



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

Shable Federal LB33-78HN Wellhead

ECMC Remediation Project #27519

Weld County, Colorado

### **Attachments:**

**Figure 1 – General Location Map**

**Figure 2 – Wellhead Soil Sample and Field Screening Locations**

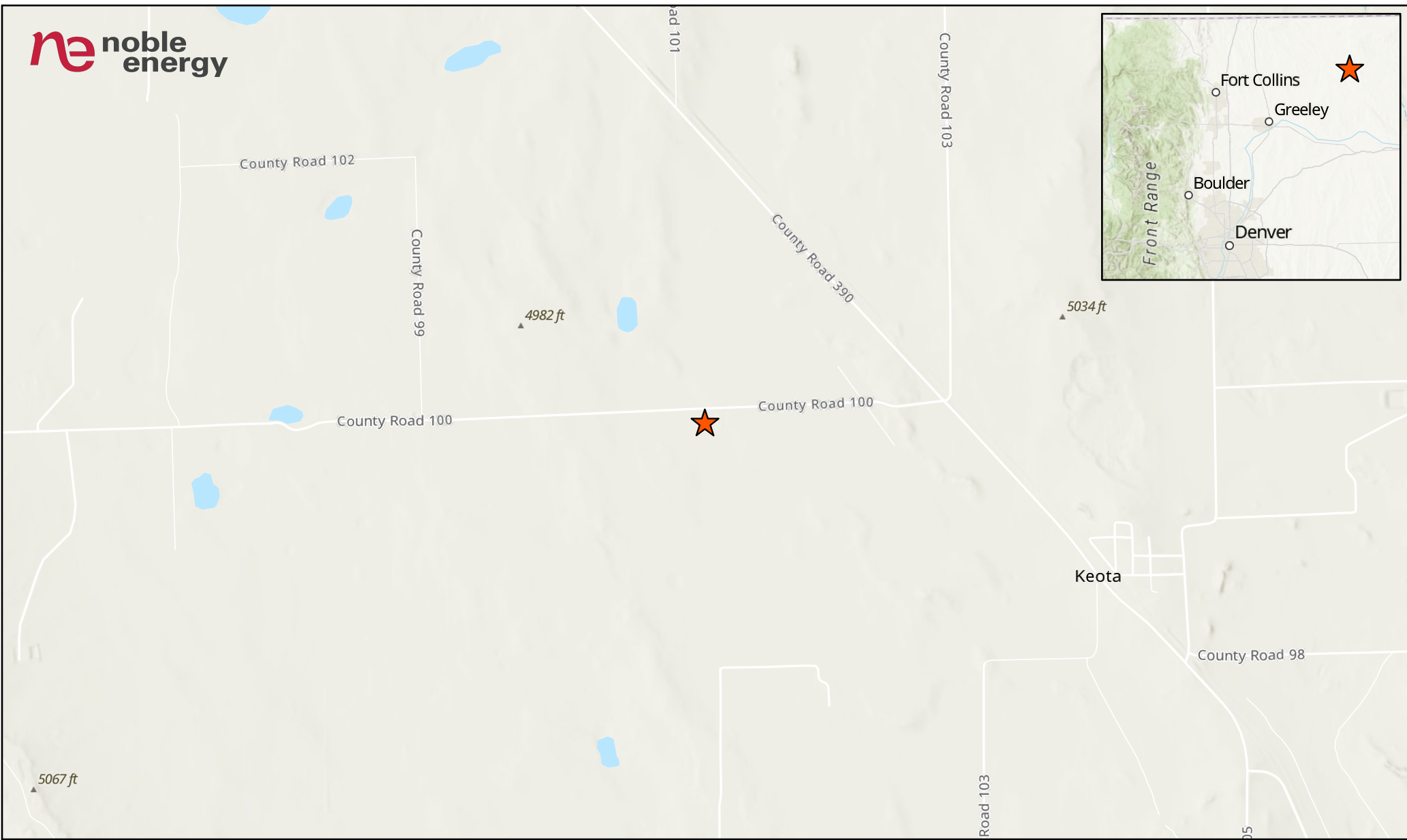
**Figure 3 – Excavation Extent and Soil Sample Locations**

