



CDH Consulting, LLC
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Flowline Closure Investigation and Environmental Summary
SUDEN 34U-403 Wellhead and Flowline
ECMC Remediation Project #42507
Weld County, Colorado

Attachments:

Field Form and Notes

Figure 1 – Site Location Map

Figure 2 – Soil Sample and Field Screening Locations Map

Figure 3 – Supplemental Site Investigation Map

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Table 3 – Summary of Polycyclic Aromatic Hydrocarbon Soil Chemistry Data

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Photographic Log

Flowline Closure Checklist

RBU Checklist



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FIELD FORM AND NOTES



CLIENT: PDC Energy, Inc. or PDC Permian							SITE NAME: Suden 34U-403		DATE: 11/4/2025	REM. PROJECT #: 42507	WEATHER: 60s, Sunny
SITE DIRECTIONS: Intersection of CR52 and CR57 W 0.27 miles, S to pad entrance							JOB#: 10868				
LEGALS AND LAT/LONG: 40.362509, -104.530211							TASMAN PERSONNEL: JM				
SOIL TYPES: Poorly Graded Sand - SP							SURFACE GRADIENT: South				
SOIL SAMPLING							FACILITY INFRASTRUCTURE				
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo?	Screen or Lab Sample?	EQUIPMENT		Quantity		
							Above Ground Storage Tank (AST)				
11-04-2025 13:05	FL01R-S@4'	0.4	No Staining	No Odor	Yes	Lab	Buried or Partially Buried Vessel				
							Separator				
							Emission Control Device (ECD)				
							Dump Line				
							Wellhead				
							Flowline		1	✓	
							Other:				
							Soil Loads Removed				
							IMPACTED SOIL IDENTIFIED? No				
							ESTIMATED VOLUME OF IMPACTS:				
							Date	Number	CY		
							Total Removed		0	0	
							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?					
							Total Removed		0		
							Disposal Facility:				



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FIGURES

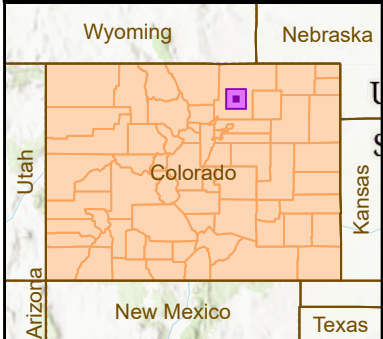
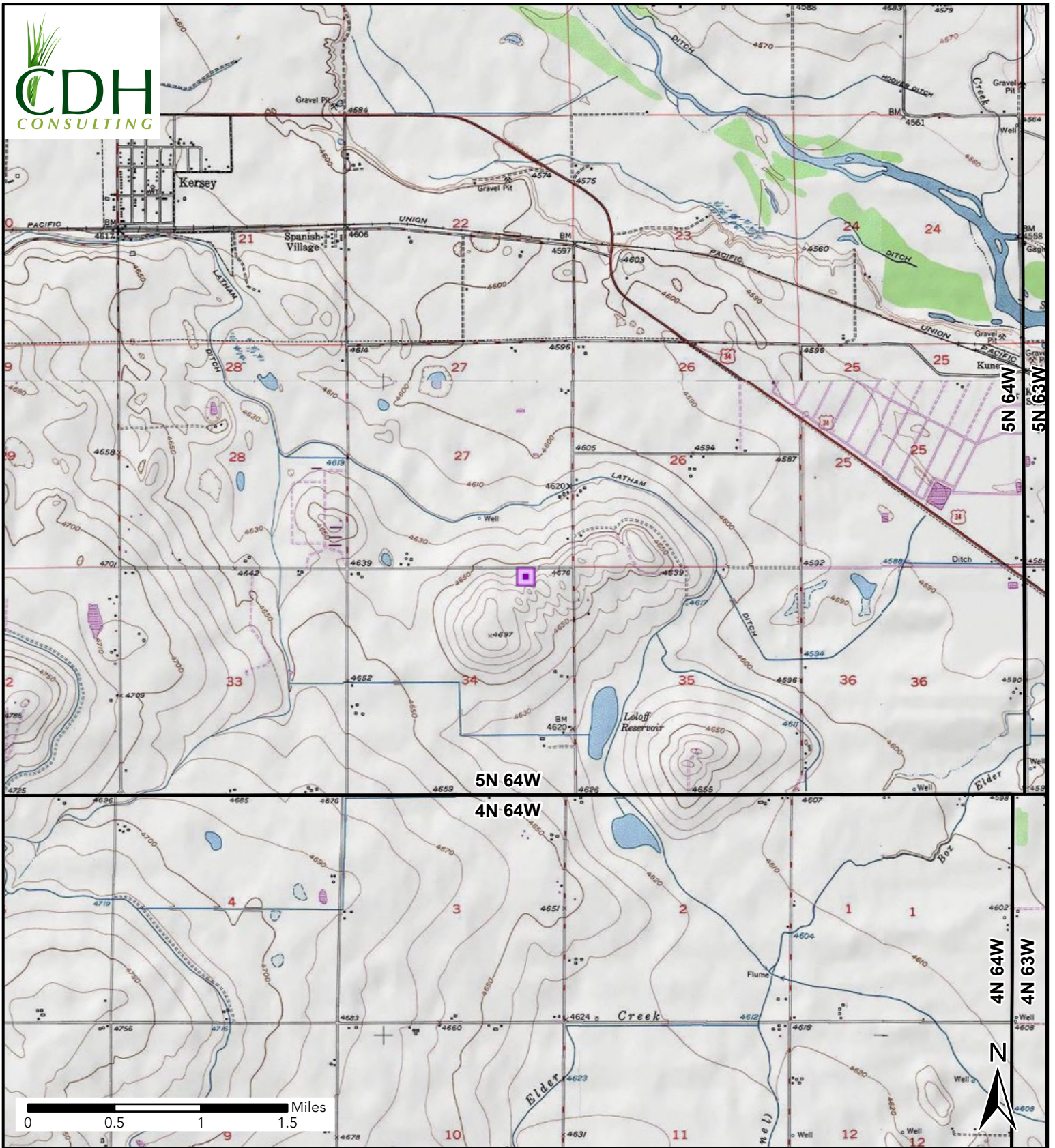


