



FLOWLINE ABANDONMENT FORM

SITE NAME: Pettinger 43-2 Flowline							DATE: 12/13/2024	REM. PROJECT #: 36965	WEATHER: Clear, 30s		
SITE DIRECTIONS: See Below							CLIENT: PDC				
LEGALS AND LAT/LONG: 40.50822323, -104.51033795							TASMAN PERSONNEL: SB				
SOIL TYPES: Clayey Sand - SC							SURFACE GRADIENT: North				
SOIL SAMPLING							FACILITY INFRASTRUCTURE				
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo?	Grab or Lab Sample?	EQUIPMENT	Quantity	Photo?		
							Above Ground Storage Tank (AST)	0			
12/13/2024 14:24	FL01-14@4'	0.0	No Staining	No Odor	Yes	Grab	Buried or Partially Buried Vessel	0			
12/13/2024 14:16	FL01-01	0.0	No Staining	No Odor	Yes	Lab	Separator	0			
12/13/2024 14:09	FL01-02	0.0	No Staining	No Odor	Yes	Grab	Emission Control Device (ECD)	0			
12/13/2024 14:04	FL01-03	0.0	No Staining	No Odor	Yes	Grab	Dump Line	0			
12/13/2024 13:57	FL01-04	0.0	No Staining	No Odor	Yes	Lab	Wellhead	0			
12/13/2024 13:49	FL01-05	0.1	No Staining	No Odor	Yes	Lab	Flowline	1	✓		
12/13/2024 13:14	FL01-06	0.0	No Staining	No Odor	Yes	Lab	Other:				
12/13/2024 12:20	FL01-07	0.0	No Staining	No Odor	Yes	Grab	Soil Loads Removed				
12/13/2024 12:17	FL01-08	0.0	No Staining	No Odor	Yes	Grab	IMPACTED SOIL IDENTIFIED? No				
12/13/2024 12:10	FL01-09	0.0	No Staining	No Odor	Yes	Grab	ESTIMATED VOLUME OF IMPACTS: _				
12/13/2024 12:01	FL01-10	0.2	No Staining	No Odor	Yes	Lab	Date	Number	CY		
12/13/2024 11:38	FL01-11	0.5	No Staining	No Odor	Yes	Lab					
12/13/2024 11:35	FL01-12	0.0	No Staining	No Odor	Yes	Grab					
12/13/2024 11:30	FL01-13	0.4	No Staining	No Odor	Yes	Lab					
12/13/2024 14:29	FL01R-W@4'	0.0	No Staining	No Odor	Yes	Lab					
12/13/2024 14:51	BKG01@4'	0.2	Organic Cont	No Odor	Yes	Lab	Total Removed		0	0	
12/13/2024 15:05	FL01R-S@4'	4.1	No Staining	No Odor	Yes	Lab	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?					
12/13/2024 11:44	GW01	4	Low Turbidity	None	None	Yes					
							Total Removed		0		
							Disposal Facility:				


Equipment ID: FL01-13@4'

Equipment Type:
Material:
Volume:
Contents:
Notes/Conditions:
Equipment ID: FL01-12@4'

Equipment Type:
Material:
Volume:
Contents:
Notes/Conditions:



Equipment ID: FL01-11@4'		Equipment Type:		Equipment ID: GW01@4'		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions:				Notes/Conditions:			

					
Equipment ID: FL01-10@4'		Equipment Type:	Equipment ID: FL01-09@4'		Equipment Type:
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions:			Notes/Conditions:		

					
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions:			Notes/Conditions:		



Equipment ID: FL01-06 @ 4'		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: Bellhole excavated via hydro vac - water seen in bellhole associated with hydro vac			



Equipment ID: FL01-05 @ 4'		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: DCP line crossing location - excavated via hydrovac			



Equipment ID: FL01-04@4'		Equipment Type:		Equipment ID: FL01-03@4'		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions:				Notes/Conditions:			



