Facility Closure Investigation and Environmental Summary

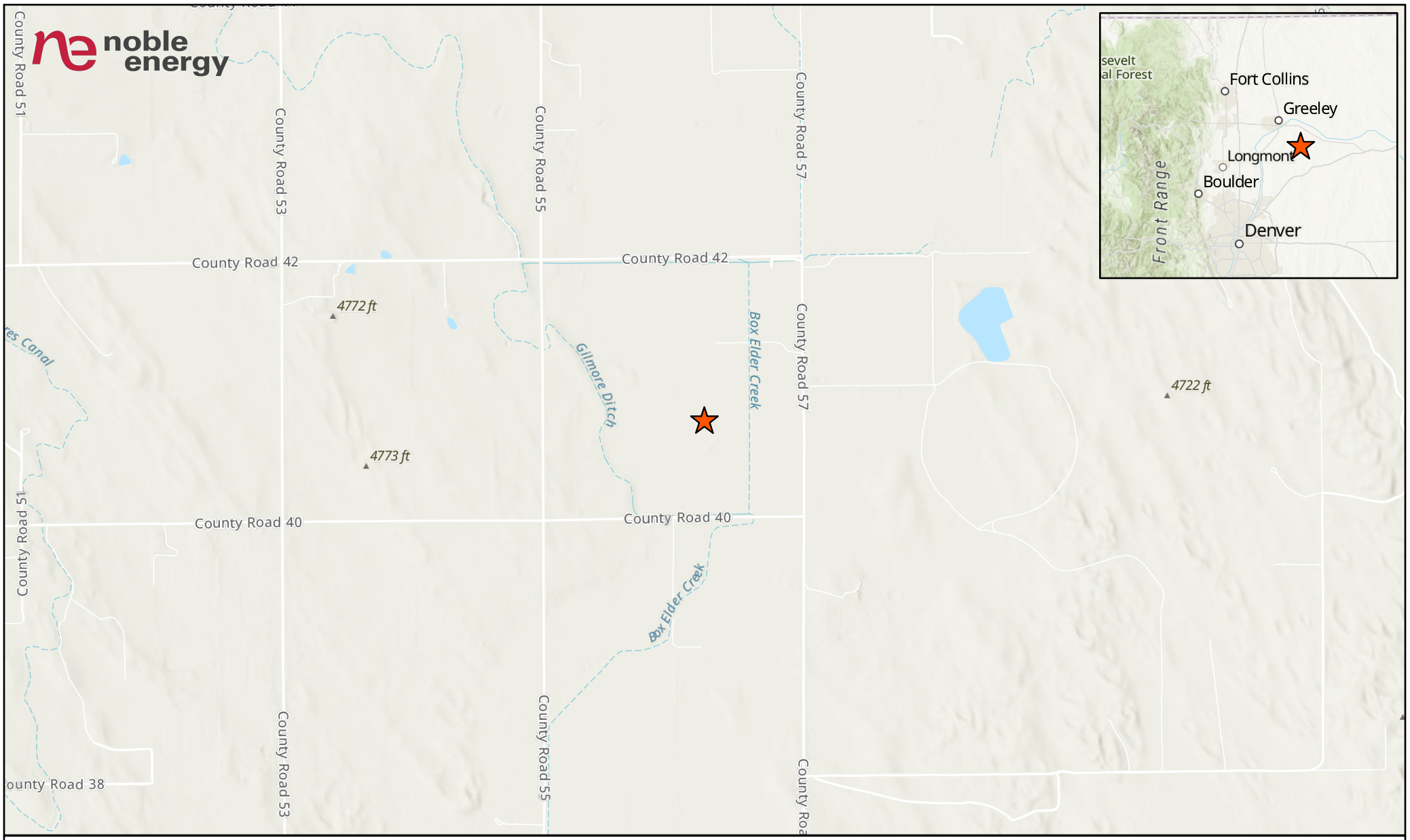
Born Sitzman 05 Wellhead

ECMC Remediation Project # 32829

Weld County, Colorado

Attachments:

