



Facility Closure Investigation and Environmental Summary

Todd 20-02 Wellhead

ECMC Remediation Project #34774

Weld County, Colorado

Attachments:

Figure 1 – General Location Map

Figure 2 – Wellhead Soil Sample and Field Screening Locations

Figure 3 – Supplemental Site Investigation Map

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

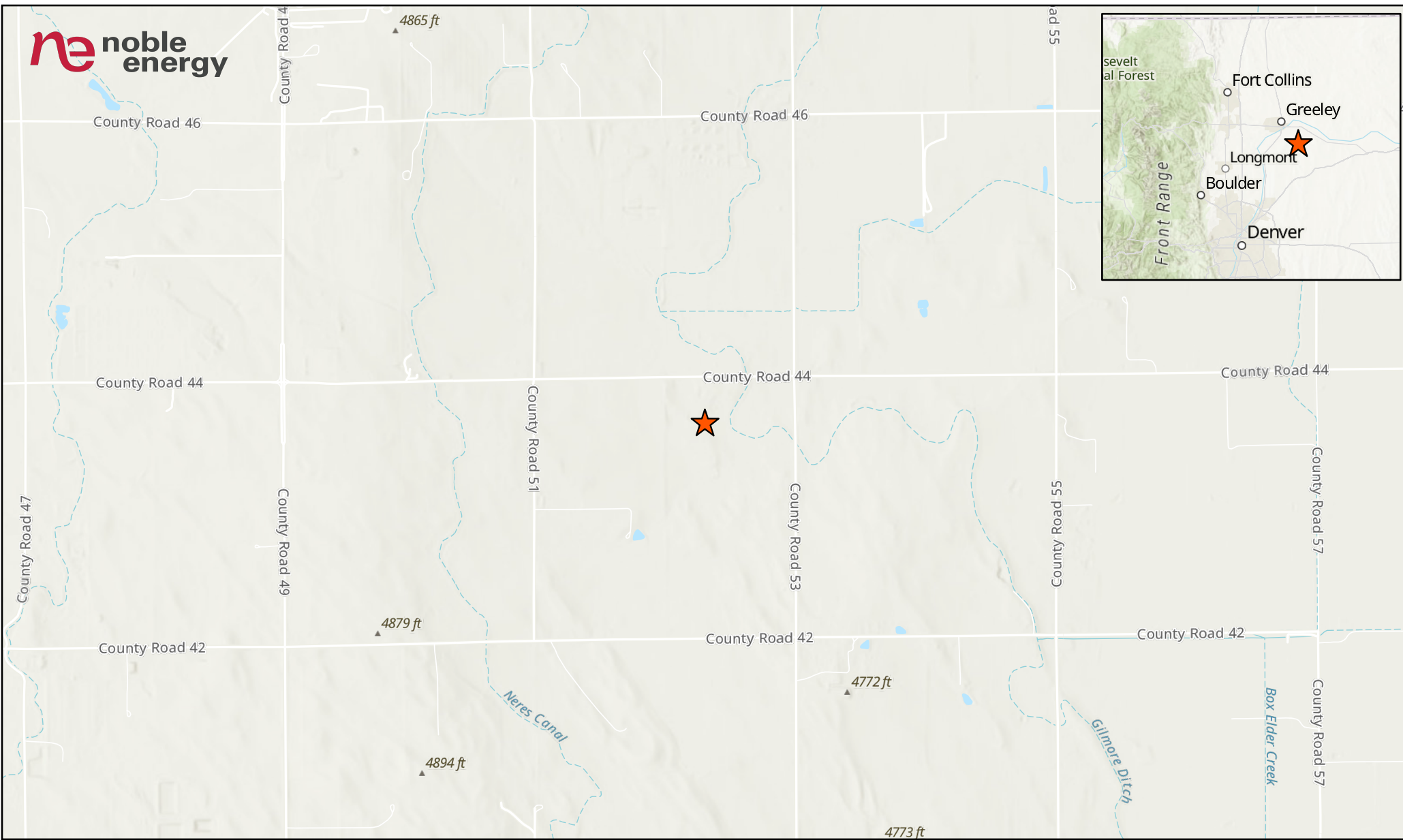
Table 5 – Soil Analytical Results Summary Table – Metals

Attachment A: Photographic Log

Attachment B: Facility Closure Checklists

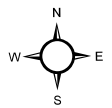
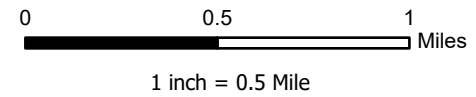
Attachment C: Field Form