**Figure 4 – Background Soil Sample Locations**

**Attachment A: Photographic Log**

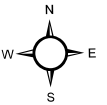
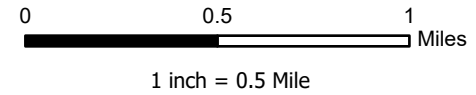
**Attachment B: Facility Closure Checklists**

## **FIGURES**



**LEGEND**

 Site Location



Project No: 025-450

Map By: JW

Date: 10/15/2025

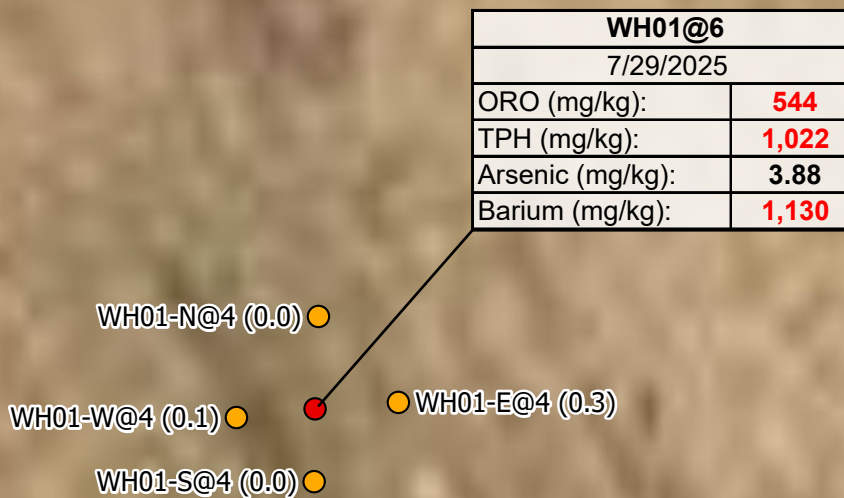
**SHABLE FEDERAL LB33-78HN WELLHEAD  
GENERAL LOCATION MAP**  
NOBLE ENERGY  
NW 1/4 NW 1/4 SECTION 33  
T9N R60W, 6TH PM  
WELD COUNTY, COLORADO



610 Garrison St., Unit T  
Lakewood, CO 80215  
303.378.4036

Figure

1



**LABEL LEGEND**  
 XXXX@X: SAMPLE NAME @ DEPTH IN FEET  
 WH: WELLHEAD SAMPLE  
 ORO: OIL RANGE ORGANICS  
 TPH: TOTAL PETROLEUM HYDROCARBONS  
**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

Scale: 0 5 10 Feet  
 1 inch = 10 Feet

Project No: 025-450	<b>SHABLE FEDERAL LB33-78HN WELLHEAD          SOIL SAMPLE AND FIELD SCREENING LOCATIONS</b> NOBLE ENERGY NW 1/4 NW 1/4 SECTION 33 T9N R60W, 6TH PM WELD COUNTY, COLORADO		610 Garrison St., Unit T Lakewood, CO 80215 303.378.4036	Figure
Map By: JW				2
Date: 02/19/2026				

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

Only exceedances above applicable Table 915-1 standards are displayed.

2EX05@2.5	
10/31/2025	
SAR:	<b>6.20</b>
Arsenic (mg/kg):	<b>4.66</b>
Barium (mg/kg):	<b>555</b>

2EX03@2.5	
10/31/2025	
pH:	<b>8.58</b>
SAR:	<b>6.10</b>
Arsenic (mg/kg):	<b>5.04</b>
Barium (mg/kg):	<b>672</b>

2EX01@5	
10/31/2025	
pH:	<b>8.47</b>
Arsenic (mg/kg):	<b>5.47</b>
Barium (mg/kg):	<b>639</b>
Lead (mg/kg):	<b>15.1</b>