Figure 1
Site Location Map
SUDEN 34U-403
NENE SEC 34-T5N-R64W
Weld County, Colorado PDC
Energy Inc

 Site Location

County Road 52

County Road 52

WH01-W@4'
WH01-S@4'
WH01-N@4'
WH01@5'
WH01-E@4'

FL01R-S@4'

WC-1

BKG02

BKG01

BKG03

WH01-S@4'

Date: 10/31/2025

Barium: **166 mg/kg**

WC-1

Date: 10/31/2025

Barium: **170 mg/kg**

0 8 16 24 Feet

0 80 160 240 320 400 Feet

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

SUDEN 34U-403
NENE-SEC 34-T5N-R64W
Weld County, Colorado
PDC Energy Inc

- Screening Point (CDH)
- Soil Sample (Tasman)
- Soil Sample (CDH)
- Background Sample
- Flowline Abandoned In Place
- Stockpile Extent

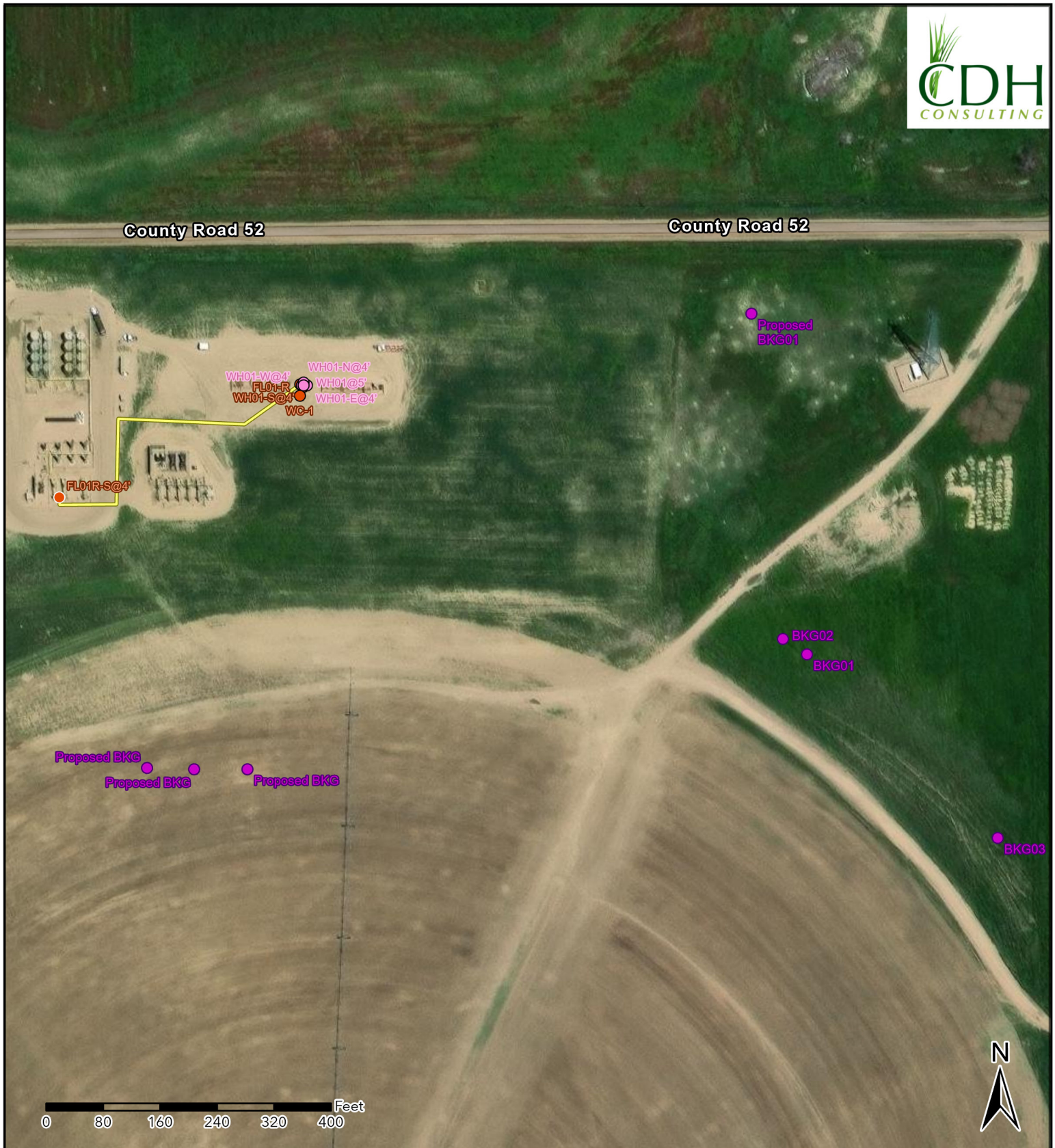


Figure 3
Supplemental Site Investigation Map
 SUDEN 34U-403
 NENE-SEC 34-T5N-R64W
 Weld County, Colorado
 PDC Energy Inc

- Screening Point (CDH)
- Soil Sample (Tasman)
- Soil Sample (CDH)
- Background Sample
- Flowline Abandoned In Place



