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Wellhead Closure Investigation and Environmental Summary

CACHE 17-52 Wellhead
ECMC Remediation Project #40465
Weld County, Colorado

Attachments:

Field Form

Figure 1 – Site Location Map

Figure 2 – Soil Sample and Field Screening Locations Map

Table 1 – Field Data Summary Table

Table 2 – Summary of Volatile Organic Soil Chemistry Data

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Table 4 – Summary of Soil Suitability for Reclamation

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Photographic Log

Wellhead Closure Checklist



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FIELD FORM



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FIGURES

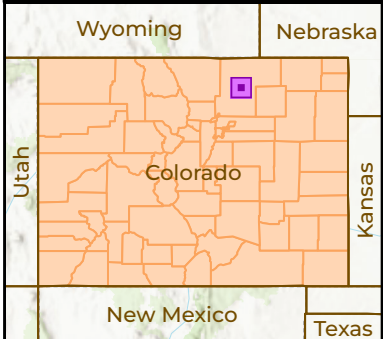
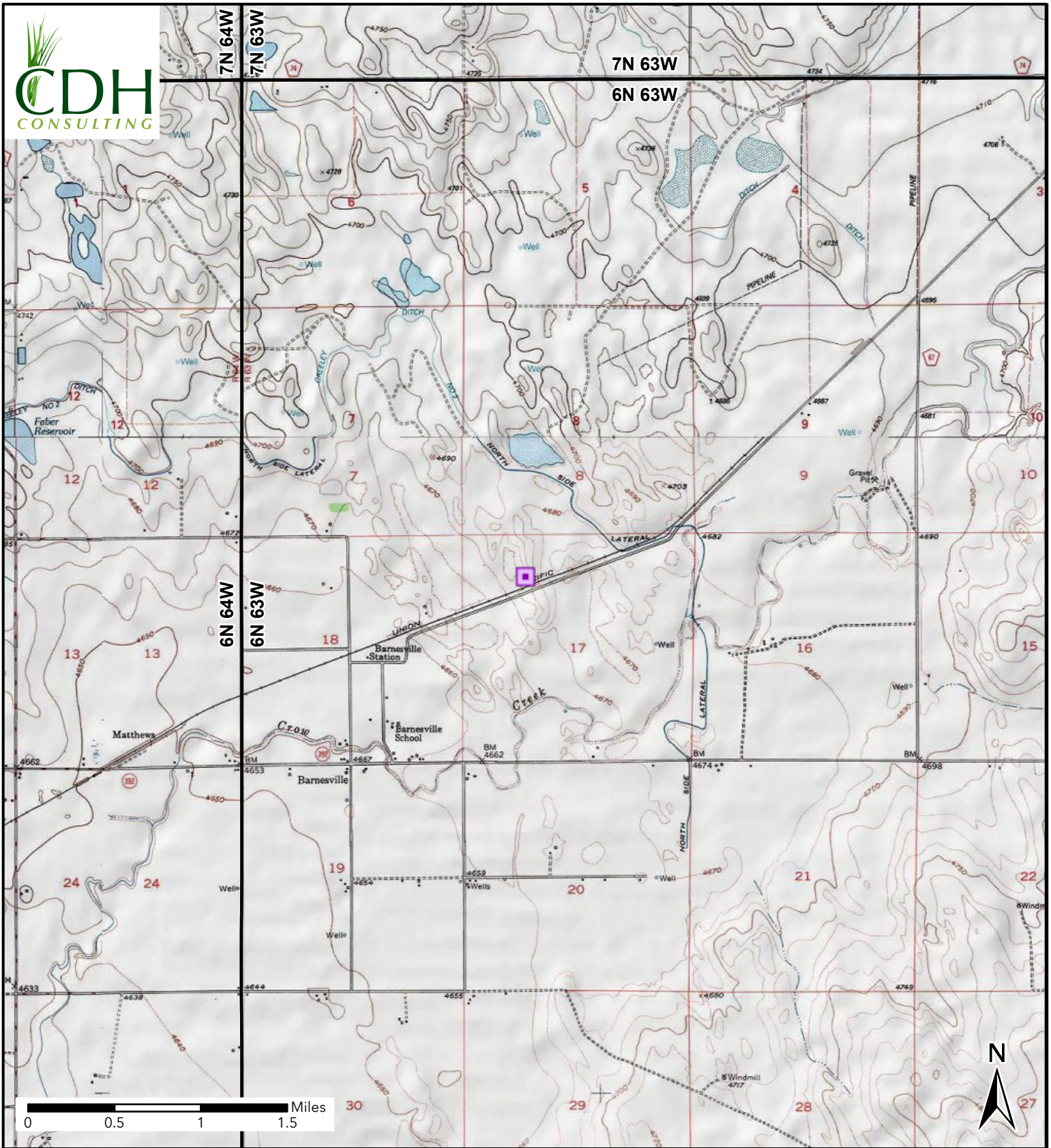
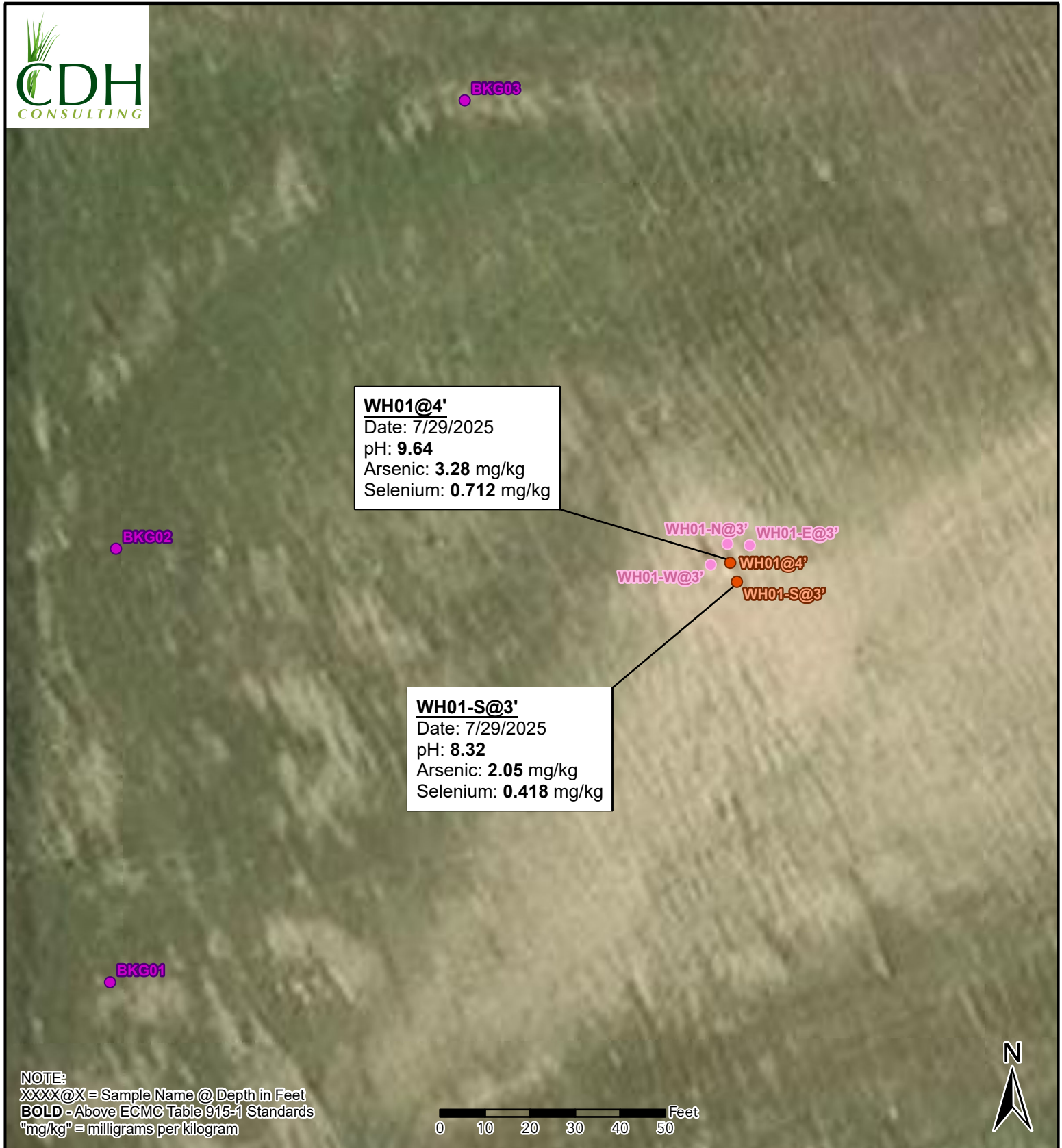