FIGURES



LEGEND

 Site Location



Project No: 024-226

Map By: JW

Date: 07/25/2024

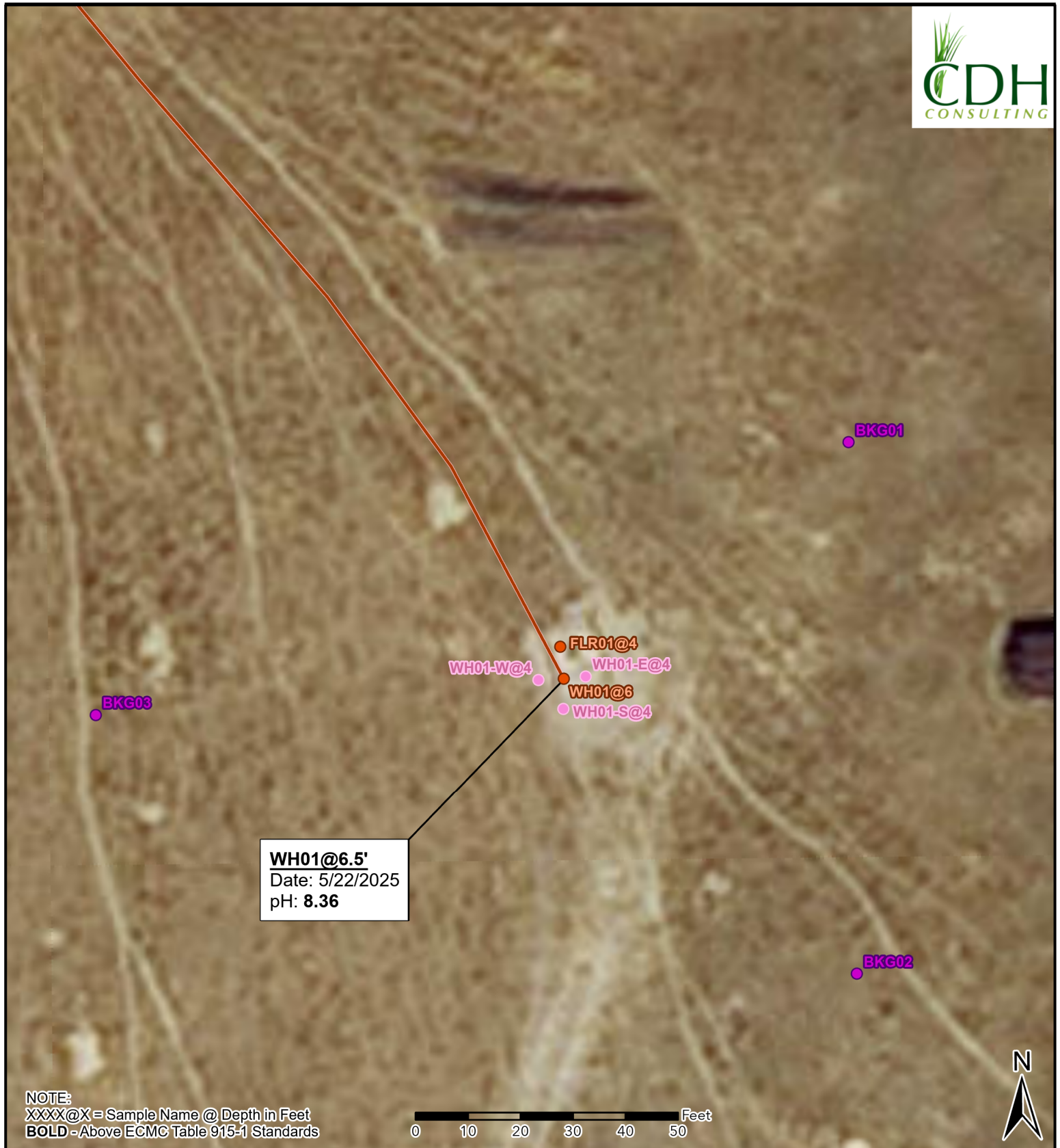
**TODD 20-02 WELLHEAD
GENERAL LOCATION MAP**
NOBLE ENERGY
NW 1/4 NE 1/4 SECTION 20
T4N R64W, 6TH PM
WELD COUNTY, COLORADO



1843 Sunlight Dr.
Longmont, CO 80504
303.378.4036

Figure

1



WH01@6.5'
 Date: 5/22/2025
 pH: 8.36

NOTE:
 XXXX@X = Sample Name @ Depth in Feet
 BOLD - Above ECMC Table 915-1 Standards

