



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

WHITE 1-1, 12-3, 27-4, 34-1, 2 Tank Battery

ECMC Remediation Project #37525

Weld County, Colorado

### **Attachments:**

**Field Form**

**Figure 1 – Site Location Map**

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

**Figure 3 – Supplemental Source Mass Removal 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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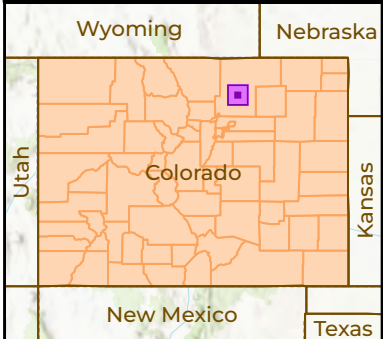
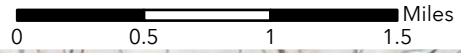
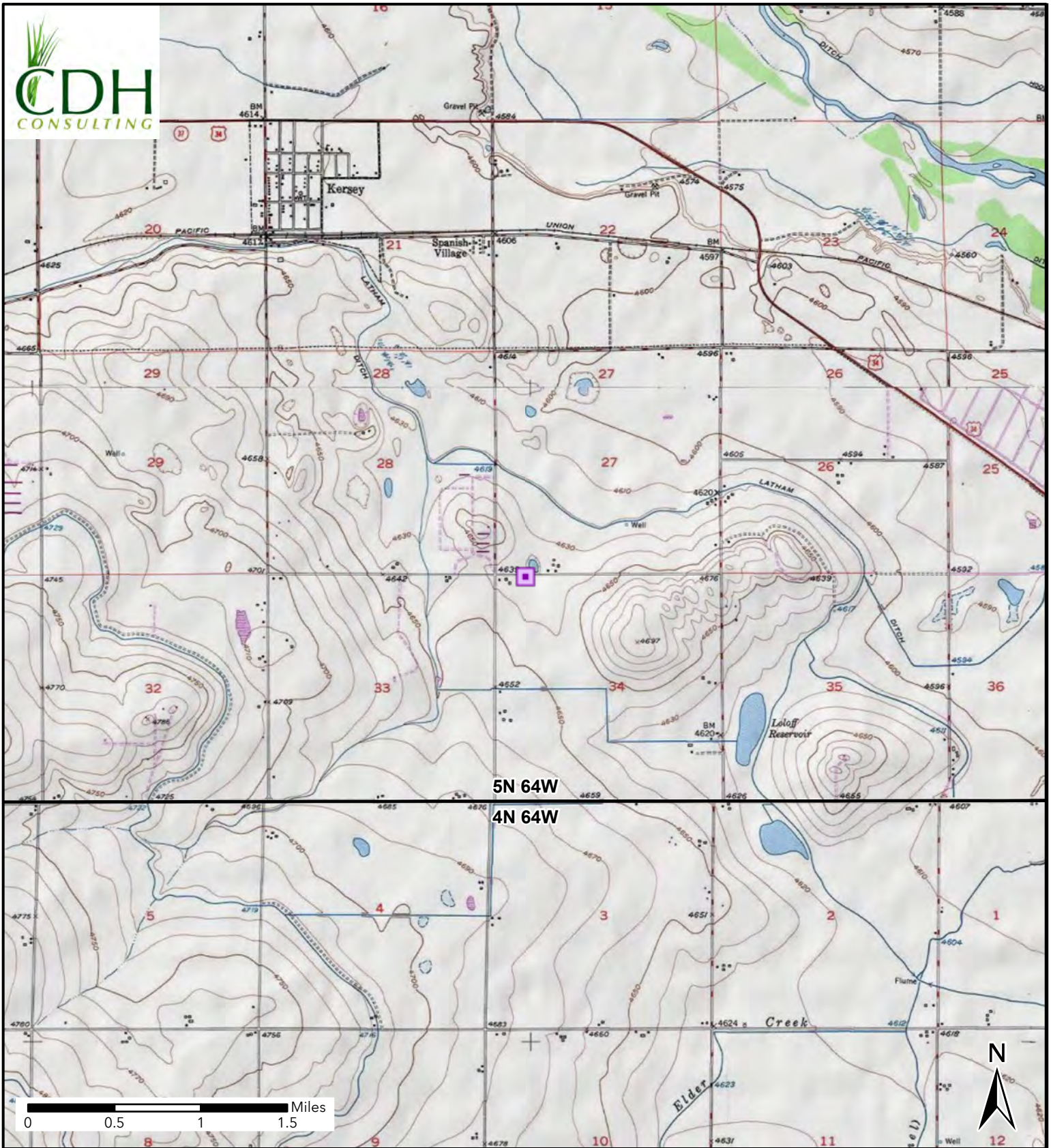
## **FIELD FORM**






