



CDH Consulting, LLC  
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## **Wellhead Closure Investigation and Environmental Summary**

WELLS RANCH USX AA13-08 Wellhead  
ECMC Remediation Project #40503  
Weld County, Colorado

### **Attachments:**

**Field Form**

**Figure 1 – Site Location Map**

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

**Figure 3 – Supplemental Site Investigation Map**

**Table 1 – Field Data Summary Table**

**Table 2 – Summary of Volatile Organic Soil Chemistry Data**

**Table 3 – Summary of Polycyclic Aromatic Hydrocarbon Soil Chemistry Data**

**Table 4 – Summary of Soil Suitability for Reclamation**

**Table 5 – Summary of Metals in Soil Chemistry Data**

**Photographic Log**



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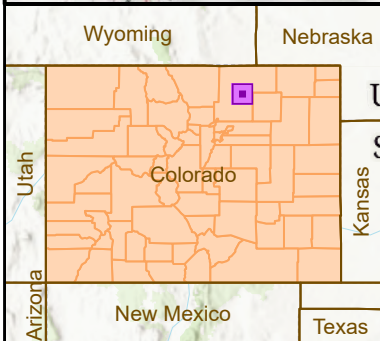
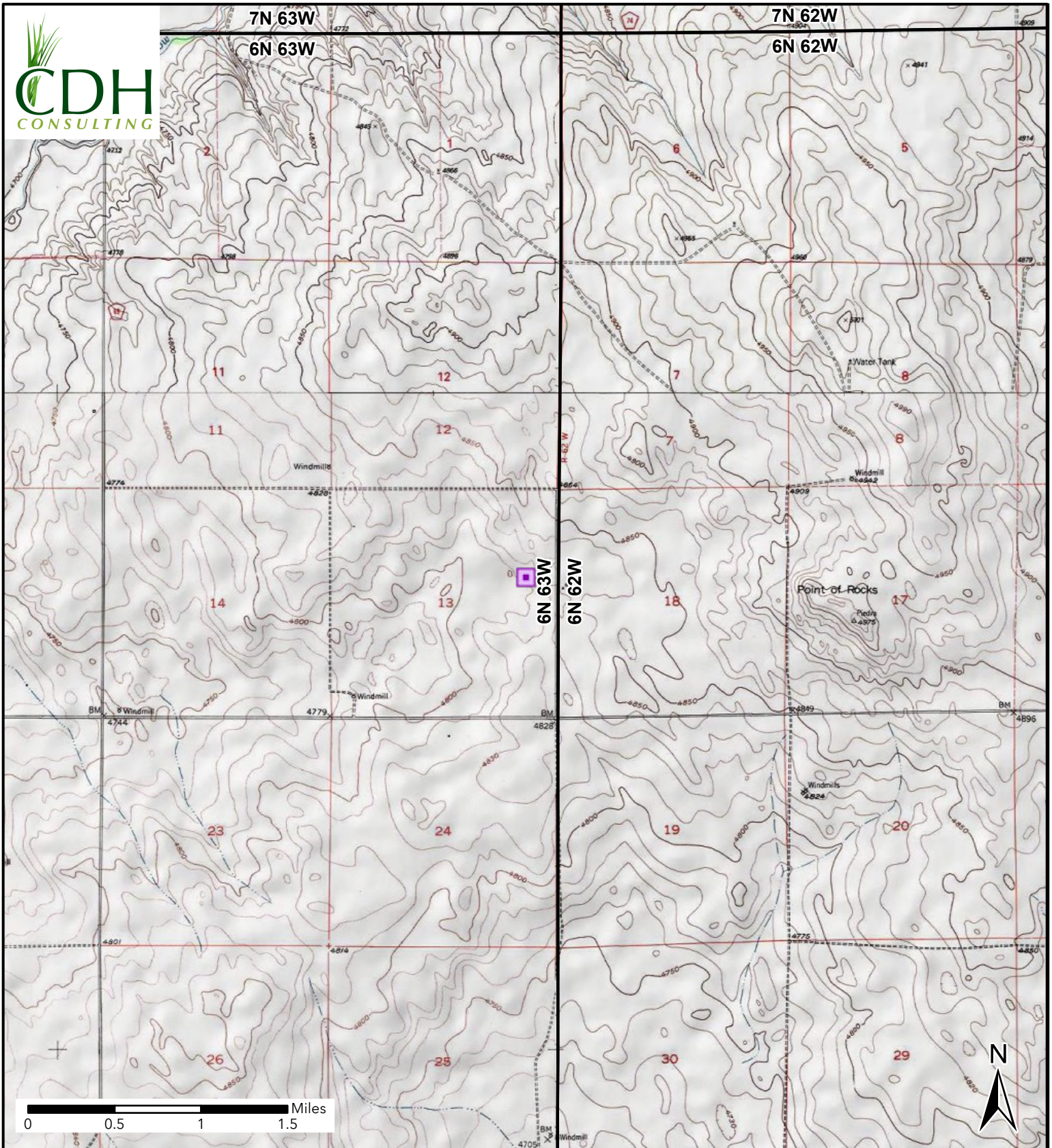
## **FIELD FORM**