FIGURES



LEGEND

Site Location

0 0.5 1 Miles

1 inch = 0.5 Mile

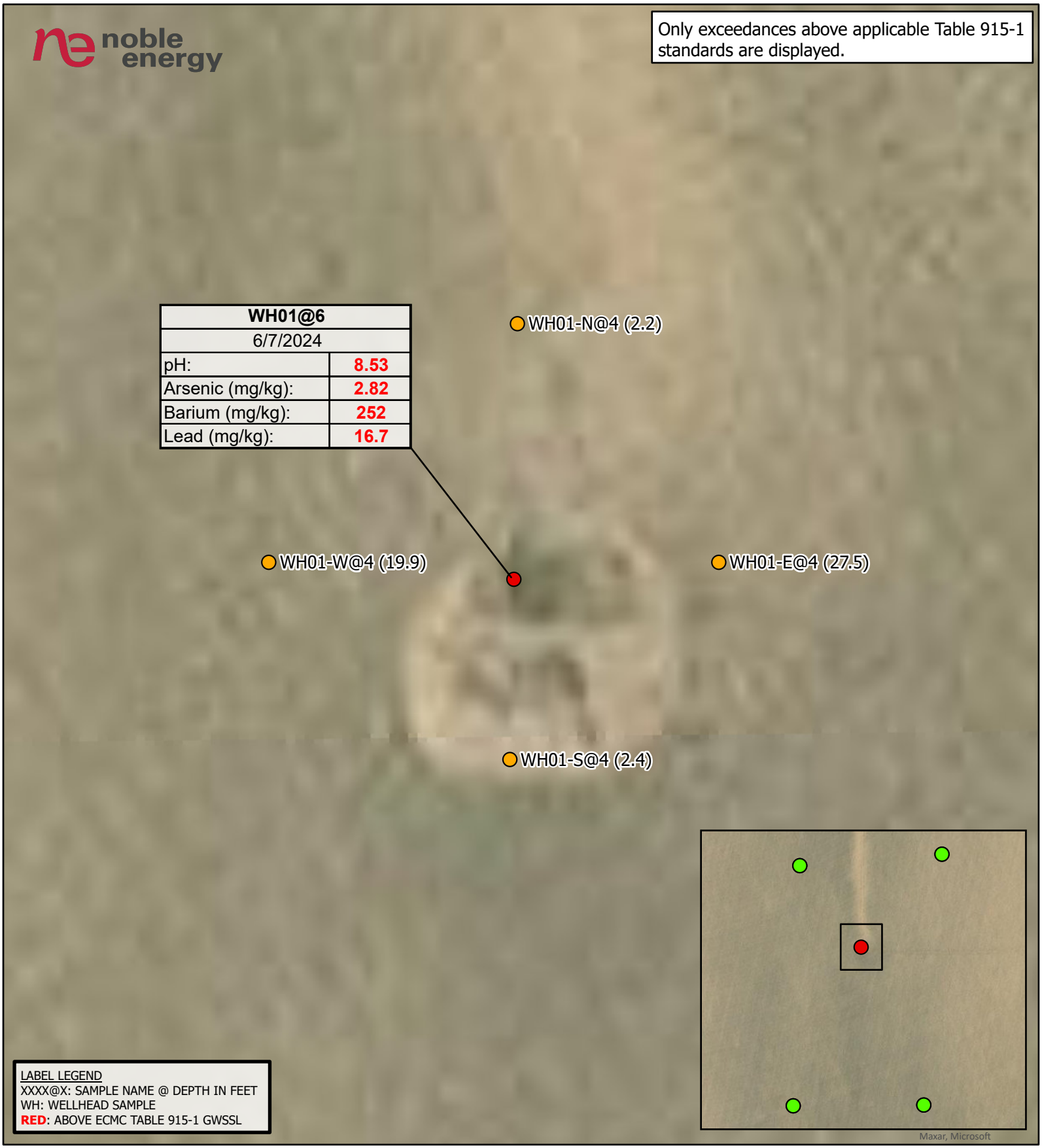
N W E S

Project No:	024-209
Map By:	JW
Date:	07/11/2024

BORN-SITZMAN 05 WELLHEAD
GENERAL LOCATION MAP
NOBLE ENERGY
NW 1/4 SE 1/4 SECTION 27
T4N R64W, 6TH PM
WELD COUNTY, COLORADO