2EX02@2.5	
10/31/2025	
pH:	<b>8.51</b>
SAR:	<b>7.28</b>
Arsenic (mg/kg):	<b>4.80</b>
Barium (mg/kg):	<b>556</b>

2EX04@2.5	
10/31/2025	
pH:	<b>8.43</b>
SAR:	<b>7.89</b>
Arsenic (mg/kg):	<b>5.95</b>
Barium (mg/kg):	<b>698</b>

EX02@4	
10/30/2025	
pH:	<b>8.31</b>
Arsenic (mg/kg):	<b>5.02</b>
Barium (mg/kg):	<b>1,390</b>

Shable Federal LB33-78HN Wellhead

EX05@4	
10/30/2025	
Arsenic (mg/kg):	<b>3.73</b>
Barium (mg/kg):	<b>3,080</b>

EX01@8	
10/30/2025	
pH:	<b>8.37</b>
Arsenic (mg/kg):	<b>5.64</b>
Barium (mg/kg):	<b>547</b>

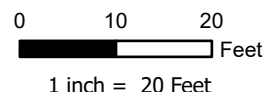
EX03@4	
10/30/2025	
Arsenic (mg/kg):	<b>3.21</b>
Barium (mg/kg):	<b>381</b>

EX04@4	
10/30/2025	
pH:	<b>8.45</b>
SAR:	<b>9.93</b>
Arsenic (mg/kg):	<b>5.29</b>
Barium (mg/kg):	<b>563</b>
Lead (mg/kg):	<b>14.2</b>

**LABEL LEGEND**  
 XXXX@X: SAMPLE NAME @ DEPTH IN FEET  
 EX: EXCAVATION SAMPLE  
 SAR: SODIUM ADSORPTION RATIO  
**BOLD:** BOLD FACED VALUES EXCEED THE ECMC TABLE 915-1 LIMIT(S)  
**BOLD:** BOLD FACED VALUES EXCEED THE ECMC TABLE 915-1 LIMIT(S) BUT ARE WITHIN BACKGROUND CONCENTRATIONS

**Legend**

● Soil Sample    ■ Excavation Extent



Project No: 025-450  
 Map By: JW  
 Date: 02/19/2026

**SHABLE FEDERAL LB33-78HN WELLHEAD  
 EXCAVATION EXTENT AND SOIL SAMPLE LOCATIONS**  
 NOBLE ENERGY  
 NW 1/4 NW 1/4 SECTION 33  
 T9N R60W, 6TH PM  
 WELD COUNTY, COLORADO



610 Garrison St., Unit T  
 Lakewood, CO 80215  
 303.378.4036

Figure  
 3

Cherov, Figure 3 - Shable Federal LB33-78HN Wellhead - Excavation Sample Locations

Shable Federal LB33-78HN Wellhead

<b>BKG01@4</b>	
10/31/2025	
pH:	<b>8.36</b>
Arsenic (mg/kg):	<b>3.99</b>
Barium (mg/kg):	<b>455</b>
Lead (mg/kg):	<b>17.6</b>
<b>BKG01@8</b>	
10/31/2025	
pH:	<b>8.38</b>
Arsenic (mg/kg):	<b>4.09</b>
Barium (mg/kg):	<b>444</b>
Lead (mg/kg):	<b>17.0</b>

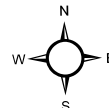
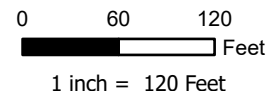
<b>BKG03@4</b>	
10/31/2025	
pH:	<b>9.04</b>
SAR:	<b>16.9</b>
Arsenic (mg/kg):	<b>4.18</b>
Barium (mg/kg):	<b>399</b>
<b>BKG03@8</b>	
10/31/2025	
EC (mmhos/cm):	<b>6.03</b>
SAR:	<b>14.8</b>
Boron (mg/L):	<b>3.78</b>
Arsenic (mg/kg):	<b>4.29</b>
Barium (mg/kg):	<b>453</b>