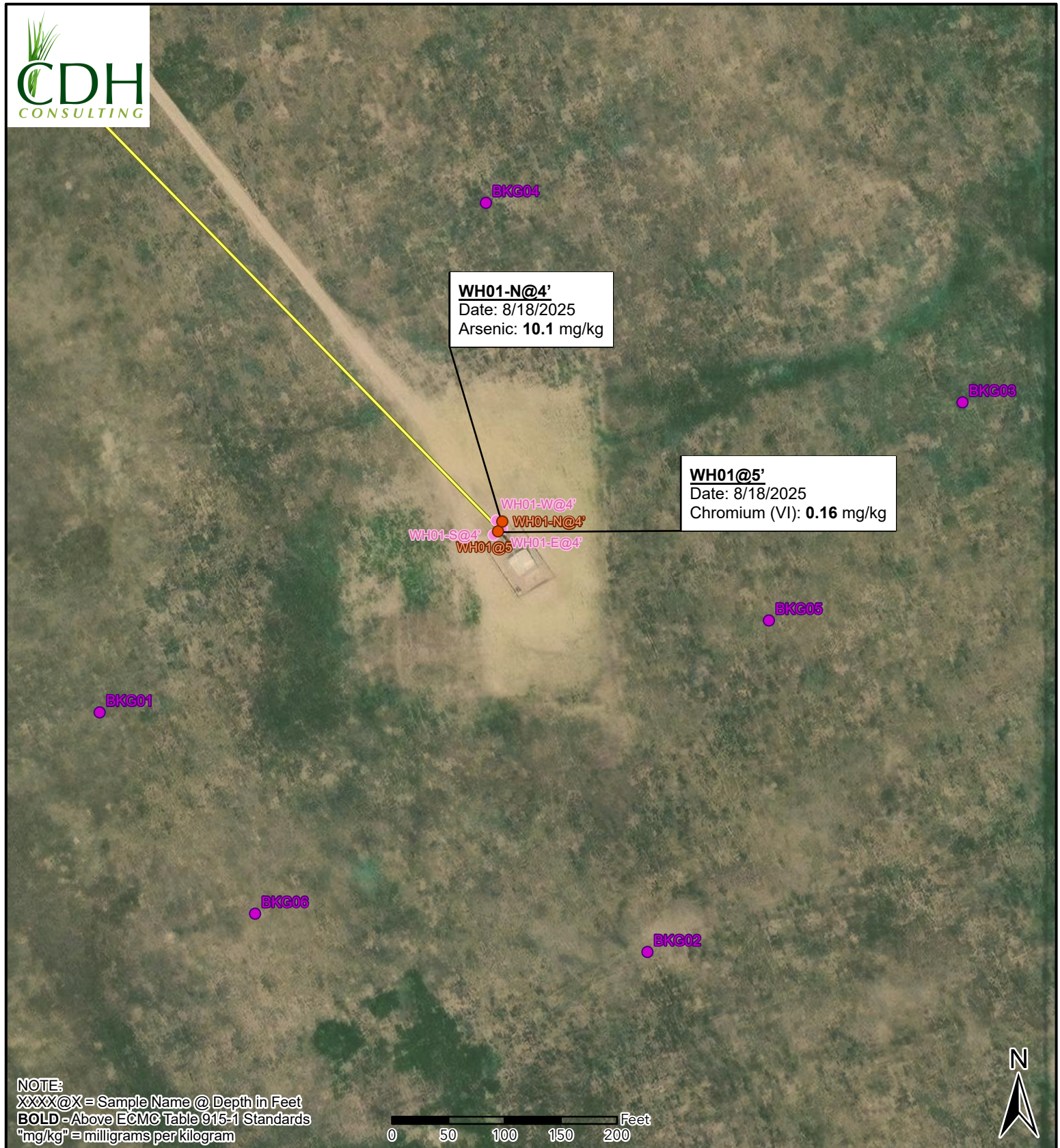
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## FIGURES