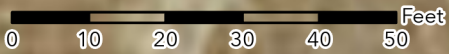
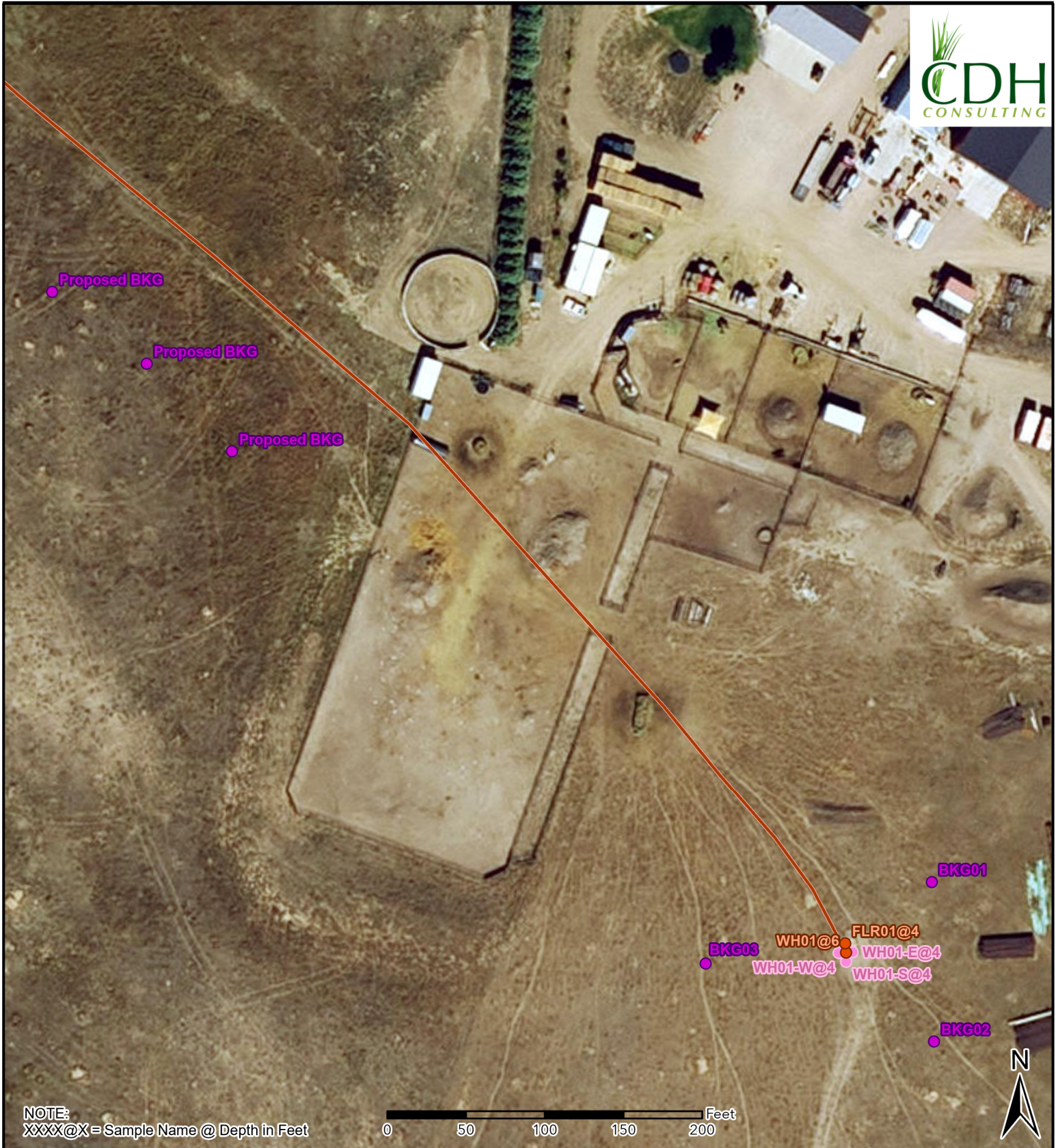


Figure 2
Soil Sample
Locations Map
 TODD 20-02 WH
 SESE-SEC 21-T4N-R64W
 Weld County, Colorado
 Noble Energy Inc.

- Soil Sample
- Background Sample
- Screening Point
- Flowline Removed



NOTE:
XXXX@X = Sample Name @ Depth in Feet

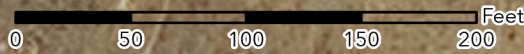


Figure 3 Supplemental Source Investigation Map

TODD 20-02 WH
SESE-SEC 21-T4N-R64W
Weld County, Colorado
Noble Energy Inc.