<b>BKG02@4</b>	
10/31/2025	
pH:	<b>8.71</b>
SAR:	<b>12.5</b>
Boron (mg/L):	<b>2.01</b>
Arsenic (mg/kg):	<b>4.96</b>
Barium (mg/kg):	<b>794</b>
<b>BKG02@8</b>	
10/31/2025	
pH:	<b>8.72</b>
SAR:	<b>13.1</b>
Boron (mg/L):	<b>2.04</b>
Arsenic (mg/kg):	<b>4.65</b>
Barium (mg/kg):	<b>690</b>

**LABEL LEGEND**  
 XXXX@X: SAMPLE NAME @ DEPTH IN FEET  
 BKG: BACKGROUND SAMPLE  
 EC: ELECTRICAL CONDUCTIVITY  
 SAR: SODIUM ADSORPTION RATIO  
**BOLD: BOLD FACED VALUES EXCEED THE ECMC TABLE 915-1 LIMIT(S) BUT ARE WITHIN 1.25x BACKGROUND CONCENTRATIONS**

**Legend**

● Soil Sample    ■ Excavation Extent



Project No: 025-450  
 Map By: JW  
 Date: 02/19/2026

**SHABLE FEDERAL LB33-78HN WELLHEAD  
 BACKGROUND SOIL SAMPLE LOCATIONS**  
 NOBLE ENERGY  
 NW 1/4 NW 1/4 SECTION 33  
 T9N R60W, 6TH PM  
 WELD COUNTY, COLORADO