**Figure 1**  
**Site Location Map**  
**WELLS RANCH USX AA13-08**  
SENE SEC 13-T6N-R63W  
Weld County, Colorado  
Noble Energy Inc

 Site Location

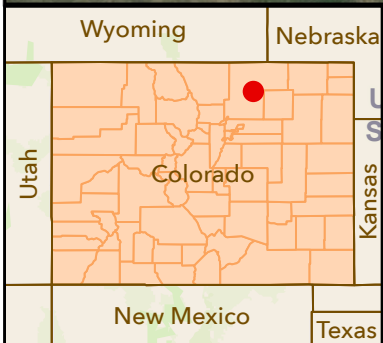
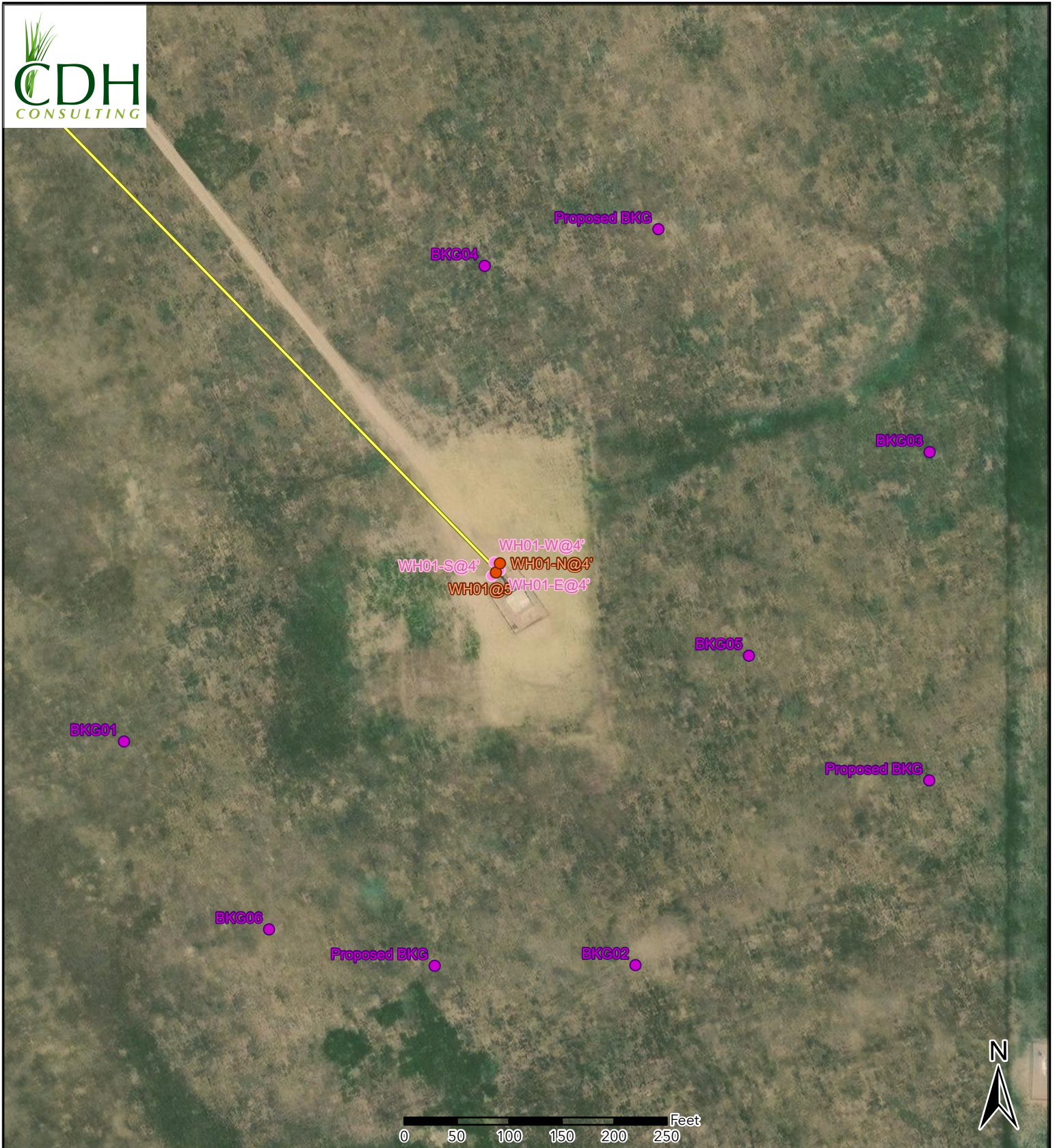