- Soil Sample
- Background Sample
- Screening Point
- Flowline Removed

TABLES

TABLE 1
FIELD DATA SUMMARY TABLE
NOBLE 100322
TODD 20-02 WELLHEAD, WELD COUNTY, COLORADO
REM # 34774

Sample ID	Sample Date	Depth (ft)	GPS Data		PDOP Value	VOC Concentration (ppm)
			Latitude/Longitude			
WH01@6	5/17/2024	6	40.3026661	-104.5716391	NM	0.6
FLR01@4	5/17/2024	4	40.3026826	-104.5716413	NM	0.4
WH01-S@4	5/17/2024	4	40.3026502	-104.5716394	NM	0.7
WH01-E@4	5/17/2024	4	40.3026671	-104.5716241	NM	0.8
WH01-W@4	5/17/2024	4	40.3026656	-104.5716564	NM	0.0
WH01@6.5	5/22/2025	6.5	40.3026661	-104.5716391	NM	0.0
BKG01@4'	6/30/2025	4	40.302781	-104.57143	0.851422	0.5
BKG01@6'	6/30/2025	6	40.302781	-104.57143	0.851422	0.6
BKG02@4'	6/30/2025	4	40.302503	-104.571431	0.898924	0.6
BKG02@6'	6/30/2025	6	40.302503	-104.571431	0.898924	0.7
BKG03@4'	6/30/2025	4	40.302643	-104.571949	0.981757	0.8
BKG03@6'	6/30/2025	6	40.302643	-104.571949	0.981757	0.4

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).

PDOP = Position Dilution of Precision

ppm = Parts per million

ft = Feet

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE 100322
TODD 20-02 WELLHEAD, WELD COUNTY, COLORADO
REM # 34774

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	5/22/2025	6.5	<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
TODD 20-02 WELLHEAD, WELD COUNTY, COLORADO
REM # 34774

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	5/22/2025	6.5	<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
TODD 20-02 WELLHEAD, WELD COUNTY, COLORADO
REM # 34774

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	5/22/2025	6.5	8.36	0.228	0.678	0.118
BKG01@4'	6/30/2025	4	7.52	1.30	1.00	<0.100
BKG01@6'	6/30/2025	6	7.61	2.14	2.90	<0.100
BKG02@4'	6/30/2025	4	7.66	0.369	0.523	<0.100
BKG02@6'	6/30/2025	6	8.13	0.232	0.321	<0.100
BKG03@4'	6/30/2025	4	7.65	0.346	0.372	<0.100
BKG03@6'	6/30/2025	6	7.69	0.219	0.171	<0.100
Maximum Background Concentration			8.13	2.14	2.90	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
TODD 20-02 WELLHEAD, WELD COUNTY, COLORADO
REM # 34774

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	5/22/2025	6.5	1.67	<72.1	<0.334	<0.5*	<40.5	<12.3	<22.9	<0.229	<0.704	<325
BKG01@4'	6/30/2025	4	4.16	138	0.148	0.470	<10.0	<10.0	13.1	0.517	<0.500	51.8
BKG01@6'	6/30/2025	6	1.88	62.5	<0.100	<0.200	<10.0	<10.0	<10.0	0.389	<0.500	<50.0
BKG02@4'	6/30/2025	4	4.49	80.7	0.119	0.385	<10.0	<10.0	10.1	0.553	<0.500	<50.0
BKG02@6'	6/30/2025	6	2.45	61.4	<0.100	0.229	<10.0	<10.0	<10.0	0.348	<0.500	<50.0
BKG03@4'	6/30/2025	4	2.58	58.4	<0.100	0.323	<10.0	<10.0	<10.0	0.425	<0.500	<50.0
BKG03@6'	6/30/2025	6	2.27	45.1	<0.100	<0.200	<10.0	<10.0	<10.0	0.537	<0.500	<50.0
1.25x Maximum Background Concentration			5.61	172.5	0.185	0.588	NA	NA	16.38	0.691	NA	64.8

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**

Todd 20-02 Wellhead Photographic Log



Todd 20-02 Wellhead Photographic Log



Todd 20-02 Wellhead Photographic Log



Todd 20-02 Wellhead Photographic Log



Photographic Log

TODD 20-02 WELLHEAD – REM #34774

Noble Energy Inc.

