



CDH Consulting, LLC
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Wellhead Closure Investigation and Environmental Summary

WELLS RANCH USX AA13-07 Wellhead

ECMC Remediation Project #40521

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

SITE NAME / REM: WELLS RANCH USX AA13-07 REM #40521								DATE: 10/24/25	WEATHER: 65F, Sunny	
TYPE OF WORK: Wellhead Cut & Cap								CLIENT: Noble Energy Inc.		
LAT/LONG: 40.488192, -104.382519								PERSONNEL: DT		
ESTIMATED DEPTH TO GROUNDWATER: Groundwater not encountered								OTHER OBSERVATIONS: No flowline riser present		
SOIL SAMPLING								FACILITY INFRASTRUCTURE		
Date	Soil Sample ID	Soil Type	PID (ppm)	Staining (Y/N)	Odor (Y/N)	Time	Sent to lab on Ice? (Y/N)	EQUIPMENT	Quantity	
10/24/2025	BKG04@4.5'	SP	0.6	N	N	11:11	Y	Above Ground Storage Tank (AST)	0	
10/24/2025	BKG05@4.5'	SP	0.2	N	N	11:23	Y	Buried or Partially Buried Vessel	0	
10/24/2025	BKG06@4.5'	SP	0.0	N	N	11:35	Y	Separator	0	
								Emission Control Device (ECD)	0	
								Dump Line	0	
								Wellhead	1	
								Flowline	0	
								Third Party Equipment:	0	
								Other:	0	
								Soil Loads Removed		
								IMPACTED SOIL IDENTIFIED? No		
								ESTIMATED VOLUME OF IMPACTS: n/a		
								Date	Number	CY
								Total Removed		
								Disposal Facility:		
								Groundwater Recovery		
								DATE GW ENCOUNTERED:	DEPTH:	
								GROUNDWATER IN CONTACT WITH IMPACTED SOIL?		
								LNAPL OR SHEEN OBSERVED ON GW?		
GROUNDWATER SAMPLING								Date	BBLs	
Date/Time	Groundwater Sample ID	Depth Collected	Turbid?	Sheen?	Odor?	Photo?	Sent to lab on Ice? (Y/N)			
								Total Removed		
								Disposal Facility:		