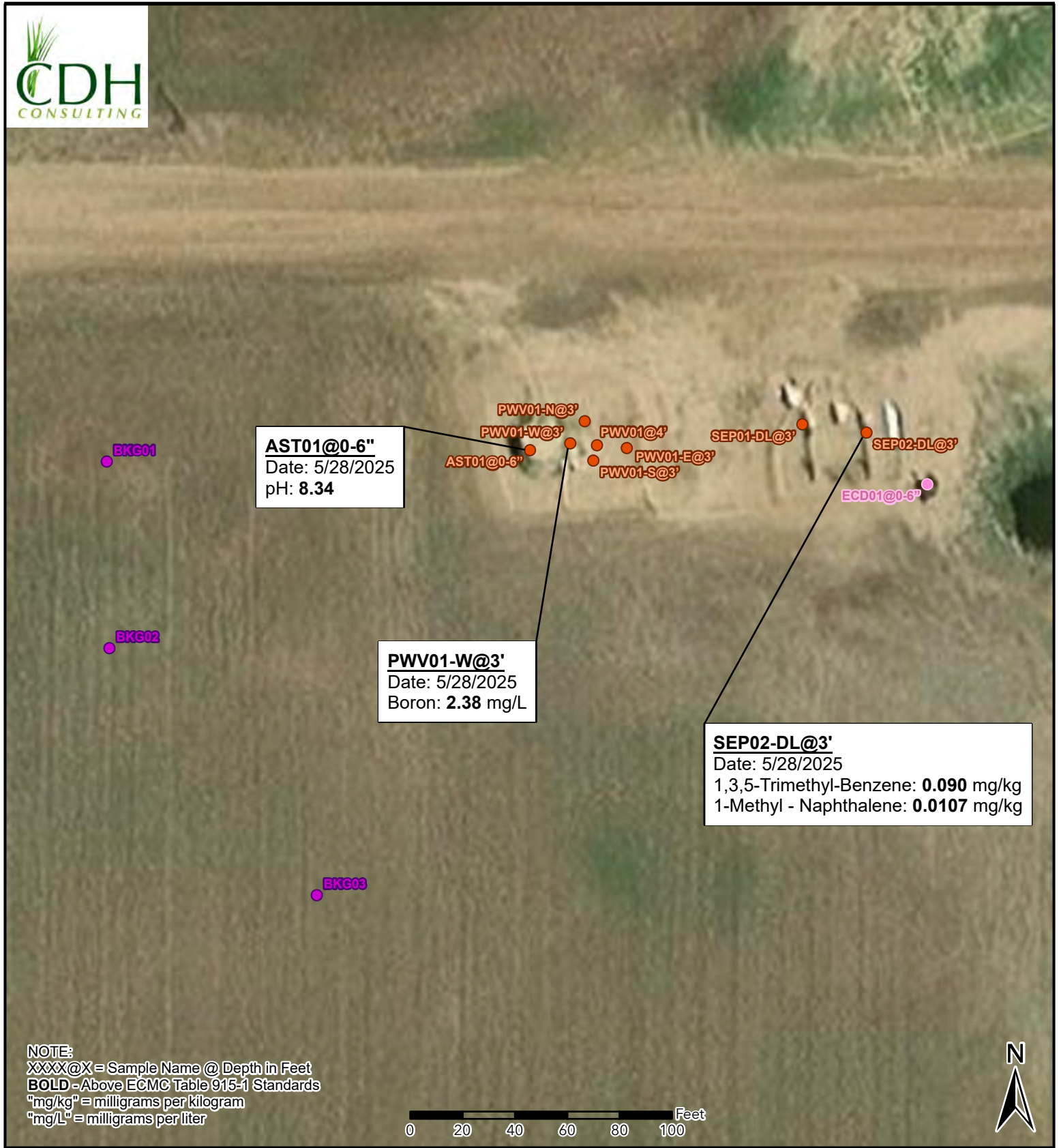
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## FIGURES



**Figure 1**  
**Site Location**  
WHITE 1-1, 12-3, 27-4, 34-1, 2  
NWNW SEC 34-T5N-R64W  
Weld County, Colorado  
PDC Energy Inc.

 Site Location



**Figure 2**  
**Sample Location Map**  
WHITE 1-1, 12-3, 27-4, 34-1, 2  
NWNW SEC 34-T5N-R64W  
Weld County, Colorado  
PDC Energy Inc.