610 Garrison St., Unit T  
 Lakewood, CO 80215  
 303.378.4036

Figure  
 4

**ATTACHMENT A  
PHOTOGRAPHIC LOG**

# Shable Federal LB33-78HN Photographic Log

Wellhead Facility Closure – July 29, 2025



Shable Federal LB33-78HN Photographic Log

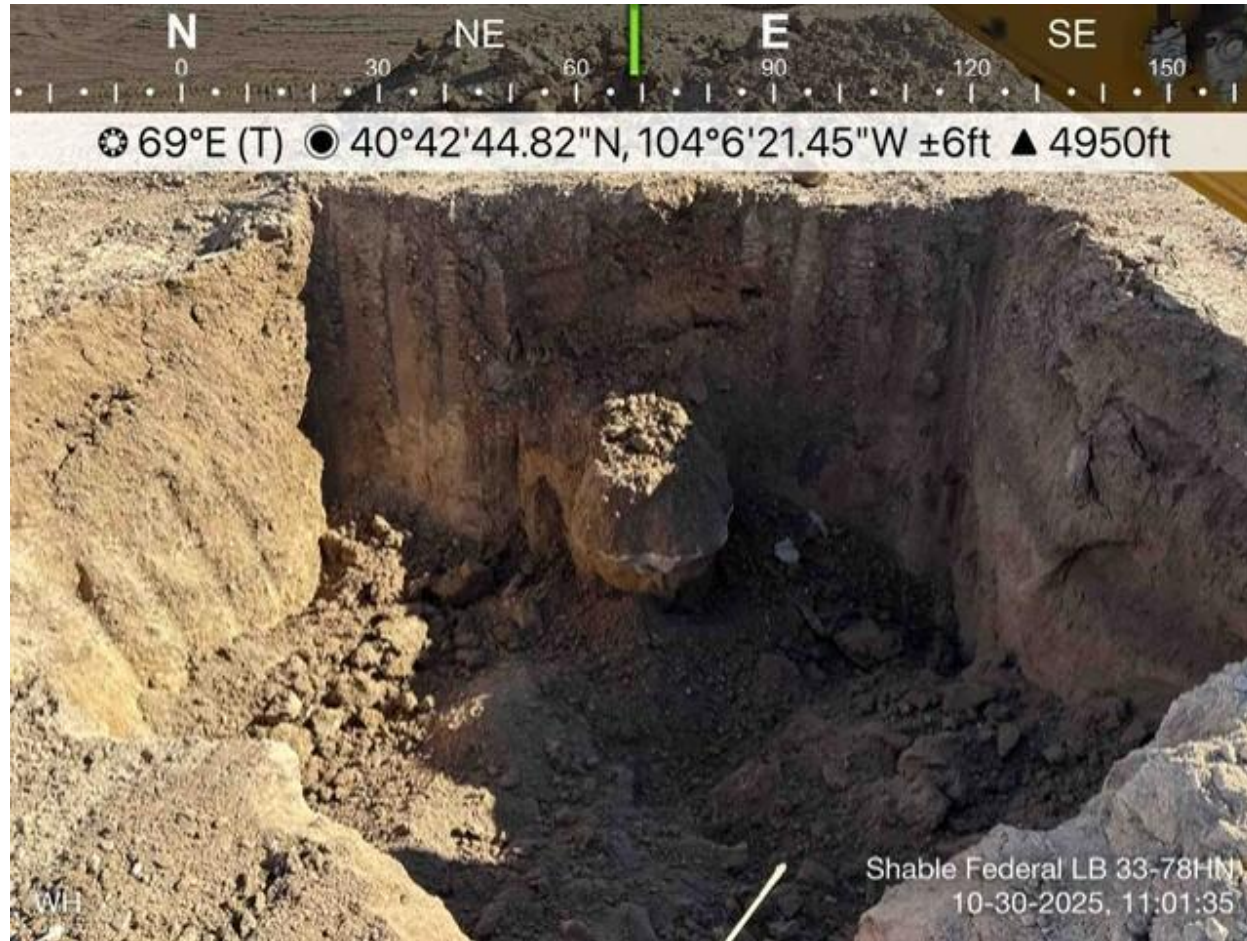


Shable Federal LB33-78HN Photographic Log



Shable Federal LB33-78HN Photographic Log