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TABLES

TABLE 1
FIELD DATA SUMMARY TABLE
PDC 69175
SUDEN 34U-403, WELD COUNTY, COLORADO
REM #42507

Sample ID	Sample Date	Depth (ft)	GPS Data		PDOP Value	VOC Concentration (ppm)	Consultant Who Collected Samples
			Latitude	Longitude			
WH01@5'	10/31/2025	5	40.362513	-104.530232	0.800000	20.1	CDH
WH01-N@4'	10/31/2025	4	40.362524	-104.530232	1.000000	0.9	CDH
WH01-S@4'	10/31/2025	4	40.362507	-104.530234	0.900000	60.8	CDH
WH01-E@4'	10/31/2025	4	40.362513	-104.530215	0.900000	0.3	CDH
WH01-W@4'	10/31/2025	4	40.362514	-104.530241	0.900000	0.6	CDH
WC-1	10/31/2025	-	NM	NM	NM	4.8	CDH
FL01-R@4'	11/3/2025	4	40.362517	-104.530249	0.800000	0.5	CDH
FL01R-S@4'	11/4/2025	4	40.362086	-104.531467	1.000000	0.4	Tasman
BKG01@4.5'	10/31/2025	4.5	40.361465	-104.527701	1.100000	1.3	CDH
BKG02@4.5'	10/31/2025	4.5	40.361525	-104.527822	1.100000	2.8	CDH
BKG03@4.5'	10/31/2025	4.5	40.360753	-104.526744	1.500000	2.4	CDH