Figure 1
Site Location
CACHE 17-52
NENW-SEC 17-T6N-R63W
Weld County, Colorado
PDC Energy Inc.

 Site Location



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

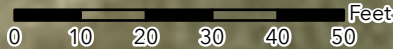


Figure 2 Soil Sample and Field Screening Locations Map

CACHE 17-52
 NENW-SEC 17-T6N-R63W
 Weld County, Colorado
 PDC Energy Inc.

- Soil Sample
- Background Sample
- Screening Point



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TABLES

TABLE 1
FIELD DATA SUMMARY TABLE
PDC 69175
CACHE 17-52, WELD COUNTY, COLORADO
REM # 40465

Sample ID	Sample Date	Depth (ft)	GPS Data		PDOP Value	VOC Concentration (ppm)
			Latitude/Longitude			
WH01@4'	7/29/2025	4	40.491117	-104.465075	1.400000	2.2
WH01-N@3'	7/29/2025	3	40.491128	-104.465077	1.200000	0.8
WH01-E@3'	7/29/2025	3	40.491127	-104.465059	1.100000	0.2
WH01-S@3'	7/29/2025	3	40.491105	-104.465070	1.000000	1.3
WH01-W@3'	7/29/2025	3	40.491116	-104.465091	1.100000	0.6
BKG01@3'	8/14/2025	3	40.490863	-104.465572	1.100000	2.1
BKG01@4'	8/14/2025	4	40.490863	-104.465572	1.100000	2.0
BKG02@3'	8/14/2025	3	40.491127	-104.465565	1.100000	3.2
BKG02@4'	8/14/2025	4	40.491127	-104.465565	1.100000	3.0
BKG03@3'	8/14/2025	3	40.491399	-104.465285	1.100000	2.2
BKG03@4'	8/14/2025	4	40.491399	-104.465285	1.100000	2.5

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
PDC 69175
CACHE 17-52, WELD COUNTY, COLORADO
REM # 40465

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@4'	7/29/2025	4	<0.00100	<0.0100	<0.0100	<0.100	<0.00500	<0.00500	<0.00300	42.4	<2.50	12.8	29.6
WH01-S@3'	7/29/2025	3	<0.00100	<0.0100	<0.0100	<0.100	<0.00500	<0.00500	<0.00300	<10.50	<2.50	<4.00	<4.00

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
PDC 69175
CACHE 17-52, WELD COUNTY, COLORADO
REM # 40465

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@4'	7/29/2025	4	<0.0330	<0.0330	<0.00600	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	<0.00300	<0.0120
WH01-S@3'	7/29/2025	3	<0.0330	<0.0330	<0.00600	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	<0.00300	<0.0120

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
PDC 69175
CACHE 17-52, WELD COUNTY, COLORADO
REM # 40465