Wellhead Source Mass Removal Activities – October 30, 2025



Shable Federal LB33-78HN Photographic Log



Shable Federal LB33-78HN Photographic Log

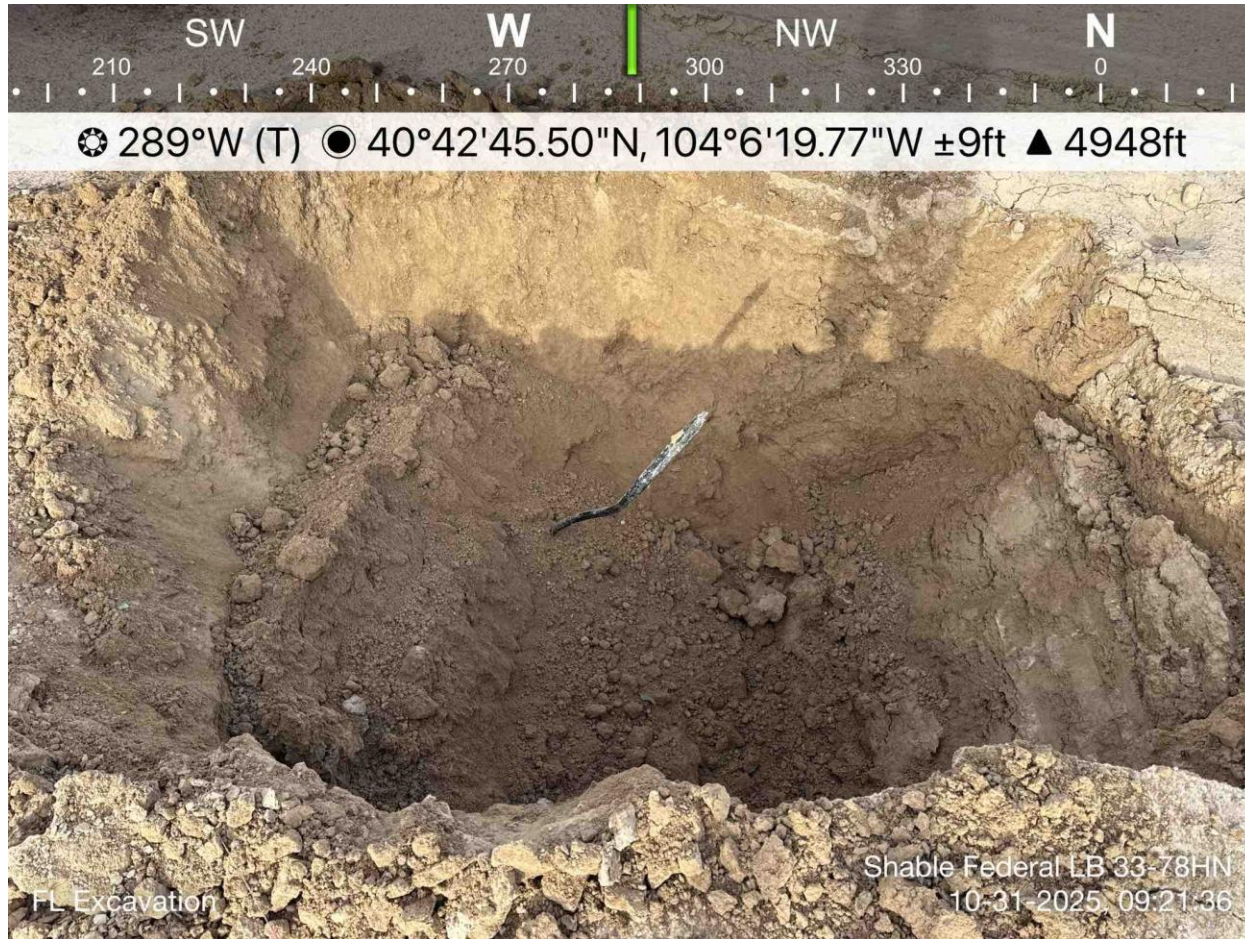


Shable Federal LB33-78HN Photographic Log



Shable Federal LB33-78HN Photographic Log

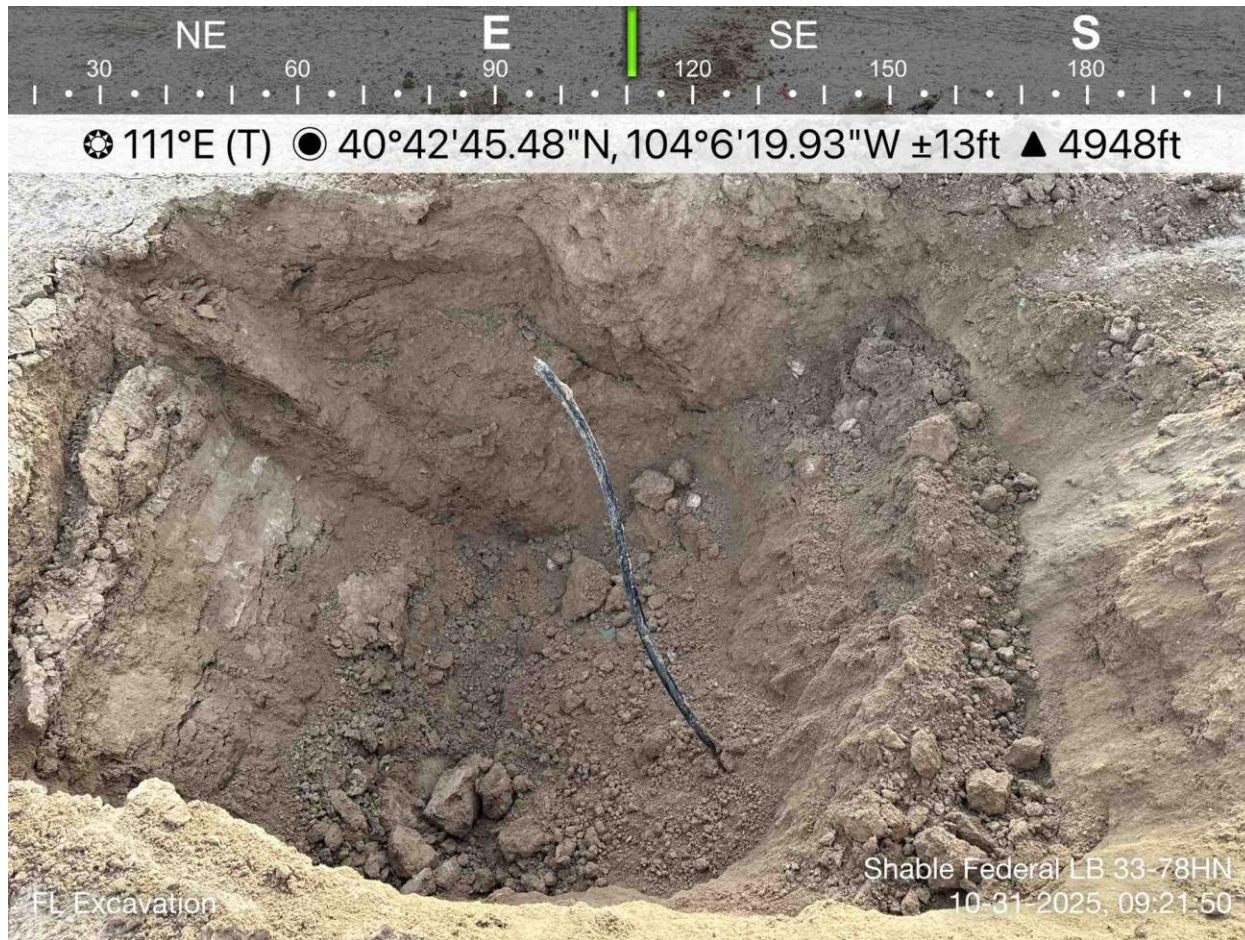
Flowline Source Mass Removal Activities – October 31, 2025