- Site Location
- Soil Sample
- Background Sample
- Screening Point



**Figure 3**  
**Supplemental Site**  
**Mass Removal Map**  
 WHITE 1-1, 12-3, 27-4, 34-1, 2  
 SWSE-SEC 31-T3N-R63W  
 Weld County, Colorado  
 PDC Energy Inc.

- Soil Sample
- Background Sample
- Screening Point
- Proposed Background Sample
- Proposed Excavation



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## **TABLES**

**TABLE 1**  
**FIELD DATA SUMMARY TABLE**  
**PDC 69175**  
**WHITE 1-1, 12-3, 27-4, 34-1, 2 TB, WELD COUNTY, COLORADO**  
**REM # 37525**

Sample ID	Sample Date	Depth (ft)	GPS Data		PDOP Value	VOC Concentration (ppm)
			Latitude/Longitude			
AST01@0-6"	5/27/2025	0-0.5	40.362863	-104.542864	1.000000	0.1
ECD01@0-6"	5/27/2025	0-0.5	40.362836	-104.542449	1.100000	0.0
SEP01-DL@3'	5/28/2025	3	40.362884	-104.542579	0.935774	10.3
SEP02-DL@3'	5/28/2025	3	40.362877	-104.542512	0.908442	130.6
PWV01@4'	5/28/2025	4	40.362867	-104.542794	0.881675	11.0
PWV01-N@3'	5/28/2025	3	40.362886	-104.542807	0.964466	2.2
PWV01-E@3'	5/28/2025	3	40.362865	-104.542763	0.957752	5.6
PWV01-S@3'	5/28/2025	3	40.362855	-104.542798	0.976797	0.1
PWV01-W@3'	5/28/2025	3	40.362868	-104.542822	0.924391	3.4
BKG01@0-6"	5/28/2025	0-0.5	40.362854	-104.543306	0.923940	0.3
BKG01@3.5'	5/28/2025	3.5	40.362854	-104.543306	0.923940	0.1
BKG02@0-6"	5/28/2025	0-0.5	40.362705	-104.543304	0.888229	0.0
BKG02@3.5'	5/28/2025	3.5	40.362705	-104.543304	0.888229	0.0
BKG03@0-6"	5/28/2025	0-0.5	40.362509	-104.543087	0.852747	0.1
BKG03@3.5'	5/28/2025	3.5	40.362509	-104.543087	0.852747	0.2

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  
WHITE 1-1, 12-3, 27-4, 34-1, 2 TB, WELD COUNTY, COLORADO  
REM # 37525

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**		
AST01@0-6"	5/27/2025	0-0.5	<0.00100	<0.0100	<0.0100	<0.100	<0.00500	<0.00500	<0.00300	<8.10	<0.100	<4.00	<4.00
SEP01-DL@3'	5/28/2025	3	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
SEP02-DL@3'	5/28/2025	3	<0.0020	<0.0050	<0.0050	<0.010	0.0066	<b>0.090</b>	<0.0038	21	21	<50	<50
PWV01@4'	5/28/2025	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
PWV01-N@3'	5/28/2025	3	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
PWV01-E@3'	5/28/2025	3	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
PWV01-S@3'	5/28/2025	3	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
PWV01-W@3'	5/28/2025	3	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50

- Bold values exceed the ECMC Table 915-1 limit(s)
  - Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
  - \* Indicates laboratory minimum detection limit in excess of SSL
  - \*\* 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  
WHITE 1-1, 12-3, 27-4, 34-1, 2 TB, WELD COUNTY, COLORADO  
REM # 37525

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
AST01@0-6"	5/27/2025	0-0.5	<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
SEP01-DL@3'	5/28/2025	3	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP02-DL@3'	5/28/2025	3	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00518	<b>0.0107</b>	0.0101
PWV01@4'	5/28/2025	4	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
PWV01-N@3'	5/28/2025	3	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
PWV01-E@3'	5/28/2025	3	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
PWV01-S@3'	5/28/2025	3	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
PWV01-W@3'	5/28/2025	3	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

- Bold values exceed the ECMC Table 915-1 limit(s)
  - Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
  - \* Indicates laboratory minimum detection limit in excess of SSL
  - \*\* 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**  
**WHITE 1-1, 12-3, 27-4, 34-1, 2 TB, WELD COUNTY, COLORADO**  
**REM # 37525**