Equipment ID: FL01-02@4'		Equipment Type:		Equipment ID: FL01-01@4'		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions:				Notes/Conditions:			



Equipment ID: FL01-14@4'		Equipment Type:		Equipment ID: FL01R-W@4'		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions:				Notes/Conditions:			



Equipment ID: BKG01@4'		Equipment Type:		Equipment ID: FL01R-S@4'		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions:				Notes/Conditions:			

TABLE 1
FIELD DATA SUMMARY TABLE
PDC ENERGY, INC. - 69175
PETTINGER 43-2 FLOWLINE, WELD COUNTY, COLORADO
REM # 36965

Sample ID	Sample Date	Depth (ft)	GPS Data		PDOP Value	VOC Concentration (ppm)
			Latitude	Longitude		
FL01-01@4'	12/13/2024	4	40.513326	-104.509431	1.0	0.0
FL01-02@4'	12/13/2024	4	40.512806	-104.509523	1.0	0.0
FL01-03@4'	12/13/2024	4	40.512311	-104.509632	0.9	0.0
FL01-04@4'	12/13/2024	4	40.511811	-104.509725	NC	0.0
FL01-05@4'	12/13/2024	4	40.511590	-104.509777	0.8	0.1
FL01-06@4'	12/13/2024	4	40.511276	-104.509833	0.6	0.0
FL01-07@4'	12/13/2024	4	40.510817	-104.509929	NC	0.0
FL01-08@4'	12/13/2024	4	40.510509	-104.509987	1.0	0.0
FL01-09@4'	12/13/2024	4	40.510038	-104.510068	1.0	0.0
FL01-10@4'	12/13/2024	4	40.509706	-104.510121	0.7	0.2
FL01-11@4'	12/13/2024	4	40.509458	-104.510156	1.2	0.5
FL01-12@4'	12/13/2024	4	40.508849	-104.510234	1.0	0.0
FL01-13@4'	12/13/2024	4	40.508331	-104.510383	0.9	0.4
FL01-14@4'	12/13/2024	4	40.513693	-104.509435	1.0	0.0
FL01R-S@4'	12/13/2024	4	40.508229	-104.510345	0.7	4.1
FL01R-W@4'	12/13/2024	4	40.514051	-104.509398	0.8	0.0
BKG01@4'	12/13/2024	4	40.514081	-104.509209	1.1	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

in. = Inches

ft. = Feet

NC = Not Collected

bgs = Below ground surface

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
PDC ENERGY, INC. - 69175
PETTINGER 43-2 FLOWLINE, WELD COUNTY, COLORADO
REM # 36965

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**		
FL01-01@4'	12/13/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50.0	<50.0
FL01-04@4'	12/13/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50.0	<50.0
FL01-05@4'	12/13/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50.0	<50.0
FL01-06@4'	12/13/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50.0	<50.0
FL01-10@4'	12/13/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50.0	<50.0
FL01-11@4'	12/13/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50.0	<50.0
FL01-13@4'	12/13/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50.0	<50.0
FL01R-S@4'	12/13/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	630	<0.50	340	290
FL01R-W@4'	12/13/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50.0	<50.0

- 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
bgs = Below ground surface

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
PDC ENERGY INC. 69175
PETTINGER 43-2 FLOWLINE, WELD COUNTY, COLORADO
REM # 36965

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
FL01-01@4'	12/13/2024	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
FL01-04@4'	12/13/2024	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
FL01-05@4'	12/13/2024	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
FL01-06@4'	12/13/2024	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
FL01-10@4'	12/13/2024	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
FL01-11@4'	12/13/2024	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
FL01-13@4'	12/13/2024	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
FL01R-S@4'	12/13/2024	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
FL01R-W@4'	12/13/2024	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

1. Bold values exceed the ECMC Table 915-1 limit(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 ENERGY, INC. - 69175
PETTINGER 43-2 FLOWLINE, WELD COUNTY, COLORADO
REM # 36965