6/30/2025

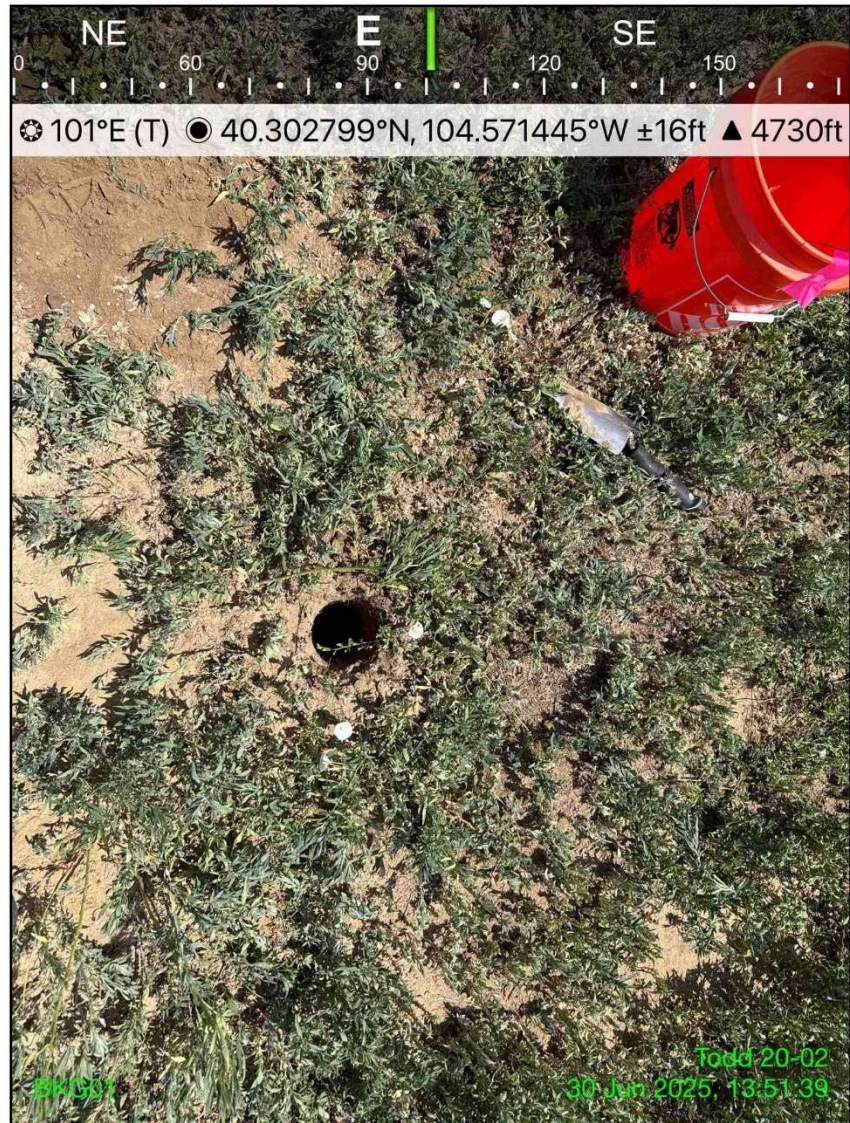


Photo 1: View of BKG01 sample location, facing east

Photographic Log

TODD 20-02 WELLHEAD – REM #34774

Noble Energy Inc.

6/30/2025



Photo 2: View of BKG02 sample location, facing south-southeast

Photographic Log
TODD 20-02 WELLHEAD – REM #34774
Noble Energy Inc.
6/30/2025



Photo 3: View of BKG03 sample location, facing east

**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: Todd 20-02, 249875		Date: 5/17/2024 and 5/22/2025						Remediation Project #: 34774	
Associated Wells: NA		Age of Site: 11/27/1993-spud date						Number of Photos Attached: 4	
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) 40.302677 / -104.571630							Estimated Facility Size (acres): ~0.01		
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.) Overall good									
USCS Soil Type: SM and SP				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	05-123-17678								
Age	11/27/1993-spud date								
Condition of surface around wellhead	Good								
PID Readings	0.0 to 0.8 ppm								
Condition of subsurface (staining present)	Good								
PID Readings	0.0 ppm								
Sample taken? Location/Sample ID#	WH01@6.5								
Photo Number(s)	1-4								
Other observations regarding wellheads: NA									
Summary									
Was impacted soil identified? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - less than 10 cubic yards <input type="checkbox"/> Yes - more than 10 cubic yards									
Total number of samples field screened: 5				Total number of samples collected: 5					
Highest PID Reading: 0.8 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? <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:									

**ATTACHMENT C
FIELD FORM**