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
AST01@0-6"	5/27/2025	0-0.5	<b>8.34</b>	0.201	1.83	1.04
SEP01-DL@3'	5/28/2025	3	7.52	0.249	0.207	<2.00
SEP02-DL@3'	5/28/2025	3	6.80	0.832	2.82	<2.00
PWV01@4'	5/28/2025	4	7.47	0.446	1.93	<2.00
PWV01-N@3'	5/28/2025	3	8.12	0.602	1.89	<2.00
PWV01-E@3'	5/28/2025	3	7.58	0.508	1.83	<2.00
PWV01-S@3'	5/28/2025	3	8.03	0.612	0.887	<2.00
PWV01-W@3'	5/28/2025	3	8.04	0.653	1.96	<b>2.38</b>
BKG01@0-6"	5/28/2025	0-0.5	8.15	0.809	1.76	<2.00
BKG01@3.5'	5/28/2025	3.5	7.88	2.03	<b>8.17</b>	<2.00
BKG02@0-6"	5/28/2025	0-0.5	7.84	0.945	1.83	<2.00
BKG02@3.5'	5/28/2025	3.5	7.96	1.22	4.85	<2.00
BKG03@0-6"	5/28/2025	0-0.5	7.76	0.77	1.33	<2.00
BKG03@3.5'	5/28/2025	3.5	7.94	0.987	5.36	<2.00
Maximum Background Concentration			8.15	2.03	8.17	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  
WHITE 1-1, 12-3, 27-4, 34-1, 2 TB, WELD COUNTY, COLORADO  
REM # 37525

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
AST01@0-6"	5/27/2025	0-0.5	<b>1.41</b>	<b>89.5</b>	<0.100	<0.200	<10.0	<10.0	<10.0	0.146	<0.500	<50.0
SEP01-DL@3'	5/28/2025	3	<b>1.06</b>	36.3	<0.200	<0.30*	3.61	5.15	2.09	<0.260	0.0238	12.6
SEP02-DL@3'	5/28/2025	3	<b>0.845</b>	37.1	<0.200	<0.30*	2.73	5.44	1.83	<0.260	<0.0200	10.4
PWV01@4'	5/28/2025	4	<b>0.794</b>	60.6	<0.200	<0.30*	2.25	4.73	1.68	<0.260	0.0205	9.19
PWV01-N@3'	5/28/2025	3	<b>1.18</b>	61.3	<0.200	<0.30*	2.83	5.47	2.81	<0.260	0.0391	11.3
PWV01-E@3'	5/28/2025	3	<b>0.83</b>	58.9	<0.200	<0.30*	2.82	3.98	1.92	<0.260	<0.0200	8.74
PWV01-S@3'	5/28/2025	3	<b>0.882</b>	72.2	<0.200	<0.30	2.70	5.20	2.47	<0.260	0.0310	10.3
PWV01-W@3'	5/28/2025	3	<b>1.01</b>	67.2	<0.200	<0.30*	2.83	6.06	2.93	<0.260	0.0386	11.2
BKG01@0-6"	5/28/2025	0-0.5	<b>0.581</b>	33.8	<0.200	<0.30	8.30	5.53	1.64	<0.260	<0.0200	39.5
BKG01@3.5'	5/28/2025	3.5	<b>1.09</b>	<b>103</b>	<0.200	<0.30	2.95	7.90	2.55	<0.260	0.0401	13.1
BKG02@0-6"	5/28/2025	0-0.5	<b>0.732</b>	41.7	<0.200	<0.30	6.87	6.57	1.76	<b>0.279</b>	0.0217	37.4
BKG02@3.5'	5/28/2025	3.5	<b>1.20</b>	<b>110</b>	<0.200	<0.30	4.12	8.78	3.07	<0.260	0.0457	15.9
BKG03@0-6"	5/28/2025	0-0.5	<b>0.73</b>	40.6	<0.200	<0.30	14.7	5.61	1.88	<b>0.299</b>	<0.0200	46.3
BKG03@3.5'	5/28/2025	3.5	<b>1.20</b>	<b>107</b>	<0.200	<0.30	4.00	8.17	3.02	<0.260	0.0405	14.2
1.25x Maximum Background Concentration			1.50	138	NA	NA	18.4	11.0	3.84	0.374	0.0571	57.9

- 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.