Shable Federal LB33-78HN Photographic Log



Shable Federal LB33-78HN Photographic Log



Shable Federal LB33-78HN 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: Shable Federal LB33-78HN, 431816		Date: 7/29/2025, 10/30-31/2025					Remediation Project #: 27519		
Associated Wells: NA		Age of Site: 3/29/2013 - spud date					Number of Photos Attached: 11		
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) 40.712413 / -104.105882							Estimated Facility Size (acres): ~0.01		
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)  Overall good									
USCS Soil Type: GC, SP, SM, ML					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) Hydrocarbon impacted soils were discovered WH C&C and FL decommissioning; ~92 cubic yards of impacted soils were hauled offsite to Pawnee Waste									
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) None encountered or observed									
Wellhead(s)									
Well API	05-123-36799								
Age	3/29/2013 - spud date								
Condition of surface around wellhead	Good								
PID Readings	0.0 - 18.1 ppm								
Condition of subsurface (staining present)	Good								
PID Readings	0.0 - 18.1 ppm								
Sample taken? Location/Sample ID#	See site report								
Photo Number(s)	1 - 11								
Other observations regarding wellheads:									
Summary									
Was impacted soil identified? <input type="checkbox"/> No <input type="checkbox"/> Yes - less than 10 cubic yards <input checked="" type="checkbox"/> Yes - more than 10 cubic yards									
Total number of samples field screened: 19				Total number of samples collected: 19					
Highest PID Reading: 18.1 ppm				Total number of samples submitted to lab for analysis: 15					
If more than 10 cubic yards of impacted soil were observed:									
Vertical extent: ~8 ft-bgs				Estimated spill volume: Unknown/Historical					
Lateral extent: ~260 square feet				Volume of soil removed: ~92 cubic yards					
Is additional investigation required? Yes, inorganic exceedances remain at the site following SSMR									
Was groundwater encountered during the investigation? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - not impacted or in contact with impacted soils <input type="checkbox"/> Yes - groundwater impacted and/or in contact with impacted soils									
Measured depth to groundwater:				Was remedial groundwater removal conducted? <input type="checkbox"/> Yes <input type="checkbox"/> No					
Date Groundwater was encountered:				Commencement date of removal:					
Sheen on groundwater? <input type="checkbox"/> Yes <input type="checkbox"/> No				Volume of groundwater removed prior to sampling:					
Free product observed? <input type="checkbox"/> Yes <input type="checkbox"/> 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:									