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@4'	7/29/2025	4	9.64	0.460	3.68	<0.100
WH01-S@3'	7/29/2025	3	8.32	0.210	0.397	<0.100
Maximum Background Concentration			NA	NA	NA	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
PDC 69175
CACHE 17-52, WELD COUNTY, COLORADO
REM # 40465

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@4'	7/29/2025	4	3.28	58.4	<0.100	<0.200	<10.0	<10.0	<10.0	0.712	<0.500	<50.0
WH01-S@3'	7/29/2025	3	2.05	56.9	<0.100	<0.200	<10.0	<10.0	<10.0	0.418	<0.500	<50.0
1.25x Maximum Background Concentration			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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



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PHOTOGRAPHIC LOG

Photographic Log
CACHE 17-52 Wellhead
PDC Energy, Inc - REM #40465
07/29/2025 & 08/14/2025



Photo 1: View of WH01 sample location and excavation, facing west

Photographic Log
CACHE 17-52 Wellhead
PDC Energy, Inc - REM #40465
07/29/2025 & 08/14/2025

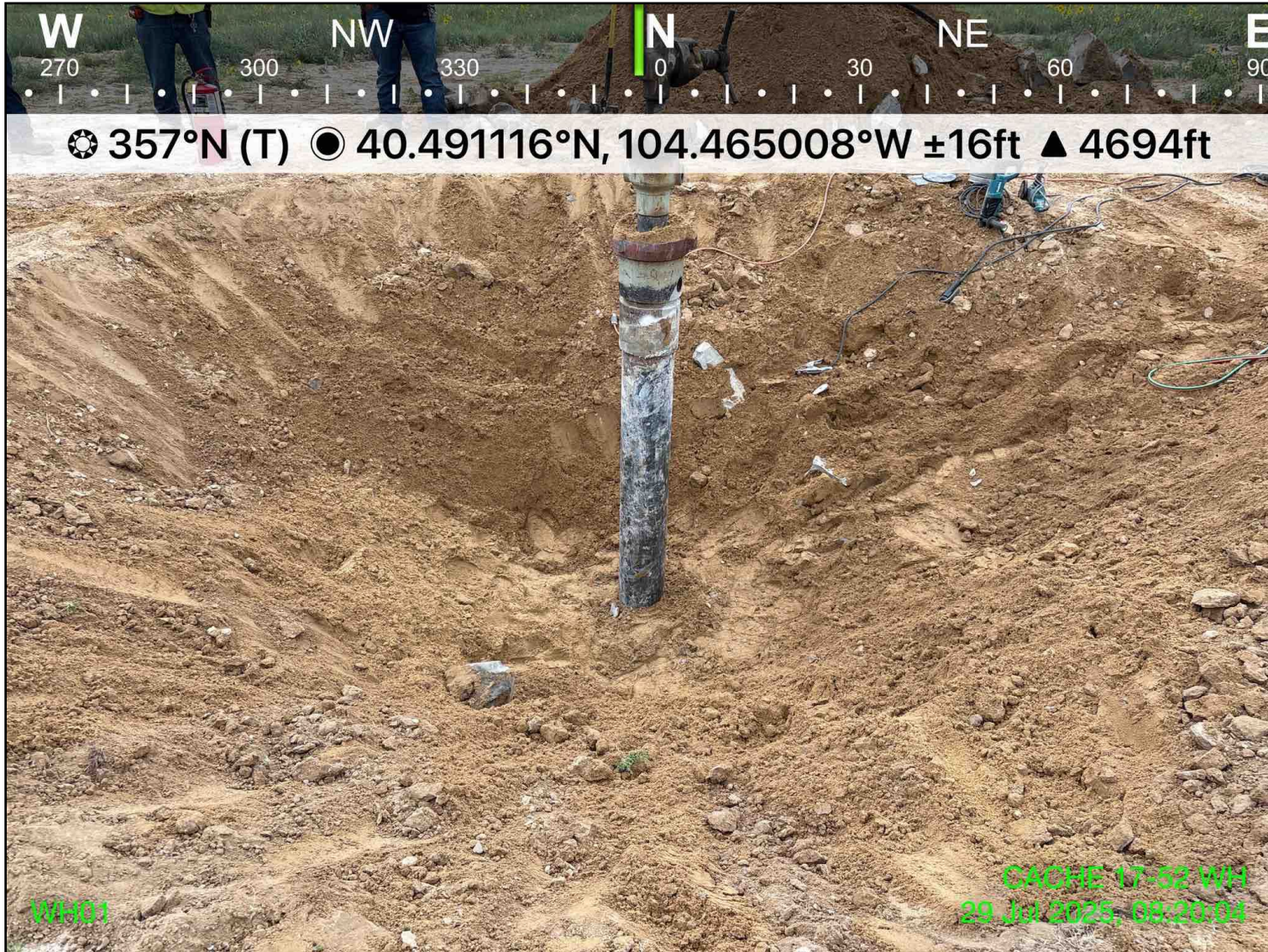


Photo 2: View of WH01 sample location and excavation, facing north

Photographic Log
CACHE 17-52 Wellhead
PDC Energy, Inc - REM #40465
07/29/2025 & 08/14/2025



Photo 3: View of WH01 sample location and excavation, facing east

Photographic Log
CACHE 17-52 Wellhead
PDC Energy, Inc - REM #40465
07/29/2025 & 08/14/2025



Photo 4: View of WH01 sample location and excavation, facing southwest

Photographic Log
CACHE 17-52 Wellhead
PDC Energy, Inc - REM #40465
07/29/2025 & 08/14/2025



Photo 5: View of BKG01 sample location, facing north

Photographic Log
CACHE 17-52 Wellhead
PDC Energy, Inc - REM #40465
07/29/2025 & 08/14/2025