ENTRADA CONSULTING GROUP
1843 Sunlight Dr.
Longmont, CO 80504
303.378.4036

Figure
1



Legend

- Soil Sample
- Proposed Background Sample
- Screening Location

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

0 5 10 Feet

1 inch = 10 Feet

N W E S

Project No: 024-209	**BORN-SITZMAN 05 WELLHEAD** **SOIL SAMPLE AND FIELD SCREENING LOCATIONS** NOBLE ENERGY NW 1/4 SE 1/4 SECTION 27 T4N R64W, 6TH PM WELD COUNTY, COLORADO	ENTRADA CONSULTING GROUP	1843 Sunlight Drive Longmont, CO 80504 303.378.4036	Figure
Map By: JW				2
Date: 02/17/2025				

Chevron, Figure 2 - _Template Noble Wellhead w Backgrounds - Soil Sample and Field Screening Locations

TABLES

TABLE 1

FIELD DATA SUMMARY TABLE

NOBLE 100322

BORN-SITZMAN 05 WELLHEAD, WELD COUNTY, COLORADO

REM # 32829

Sample ID	Sample Date	Depth (ft-bgs)	GPS Data Latitude/Longitude		VOC Concentration (ppm)
WH01@6	6/7/2024	6	40.281655	-104.534654	9.0
WH01-N@4	6/7/2024	4	40.281711	-104.534652	2.2
WH01-E@4	6/7/2024	4	40.281658	-104.534595	27.5
WH01-W@4	6/7/2024	4	40.281660	-104.534723	19.9
WH01-S@4	6/7/2024	4	40.281616	-104.534655	2.4

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
BORN-SITZMAN 05 WELLHEAD, WELD COUNTY, COLORADO
REM # 32829

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	6/7/2024	6	*<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
BORN-SITZMAN 05 WELLHEAD, WELD COUNTY, COLORADO
REM # 32829

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	6/7/2024	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. 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

BORN-SITZMAN 05 WELLHEAD, WELD COUNTY, COLORADO

REM # 32829

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	6/7/2024	6	**8.53**	0.943	2.75	0.432

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

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

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
BORN-SITZMAN 05 WELLHEAD, WELD COUNTY, COLORADO
REM # 32829

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	6/7/2024	6	**2.82**	**252**	0.161	*<0.141**	10.4	**16.7**	9.04	*<0.235*	*<0.0904*	47.9

1. **Bold** faced 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. 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

Born-Sitzman 05 Wellhead Photographic Log

Entrada Consulting Group
June 2024


N
NE
E
SE
S
0
30
60
90
120
150
180
WH
Born-Sitzman 05
07 Jun 2024 08:28:30


E
SE
S
SW
90
120
150
180
210
240
WH
Born_Sitzman 05
07 Jun 2024 08:28:39


SW
W
NW
N
210
240
270
300
330
0
WH
Born-Sitzman 05
07 Jun 2024, 08:28:49

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:	*Date:*	*Remediation Project #:*
Born-Sitzman 05, 245113	06/07/2024	32829
Associated Wells:	*Age of Site:*	*Number of Photos Attached:*
NA	12/27/1985- spud date	4
Location: *(GPS coordinates of wellhead or southeastern most wellhead for multiple)*		*Estimated Facility Size (acres):*
40.281630 / -104.534630		~0.03

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 encountered or observed

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	05-123-12908					
Age	12/27/1985- spud date					
Condition of surface around wellhead	Good					
PID Readings	2.2 to 27.5 ppm					
Condition of subsurface (staining present	Good					
PID Readings	9.0 ppm					
Sample taken? Location/Sample ID#	WH01@6					
Photo Number(s)	1-4					

Other observations regarding wellheads:

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
Highest PID Reading: 27.5 ppm	*Total number of samples submitted to lab for analysis:* 1

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:	