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FIGURES

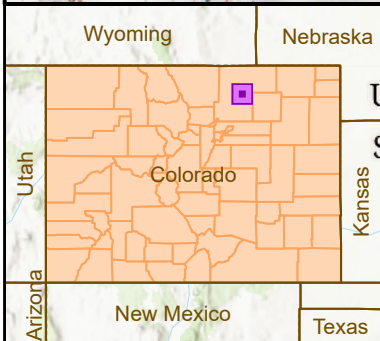
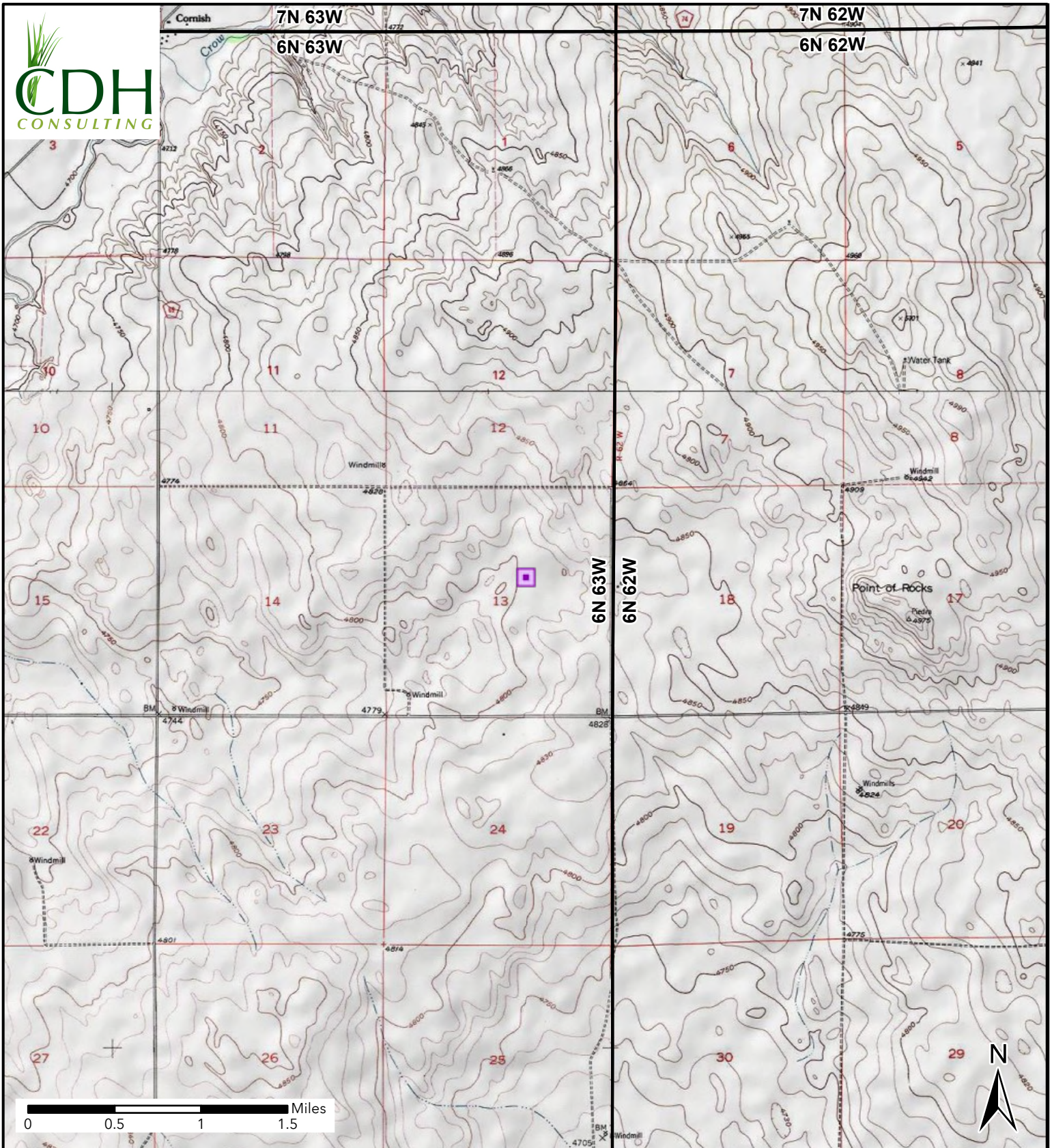
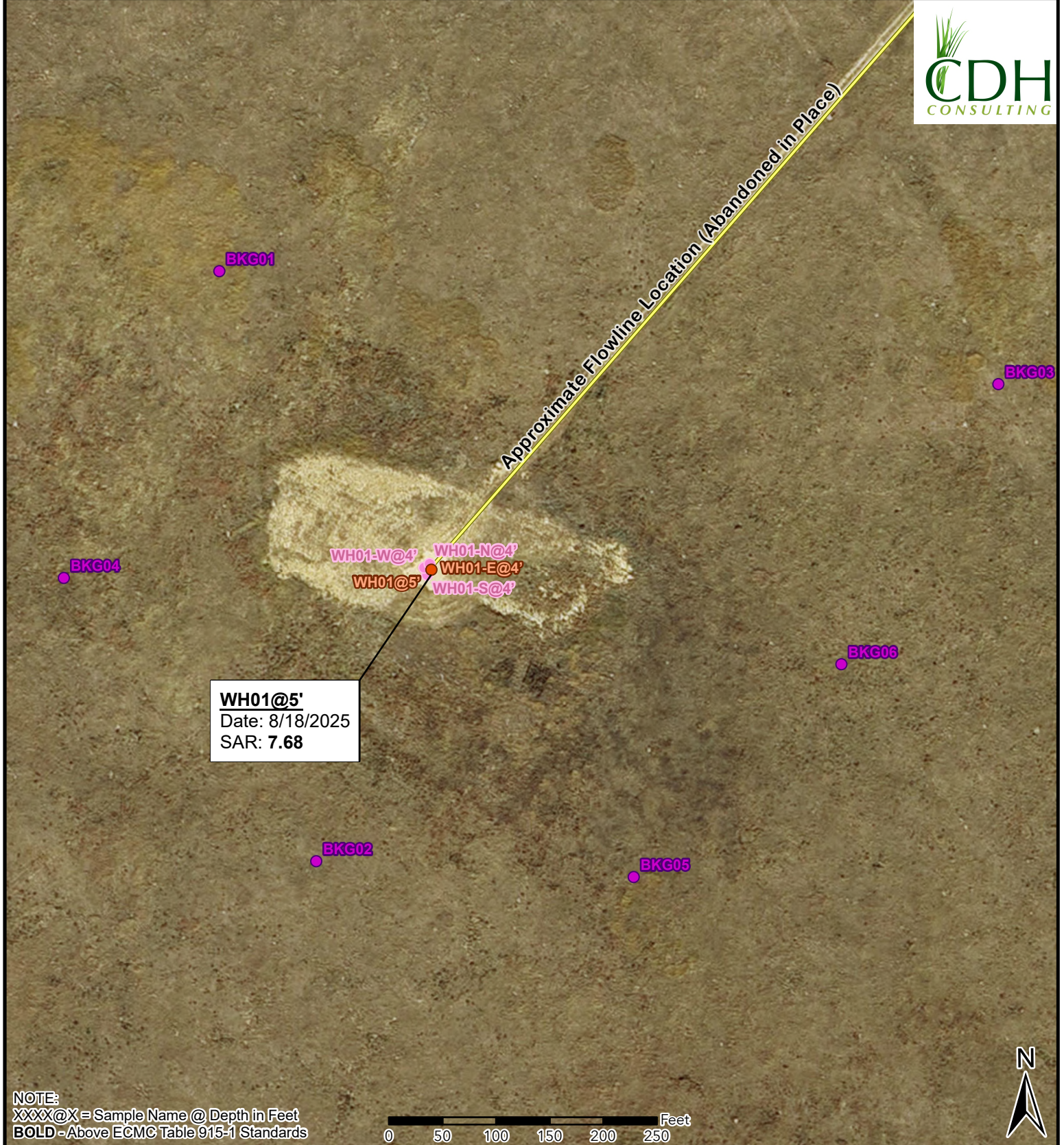