1. Global Positioning System (GPS) data is provided in decimal degrees using North American Datum (NAD) 83.
 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
in = Inches
ft = Feet
bgs = Below ground surface

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
PDC 69175
SUDEN 34U-403, WELD COUNTY, COLORADO
REM #42507

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-S@4'	10/31/2025	4	<0.0011	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0023	333.62	4.95	319	9.67
WC-1	10/31/2025	-	<0.0011	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0022	138.1	<0.21	112	26.1
FL01-R@4'	11/3/2025	4	<0.0011	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	18.4	<0.22	7.5	10.9
FL01R-S@4'	11/4/2025	4	<0.0011	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	13.2	<0.22	<4.5	13.2

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. ** Indicates laboratory reporting limit in excess of SSL
 5. *** Summation of GRO+DRO+ORO must be less than 500 mg/kg
 6. Samples are reported as dry weight unless otherwise indicated in the laboratory PDF report(s).
- (<) = 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
bgs = Below ground surface

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
PDC 69175
SUDEN 34U-403, WELD COUNTY, COLORADO
REM #42507

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-S@4'	10/31/2025	4	<0.0046	<0.0046	<0.0057	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	0.0587	<0.0046	<0.0046
WC-1	10/31/2025	-	<0.0045	<0.0045	<0.0056	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045
FL01-R@4'	11/3/2025	4	<0.0044	<0.0044	<0.0055	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044
FL01R-S@4'	11/4/2025	4	<0.0045	<0.0045	<0.0056	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045

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. ** Indicates laboratory reporting limit in excess of SSL
 5. Samples are reported as dry weight unless otherwise indicated in the laboratory PDF report(s).
- (<) = Analytical result is less than the indicated laboratory reporting limit.
mg/kg = Milligrams per kilogram
ft = Feet
bgs = Below ground surface

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
PDC 69175
SUDEN 34U-403, WELD COUNTY, COLORADO
REM #42507

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-S@4'	10/31/2025	4	7.75	0.66	0.947	<0.50
WC-1	10/31/2025	-	7.80	1.4	1.39	<0.50
FL01-R@4'	11/3/2025	4	7.60	1.1	0.296	<0.50
FL01R-S@4'	11/4/2025	4	8.18	0.32	0.586	<0.50
BKG01@4.5'	10/31/2025	4.5	7.79	1.2	0.521	<0.50
BKG02@4.5'	10/31/2025	4.5	8.03	0.29	0.106	<0.50
BKG03@4.5'	10/31/2025	4.5	7.85	1.5	0.272	<0.50
Maximum Background Concentration			8.03	1.5	0.521	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.

4. Samples are reported as dry weight unless otherwise indicated in the laboratory PDF report(s).

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

NA = Not analyzed

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
PDC 69175
SUDEN 34U-403, WELD COUNTY, COLORADO
REM #42507

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-S@4'	10/31/2025	4	4.4	166	0.11	<0.45**	5.8	7.7	7.9	<0.16	<0.081	27.9
WC-1	10/31/2025	-	4.6	170	0.17	<0.44**	6.5	7.7	7.7	<0.17	<0.087	30.2
FL01-R@4'	11/3/2025	4	5.1	121	0.12	<0.46**	6.1	7.4	7.8	<0.15	<0.077	28.1
FL01R-S@4'	11/4/2025	4	3.6	113	0.097	<0.45**	5.4	6.6	6.5	0.14	<0.067	24.4
BKG01@4.5'	10/31/2025	4.5	5.6	102	0.11	<0.43**	6.4	8.1	8.1	<0.17	<0.087	30.1
BKG02@4.5'	10/31/2025	4.5	4.0	121	0.13	<0.42**	6.0	7.5	8.0	<0.18	<0.089	26.9
BKG03@4.5'	10/31/2025	4.5	2.8	71.1	0.12	<0.42**	4.8	6.3	5.7	<0.18	<0.088	20.1
1.25x Maximum Background Concentration			7.0	151	0.16	NA	8.0	10.1	10.1	NA	NA	37.6

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.
2. **Bold** 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.
5. Samples are reported as dry weight unless otherwise indicated in the laboratory PDF report(s)