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
FL01-01@4'	12/13/2024	4	8.30	1.46	2.98	<2.00
FL01-04@4'	12/13/2024	4	8.17	1.21	1.64	<2.00
FL01-05@4'	12/13/2024	4	8.33	0.703	1.90	<2.00
FL01-06@4'	12/13/2024	4	8.28	1.03	2.22	<2.00
FL01-10@4'	12/13/2024	4	8.38	0.670	3.54	<2.00
FL01-11@4'	12/13/2024	4	8.19	2.50	3.42	<2.00
FL01-13@4'	12/13/2024	4	8.20	0.499	1.28	<2.00
FL01R-S@4'	12/13/2024	4	8.24	0.192	0.317	<2.00
FL01R-W@4'	12/13/2024	4	8.46	0.359	1.09	<2.00
BKG01@4'	12/13/2024	4	8.56	1.10	5.39	2.69
Maximum Background Concentration			8.56	1.10	5.39	2.69

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.

mg/L = Milligrams per liter

ft. = Feet

bgs = Below ground surface

mmhos/cm = Millimohs per centimeter

TABLE 6
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
PDC ENERGY, INC. - 69175
PETTINGER 43-2 FLOWLINE, WELD COUNTY, COLORADO
REM # 36965

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
FL01-01@4'	12/13/2024	4	6.23	105	0.253	<0.30*	5.90	12.7	5.07	<0.260	0.0411	24.2
FL01-04@4'	12/13/2024	4	3.27	58.3	<0.200	<0.30*	3.47	4.98	3.59	<0.260	<0.0200	13.0
FL01-05@4'	12/13/2024	4	2.48	60.5	<0.200	<0.30*	3.87	4.35	3.60	<0.260	<0.0200	14.7
FL01-06@4'	12/13/2024	4	2.34	50.0	<0.200	<0.30*	2.99	4.08	3.42	<0.260	<0.0200	13.2
FL01-10@4'	12/13/2024	4	4.71	61.5	0.447	<0.30*	10.3	15.9	8.24	<0.260	0.0751	36.6
FL01-11@4'	12/13/2024	4	2.38	22.2	0.239	<0.30*	6.79	8.72	4.82	<0.260	0.0338	30.9
FL01-13@4'	12/13/2024	4	2.76	60.9	<0.200	<0.30*	5.63	6.64	4.53	<0.260	0.0326	20.8
FL01R-S@4'	12/13/2024	4	2.18	44.2	0.409	<0.30*	12.7	5.18	3.48	<0.260	<0.0200	20.2
FL01R-W@4'	12/13/2024	4	3.34	54.1	0.472	<0.30*	7.44	11.4	6.66	<0.260	0.0504	27.0
BKG01@4'	12/13/2024	4	4.30	25.2	1.54	<0.30*	18.3	22.8	9.78	<0.260	0.195	8.61
1.25x Maximum Background Concentration			5.38	31.5	1.93	-	-	28.5	-	-	-	-

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).