Figure 1
Site Location Map
WELLS RANCH USX AA13-07
SWNE SEC 13-T6N-R63W
Weld County, Colorado
Noble Energy Inc

 Site Location



WH01@5'
Date: 8/18/2025
SAR: 7.68

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

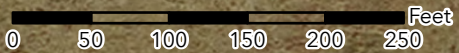


Figure 2
Soil Sample and Field Screening Locations Map
WELLS RANCH USX AA13-07
SWNE-SEC 13-T6N-R63W
Weld County, Colorado
PDC Energy Inc

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

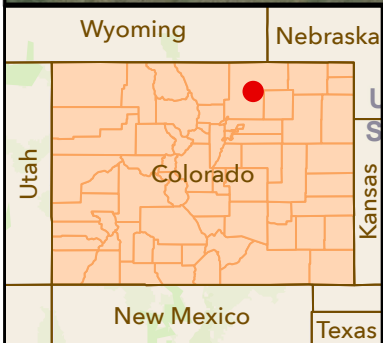
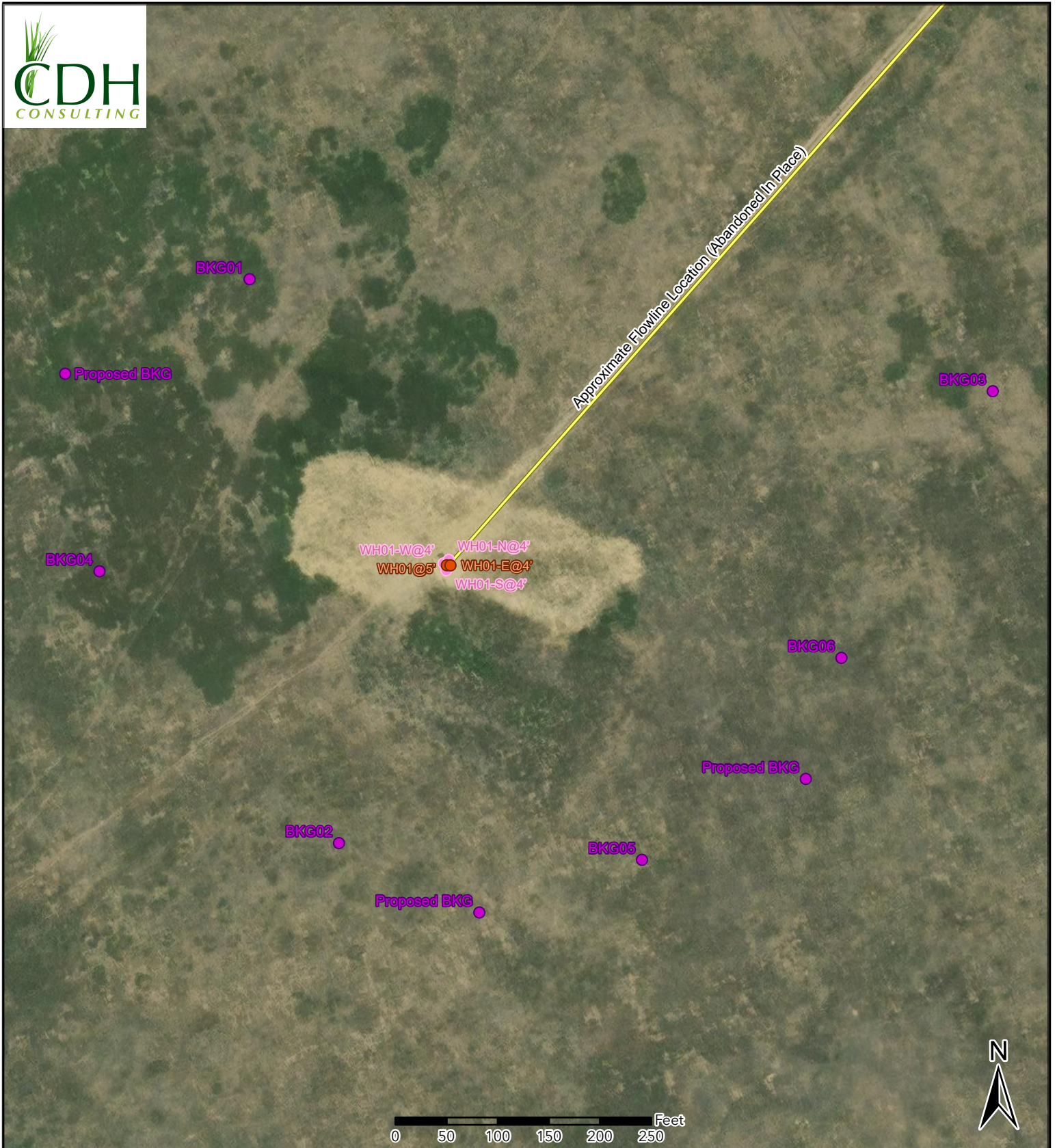


Figure 3
Supplemental Site Investigation Map
WELLS RANCH USX AA13-07
 SWNE SEC 13-T6N-R63W
 Weld County, Colorado
 Noble Energy Inc.