ECMC = Energy & Carbon Management Commission

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

mg/kg = Milligrams per kilogram

ft = Feet

bgs = Below ground surface

* Indicates laboratory minimum detection limit in excess of SSL

** Indicates laboratory reporting limit in excess of SSL

NA = Not analyzed



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PHOTOGRAPHIC LOG



Photographic Log



Equipment ID: FL01R-S@4'		Equipment Type:		Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions:				Notes/Conditions:			



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FLOWLINE CLOSURE CHECKLIST

Flowline Closure Checklist

ECMC Rule 911.a.(4) Environmental Site Closure Assessment Field Form

<i>Additional Attachments:</i>		Tank Battery Closure		Wellhead Closure		Pit Closure		Partially Buried Vault Closure	
Site Name & ECMC Facility Number:		Date: 11/4/2025						Remediation Project #: 42507	
Associated Wells: SUDEN 34U-403		Age of Site: 1/28/2015 (Spud Date)						Number of Photos Attached: 1	
Starting point: 40.362517, -104.530249 (wellhead flowline riser)									
End point: 40.362086, -104.531467 (separator flowline riser)									
USCS Soil Type: Poorly-graded sands (SP)					Estimated Depth to Groundwater: Groundwater not encountered				
Hydrocarbon Impacted Soils / Spills: None observed									
Salt Crusted Soils or Impacted Vegetation: None observed									
Flowlines									
Flowline type	Multiphase								
Depth	4 ft-bgs								
Age	1/28/2015 (Spud Date)								
Length	485 ft								
Construction Material	Steel								
Were flowlines pulled?	No, fully ABIP								
Visual Integrity of lines	Good								
Visual impacts if trenched	NA								
PID Readings if trenched	0.4ppm								
Sample taken? Location/Sample ID#	FL01R-S@4'								
Photo Number(s)	Photo 1								
<i>Other observations regarding on loction flowlines: The flowline was fully abandoned-in-place (ABIP)</i>									
Summary									
<i>Was impacted soil identified?</i>									
No Yes - less than 10 cubic yards Yes - more than 10 cubic yards									
<i>Total number of samples field screened: 1</i>					<i>Total number of samples collected: 1</i>				
<i>Highest PID Reading: 0.4ppm</i>					<i>Total number of samples submitted to lab for analysis: 1</i>				
<i>If more than 10 cubic yards of impacted soil were observed: NA</i>									
<i>Vertical extent:</i>					<i>Estimated spill volume:</i>				
<i>Lateral extent:</i>					<i>Volume of soil removed:</i>				
<i>Is additional investigation required?</i>									
<i>Was groundwater encountered during the investigation?</i>									
No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils									
<i>Measured depth to groundwater:</i>					<i>Was remedial groundwater removal conducted? Yes No</i>				
<i>Date Groundwater was encountered:</i>					<i>Commencement date of removal:</i>				
<i>Sheen on groundwater? Yes No</i>					<i>Volume of groundwater removed prior to sampling:</i>				
<i>Free product observed? Yes No</i>					<i>Volume of groundwater removed post sampling:</i>				
<i>Total number of samples collected:</i>					<i>Total Volume of groundwater removed:</i>				
<i>Total number of samples submitted to lab for analysis:</i>									



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RBU CHECKLIST

Chevron Rockies Business Unit

Field Qualitative Criteria for ECMC Reporting Associated with the Discovery of Potentially Impacted Material

If answered **Yes** to any of the questions listed below, this may suggest the presence of potentially impacted materials as outlined in ECMC Rule 912. Out of an abundance of caution, a “Yes” response will be reported to the ECMC within 24 hours after discovery, regardless of laboratory results. **Immediately notify the RBU Remediation Team.** Include a copy of this Field Qualitative Spill Criteria Checklist in the field Report.

Please answer the following questions when on-site:

1. Is there visible petroleum hydrocarbon staining in the soil? No_____
2. Does the soil sample from the stained area have a petroleum odor? No_____
3. Is there a petroleum hydrocarbon sheen on the nearby surface water? No_____
4. Does there appear to be a sheen of the surface of accumulated groundwater or seeps within the excavation indicative of petroleum? No_____
5. Is stained soil in contact with groundwater? No_____

Please Include relevant photos of the site conditions for items 1-5.

Location name: Suden 34U-403

Please Circle Facility Type: Flowline