**NOTE:**  
 XXXX@X = Sample Name @ Depth in Feet  
**BOLD** - Above ECMC Table 915-1 Standards  
 "mg/kg" = milligrams per kilogram



**Figure 2**  
**Soil Sample and**  
**Field Screening Locations Map**  
**WELLS RANCH USX AA13-08**  
 SENE-SEC 13-T6N-R63W  
 Weld County, Colorado  
 Noble Energy Inc.

- Soil Sample
- Screening Point
- Background Sample
- Flowline Abandoned In Place



**Figure 3**  
**Supplemental Site Investigation Map**  
**WELLS RANCH USX AA13-08**  
 SENE SEC 13-T6N-R63W  
 Weld County, Colorado  
 Noble Energy Inc.

- Soil Sample
- Screening Point
- Background Sample
- Flowline Abandoned In Place



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## **TABLES**

**TABLE 1**  
**FIELD DATA SUMMARY TABLE**  
**NOBLE 100322**  
**WELLS RANCH USX AA13-08, WELD COUNTY, COLORADO**  
**REM # 40503**

Sample ID	Sample Date	Depth (ft)	GPS Data		PDOP Value	VOC Concentration (ppm)
			Latitude/Longitude			
WH01@5'	8/18/2025	5	40.488293	-104.377959	1.900000	2.8
WH01-N@4'	8/18/2025	4	40.488317	-104.377945	0.900000	2.9
WH01-E@4'	8/18/2025	4	40.488299	-104.377946	1.400000	1.5
WH01-S@4'	8/18/2025	4	40.488284	-104.377973	1.200000	1.5
WH01-W@4'	8/18/2025	4	40.488319	-104.377964	1.000000	1.7
BKG01@4.5'	8/18/2025	4.5	40.487864	-104.379246	1.000000	0.4
BKG02@4.5'	8/18/2025	4.5	40.487270	-104.377500	0.900000	0.2
BKG03@4.5'	8/18/2025	4.5	40.488606	-104.376481	0.900000	0.1
BKG04@4.5'	10/24/2025	4.5	40.489095	-104.377990	1.100000	0.1
BKG05@4.5'	10/24/2025	4.5	40.488071	-104.377094	1.000000	0.0
BKG06@4.5'	10/24/2025	4.5	40.487364	-104.378744	0.900000	0.0

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  
WELLS RANCH USX AA13-08, WELD COUNTY, COLORADO  
REM # 40503

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@5'	8/18/2025	5	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	30.9	<0.224	30.9	<112
WH01-N@4'	8/18/2025	4	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<135.216	<0.216	<27.0	<108