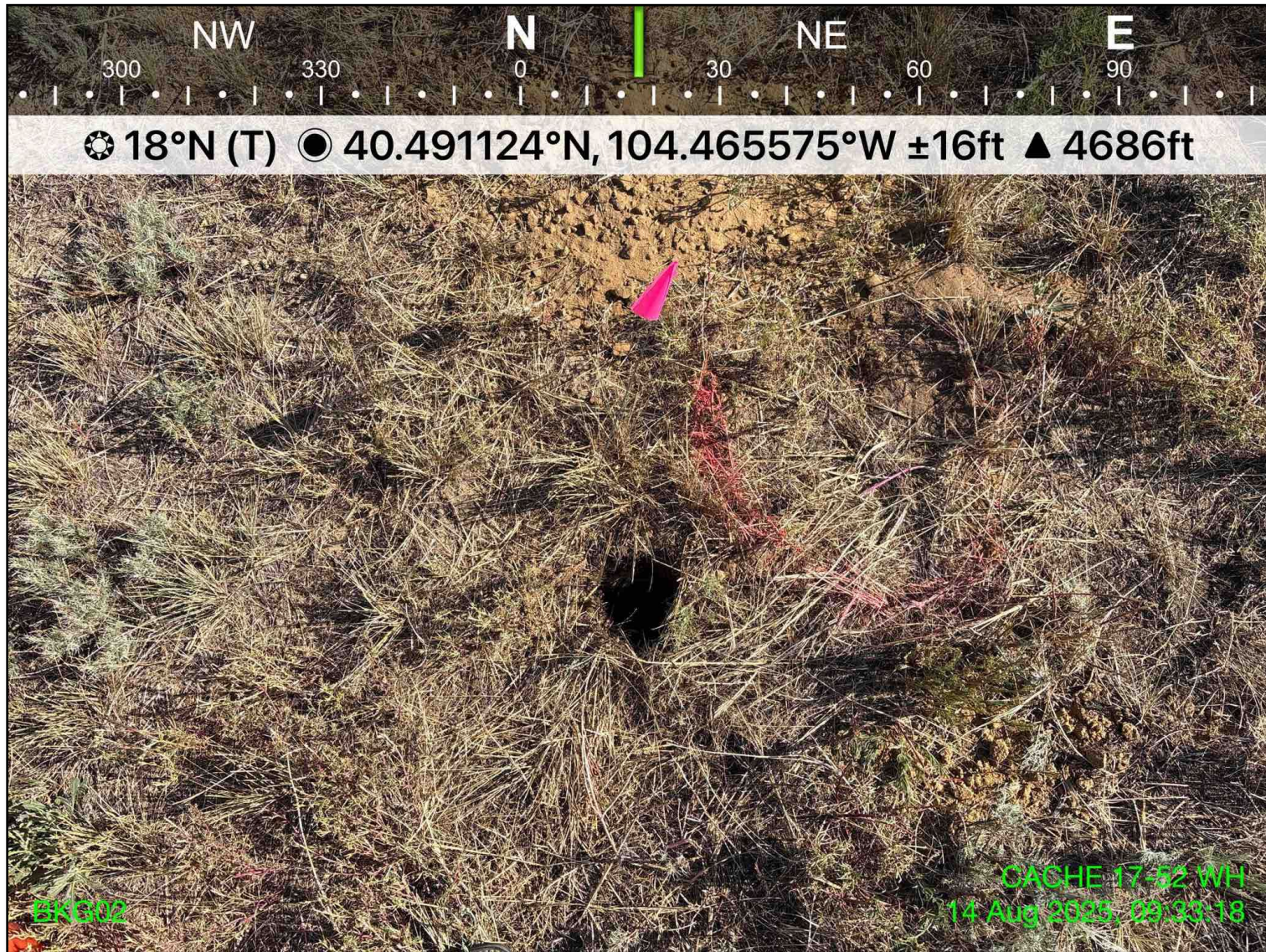


Photo 6: View of BKG02 sample location, facing north-northeast

Photographic Log
CACHE 17-52 Wellhead
PDC Energy, Inc - REM #40465
07/29/2025 & 08/14/2025