- 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 AA13-07, WELD COUNTY, COLORADO
REM # 40521

Sample ID	Sample Date	Depth (ft)	GPS Data		PDOP Value	VOC Concentration (ppm)
			Latitude	Longitude		
WH01@5'	8/18/2025	5	40.488190	-104.382524	1.800000	3.0
WH01-N@4'	8/18/2025	4	40.488204	-104.382517	1.300000	0.9
WH01-E@4'	8/18/2025	4	40.488189	-104.382512	1.700000	1.9
WH01-S@4'	8/18/2025	4	40.488176	-104.382526	1.100000	1.6
WH01-W@4'	8/18/2025	4	40.488195	-104.382536	1.500000	1.1
BKG01@4.5'	8/18/2025	4.5	40.488967	-104.383220	1.100000	0.6
BKG02@4.5'	8/18/2025	4.5	40.487453	-104.382920	0.900000	0.3
BKG03@4.5'	8/18/2025	4.5	40.488653	-104.380612	1.000000	0.6
BKG04@4.5'	10/24/2025	4.5	40.488180	-104.383745	0.900000	0.6
BKG05@4.5'	10/24/2025	4.5	40.487396	-104.381846	0.900000	0.2
BKG06@4.5'	10/24/2025	4.5	40.487934	-104.381140	1.000000	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 AA13-07, WELD COUNTY, COLORADO
REM # 40521

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	<136.5	<0.219	<27.3	<109
WH01-E@4'	8/18/2025	4	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<135.2	<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 AA13-07, WELD COUNTY, COLORADO
REM # 40521

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	<0.005	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.002	<0.002
WH01-E@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 AA13-07, WELD COUNTY, COLORADO
REM # 40521

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	8.31	1.18	7.68	0.795
WH01-E@4'	8/18/2025	4	7.83	0.850	0.602	0.350
BKG01@4.5'	8/18/2025	4.5	7.55	0.0687	0.150	0.161
BKG02@4.5'	8/18/2025	4.5	7.34	0.0386	0.109	0.123
BKG03@4.5'	8/18/2025	4.5	8.33	0.122	0.113	0.203
BKG04@4.5'	10/24/2025	4.5	7.38	0.30	0.194	<0.50
BKG05@4.5'	10/24/2025	4.5	8.02	0.24	0.203	<0.50
BKG06@4.5'	10/24/2025	4.5	7.93	0.36	0.271	<0.50
Maximum Background Concentration			8.33	0.36	0.271	0.203

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.

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 AA13-07, WELD COUNTY, COLORADO
REM # 40521

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	3.52	72.7	<0.310	<0.25*	<37.5	<11.4	<21.2	<0.201	<0.653	<302
WH01-E@4'	8/18/2025	4	2.80	<58.6	<0.273	<0.22*	<33.0	<10.1	<18.7	<0.177	<0.575	<266
BKG01@4.5'	8/18/2025	4.5	2.93	55.6	<0.248	<0.25*	<30.0	<9.14	<17.0	<0.161	<0.523	<242
BKG02@4.5'	8/18/2025	4.5	4.70	<57.4	<0.267	<0.26*	<32.4	<9.85	<18.3	<0.173	<0.563	<260
BKG03@4.5'	8/18/2025	4.5	2.66	149	<0.250	<0.22*	<30.2	13.1	<17.1	<0.162	<0.526	<243
BKG04@4.5'	10/24/2025	4.5	2.3	60.1	<0.085	<0.42*	3.4	4.7	3.5	<0.17	<0.085	14.4
BKG05@4.5'	10/24/2025	4.5	2.9	87.4	0.10	<0.41*	3.7	8.9	4.1	<0.17	<0.085	15.3
BKG06@4.5'	10/24/2025	4.5	2.3	127	0.12	<0.43*	4.1	4.8	4.8	<0.18	<0.092	16.8
1.25x Maximum Background Concentration			5.88	186	0.15	NA	5.1	16.4	6.0	NA	NA	21.0

- 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 AA13-07 - REM #40521

Noble Energy, Inc.

10/24/2025



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

Photographic Log

WELLS RANCH USX AA13-07 - REM #40521

Noble Energy, Inc.

10/24/2025



Photo 2: View of background location 5, facing northeast

Photographic Log
WELLS RANCH USX AA13-07 - REM #40521
Noble Energy, Inc.
10/24/2025



Photo 3: View of background location 6, facing north