates laboratory minimum detection limit in excess of SSL

AP = Analysis pending

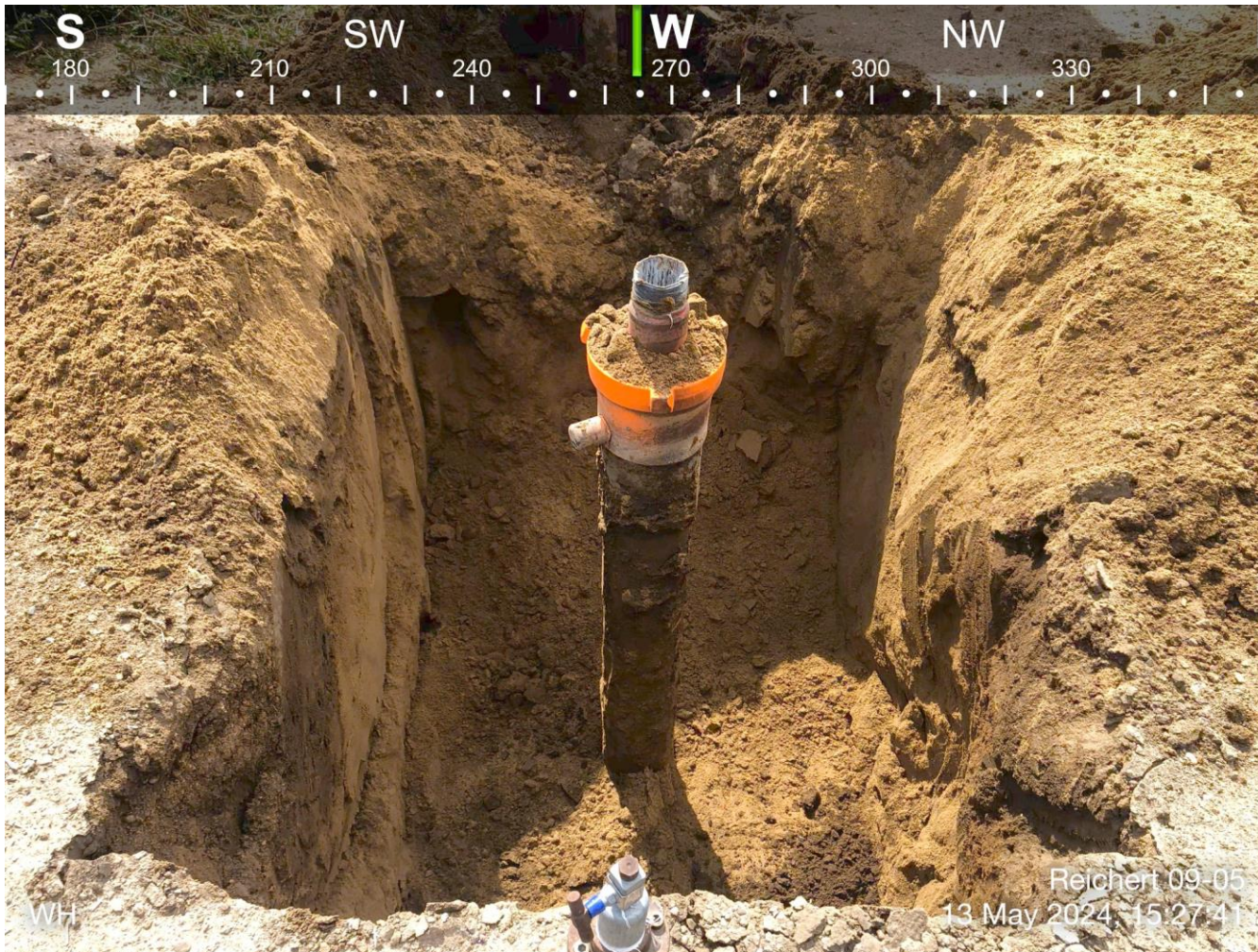
NA = Not analyzed

**ATTACHMENT A  
PHOTOGRAPHIC LOG**

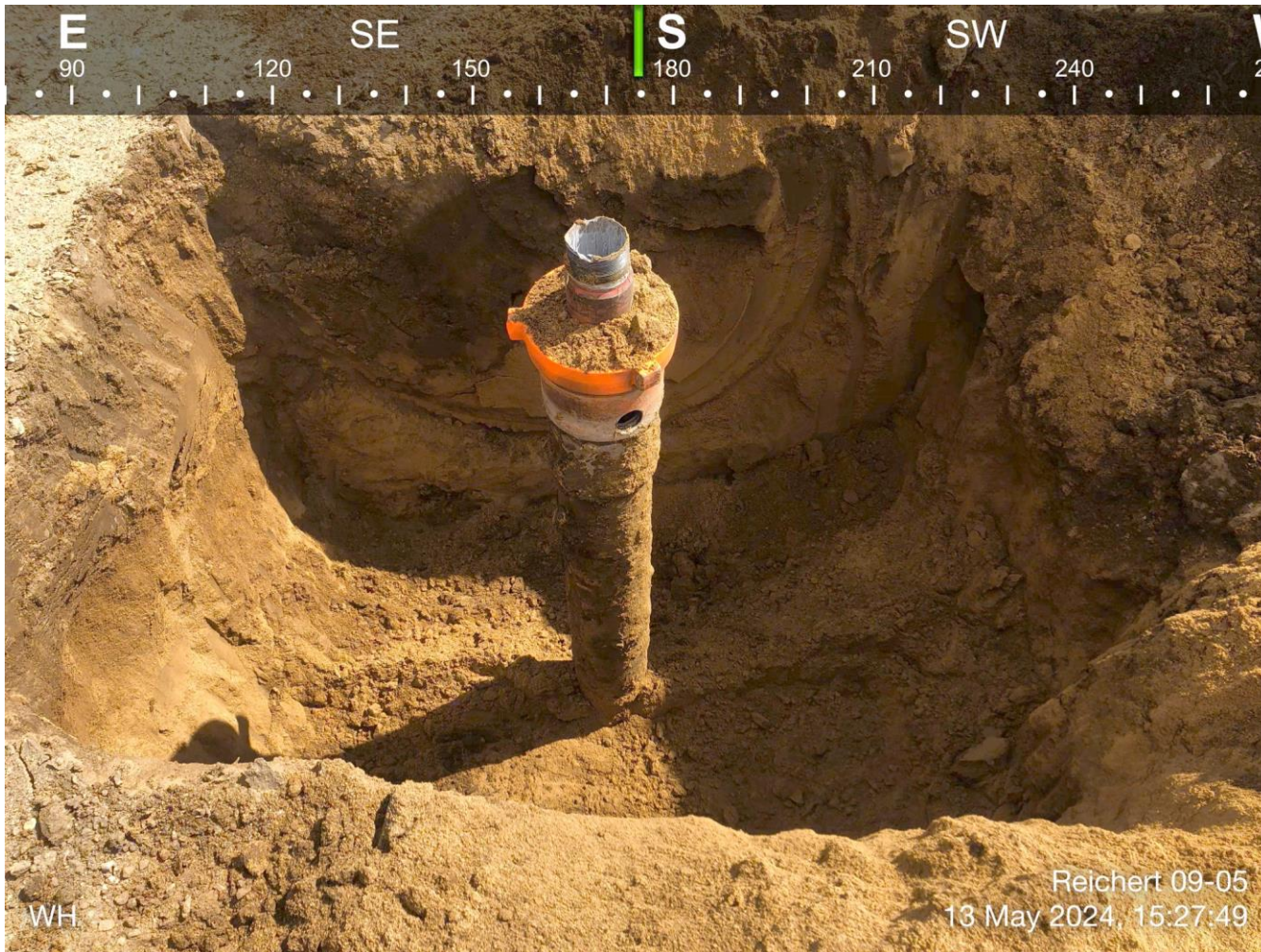
Reichert 09-05 Photographic Log



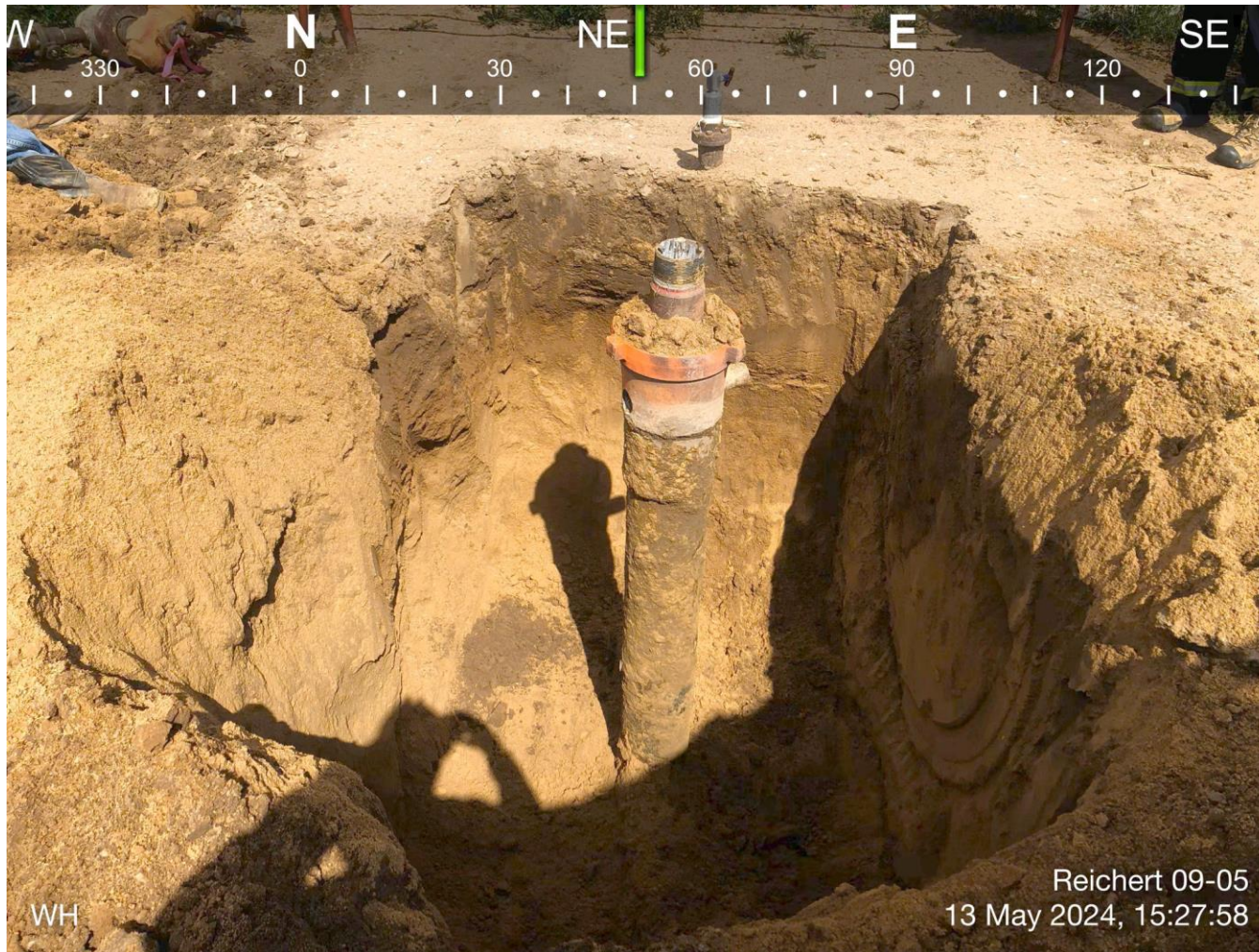
Reichert 09-05 Photographic Log



Reichert 09-05 Photographic Log



Reichert 09-05 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: Reichert 09-05, 245834		Date: 5/13/2024 and 11/26/2024						Remediation Project #: 34125	
Associated Wells: NA		Age of Site: 9/27/1987 - spud date						Number of Photos Attached: 4	
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) 40.328910, -104.675170							Estimated Facility Size (acres): ~0.01		
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)  Overall good.									
USCS Soil Type: SM				Estimated Depth to Groundwater: Unknown/Not Encountered					
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	05-123-13629								
Age	9/27/1987 - spud date								
Condition of surface around wellhead	Good								
PID Readings	0.0 - 14.6 ppm								
Condition of subsurface	Good								
PID Readings	0.4 ppm								
Sample taken? Location/Sample ID#	WH01@6								
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: 14.6 ppm				Total number of samples submitted to lab for analysis: 1					
If more than 10 cubic yards of impacted soil were observed: NA									
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:									