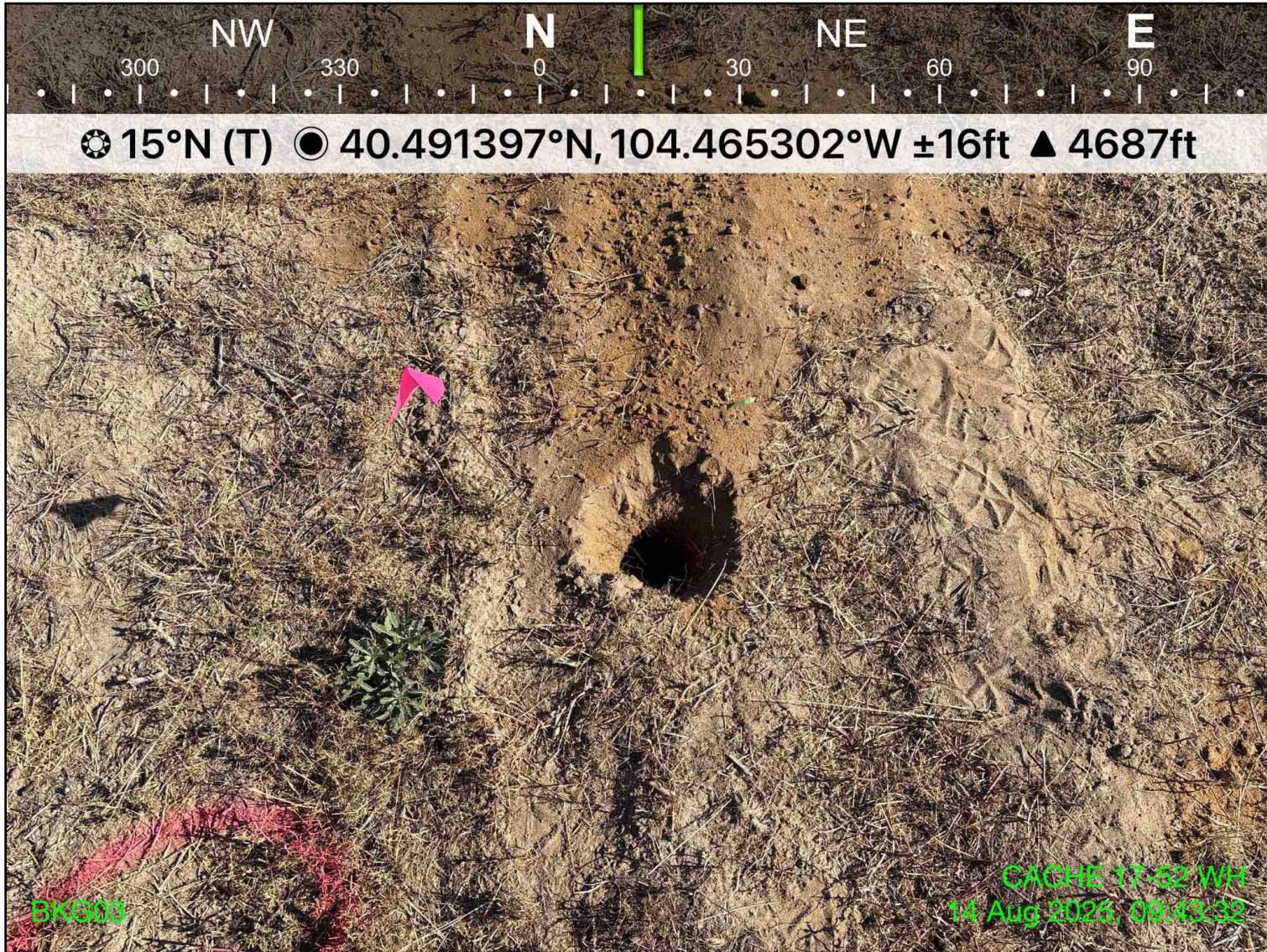


Photo 7: View of BKG03 sample location, facing north-northeast



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WELLHEAD 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
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Site Name & COGCC Facility Number: CACHE 17-52 / Facility ID #294548	Date: 7/29/2025	Remediation Project #: 40465
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Associated Wells: CACHE 17-52	Age of Site: 2/20/2008 (Spud Date)	Number of Photos Attached: 4
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Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) 40.491140, -104.465060	Estimated Facility Size (acres): ~0.1
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General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.) Good

USCS Soil Type: Well-graded Sands (SW)& Poorly-graded Sands (SP) Estimated Depth to Groundwater: Unknown, not encountered

Hydrocarbon Impacted Soils / Spills : (Note estimated size and if impact appears to be surficial or extends to an unknown depth) Not encountered

Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) Not encountered

Wellhead(s)

Well API	05-123-25485						
Age	2/20/2008 (Spud Date)						
Condition of surface around	Good						
PID Readings	0.2-2.2						
Condition of subsurface (staining)	Good						
PID Readings	0.2-2.2						
Sample taken? Location/Sample ID#	Yes, see attached						
Photo Number(s)	See attached						

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: 2
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Highest PID Reading: 2.2	Total number of samples submitted to lab for analysis: 2
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If more than 10 cubic yards of impacted soil were observed:

Vertical extent:	Estimated spill volume:
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Lateral extent:	Volume of soil removed:
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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
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Date Groundwater was encountered:	Commencement date of removal:
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Sheen on groundwater?		Yes	No	Volume of groundwater removed prior to sampling:
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Free product observed?		Yes	No	Volume of groundwater removed post sampling:
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Total number of samples collected:	Total Volume of groundwater removed:
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Total number of samples submitted to lab for analysis:	
--	--