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**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



**Photo 1:** View of AST01 excavation area, facing southwest

**Photographic Log**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



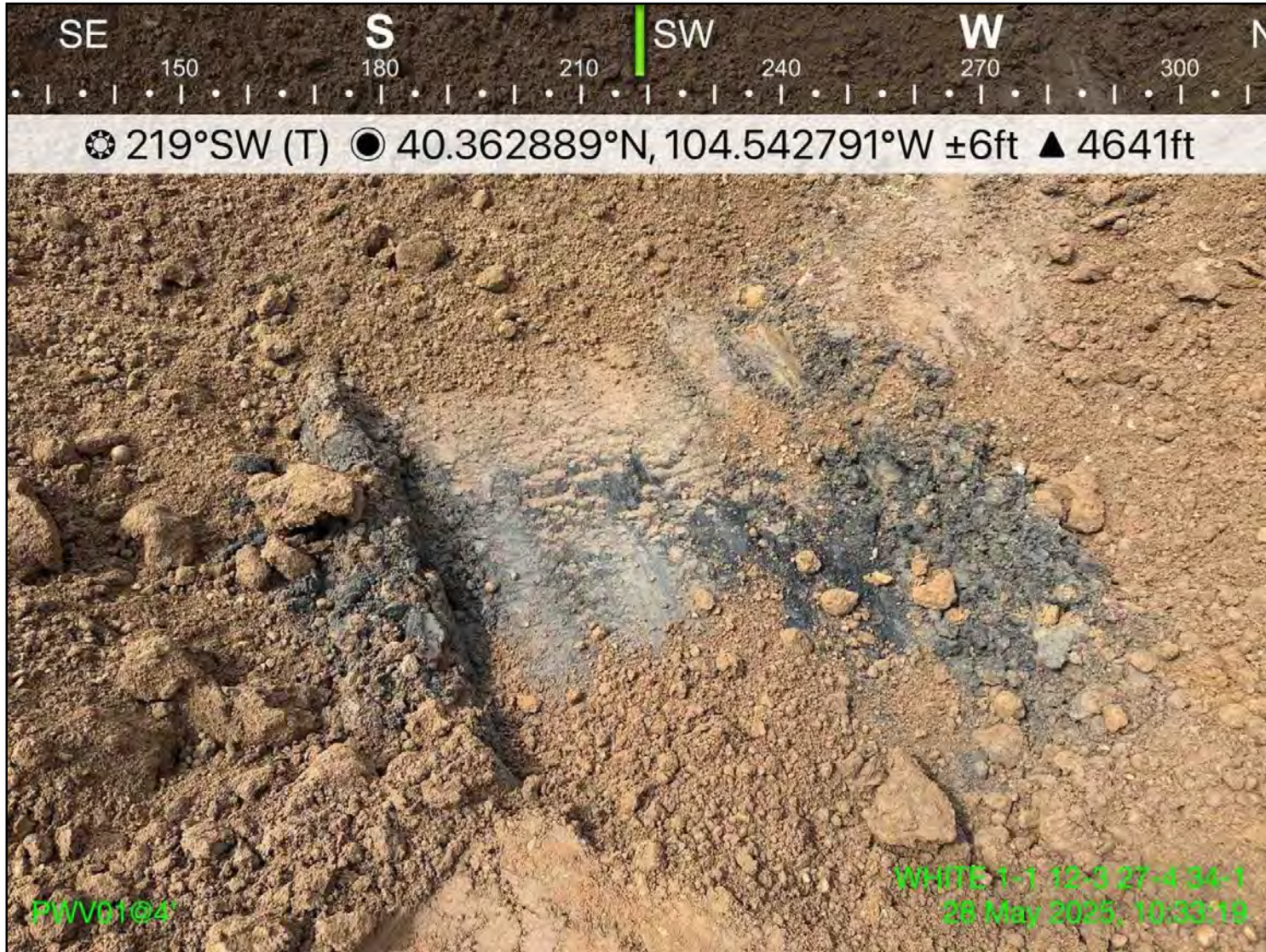
**Photo 2:** View of ECD01 soil screening location, facing northeast

**Photographic Log**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



**Photo 3:** View of PWV01 excavation area with staining, facing southwest

**Photographic Log**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



**Photo 4:** View of PWV01 excavation area material with staining, facing east

**Photographic Log**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



**Photo 5:** View of PWV01-E soil sample location, facing north

**Photographic Log**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



**Photo 6:** View of PWV01-N soil sample location, facing northwest

**Photographic Log**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



**Photo 7:** View of PWV01-S soil sample location, facing west

**Photographic Log**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



**Photo 8:** View of PWV01-W soil sample location, facing east

**Photographic Log**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



**Photo 9:** View of SEP01-DL soil sample location, facing northwest

**Photographic Log**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



**Photo 10:** View of SEP02-DL soil sample location, facing southwest

**Photographic Log**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



**Photo 11:** View of background soil sample location BKG01, facing northwest

**Photographic Log**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



**Photo 12:** View of background soil sample location BKG02, facing north

**Photographic Log**

WHITE 1-1, 12-3, 27-4, 34-1, 2 TB (REM # 37525)

PDC Energy Inc.

5/27/2025 & 5/28/2025



**Photo 13:** View of background soil sample location BKG03, facing east