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

TABLE 3  
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA  
NOBLE 100322  
WELLS RANCH USX AA13-08, WELD COUNTY, COLORADO  
REM # 40503

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@5'	8/18/2025	5	<0.022	<0.022	<0.006	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.002	<0.002
WH01-N@4'	8/18/2025	4	<0.022	<0.022	<0.005	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<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

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

mg/kg = Milligrams per kilogram

ft = Feet

TABLE 4  
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION  
NOBLE 100322  
WELLS RANCH USX AA13-08, WELD COUNTY, COLORADO  
REM # 40503

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@5'	8/18/2025	5	7.92	1.18	2.34	0.254
WH01-N@4'	8/18/2025	4	8.18	0.275	0.655	0.171
BKG01@4.5'	8/18/2025	4.5	7.51	0.0889	0.108	0.167
BKG02@4.5'	8/18/2025	4.5	<b>8.39</b>	0.356	1.22	0.261
BKG03@4.5'	8/18/2025	4.5	7.21	0.0806	0.0887	<0.102
BKG04@4.5'	10/24/2025	4.5	7.21	0.33	0.245	<0.50
BKG05@4.5'	10/24/2025	4.5	7.81	0.26	0.132	<0.50
BKG06@4.5'	10/24/2025	4.5	7.75	0.33	0.110	<0.50
Maximum Background Concentration			8.39	0.356	1.22	0.261

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.

ft = Feet

EC = Electrical Conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligrams per liter

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

TABLE 5  
SUMMARY OF METALS IN SOIL CHEMISTRY DATA  
NOBLE 100322  
WELLS RANCH USX AA13-08, WELD COUNTY, COLORADO  
REM # 40503

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@5'	8/18/2025	5	<b>3.36</b>	<73.6	<0.341	<b>0.16</b>	<41.3	<12.6	<23.3	<0.233	<0.718	<332
WH01-N@4'	8/18/2025	4	<b>10.1</b>	<76.0	<0.352	<0.22*	<42.6	<13.0	<24.1	<0.241	<0.741	<343
BKG01@4.5'	8/18/2025	4.5	<b>2.03</b>	<69.3	<0.321	<0.20*	<38.9	<11.8	<22.0	<0.220	<0.676	<313
BKG02@4.5'	8/18/2025	4.5	<b>7.41</b>	<b>110</b>	<0.379	<0.21*	<45.8	<13.9	<25.9	<0.259	<0.797	<369
BKG03@4.5'	8/18/2025	4.5	<b>2.79</b>	<72.6	<0.337	<0.20*	<40.8	<12.4	25.2	<0.230	<0.709	<328
BKG04@4.5'	10/24/2025	4.5	<b>2.4</b>	61.0	<0.077	<0.40*	3.3	5.0	5.9	<0.15	<0.077	15.2
BKG05@4.5'	10/24/2025	4.5	<b>3.0</b>	71.6	0.098	<0.40*	3.6	4.9	4.5	<0.14	<0.072	15.2
BKG06@4.5'	10/24/2025	4.5	<b>4.9</b>	58.3	0.17	<0.42*	3.8	4.7	3.9	0.18	<0.073	16.1
1.25x Maximum Background Concentration			9.26	138	0.21	NA	4.8	6.3	31.5	0.23	NA	20.1

- Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.
- Red** faced values exceed the ECMC Table 915-1 limit(s) and native background concentrations.
- Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL).
- Non-detect background results accounted for in the highest background concentration by using the reporting limit.

(<) = 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

NA = Not analyzed



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## **PHOTOGRAPHIC LOG**

**Photographic Log**  
WELLS RANCH USX AA13-08 – REM #40503  
Noble Energy Inc  
10/24/2025



**Photo 1:** View of background location 4, facing south-southwest

**Photographic Log**

WELLS RANCH USX AA13-08 – REM #40503

Noble Energy Inc

10/24/2025



**Photo 2:** View of background location 5, facing northwest

**Photographic Log**

WELLS RANCH USX AA13-08 – REM #40503

Noble Energy Inc

10/24/2025



**Photo 3:** View of background location 6, facing southeast