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

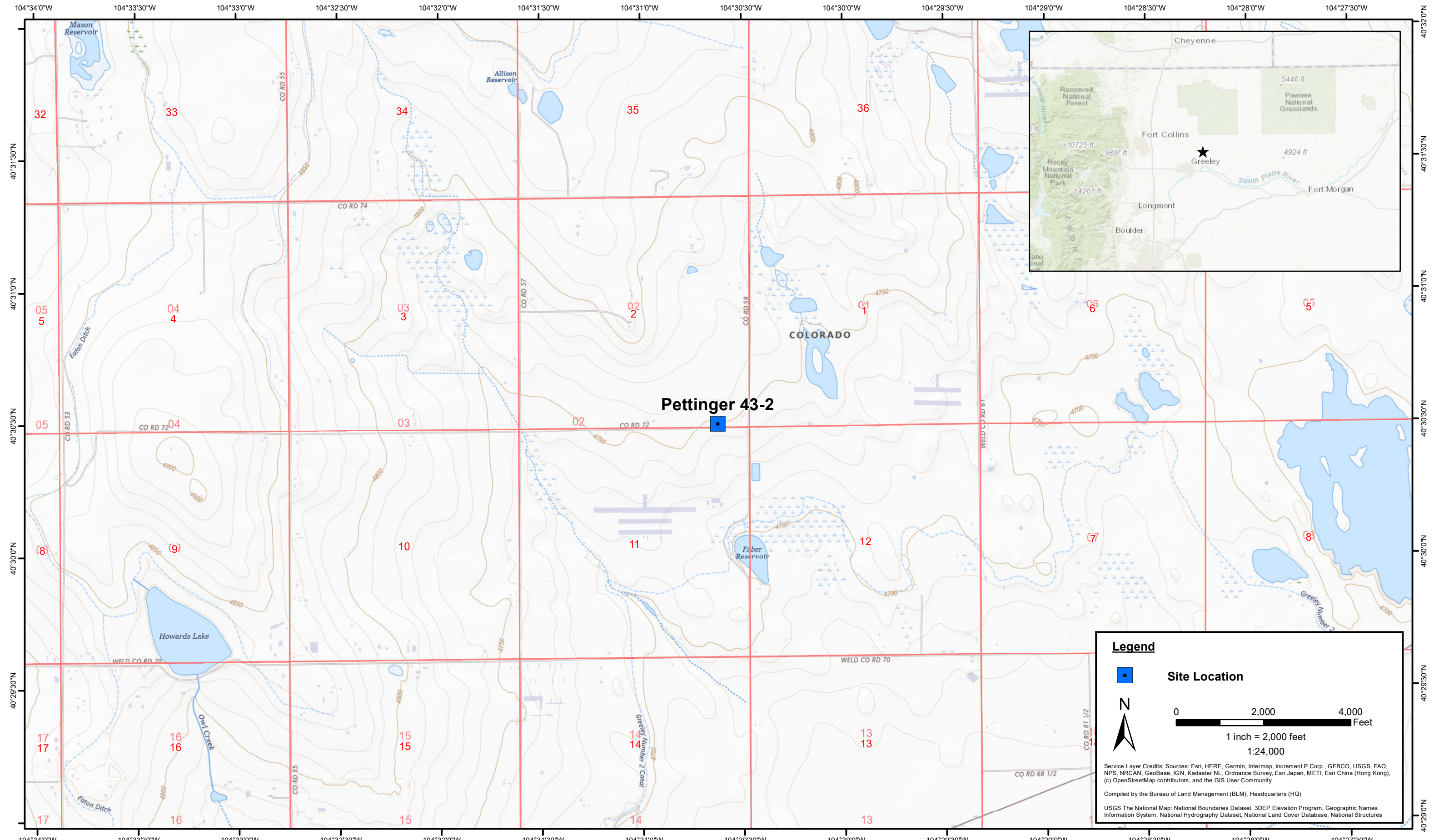
TABLE 5
SUMMARY OF GROUNDWATER ELEVATION DATA AND ORGANIC CHEMISTRY DATA
PDC ENERGY, INC. - 69175
PETTINGER 43-2 FLOWLINE, WELD COUNTY, COLORADO
REM # 36965

Sample ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4- Trimethyl- Benzene (µg/L)	1,3,5- Trimethyl- Benzene (µg/L)	TOC Elevation (ft)	Depth to Groundwater Below TOC (ft)	Depth to Groundwater Below Ground Surface (ft)	Groundwater Elevation (ft)	LNAPL Thickness (ft)
ECMC Table 915-1 Limits		5.0	560	700	1400	140	67	67					
GW01@4'	12/13/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	NA	NA	4	NA	NP

1. Bold values exceed the ECMC limit(s)

2. Red highlighted groundwater analytical values indicate a regulatory exceedance

NA - Not Analyzed,



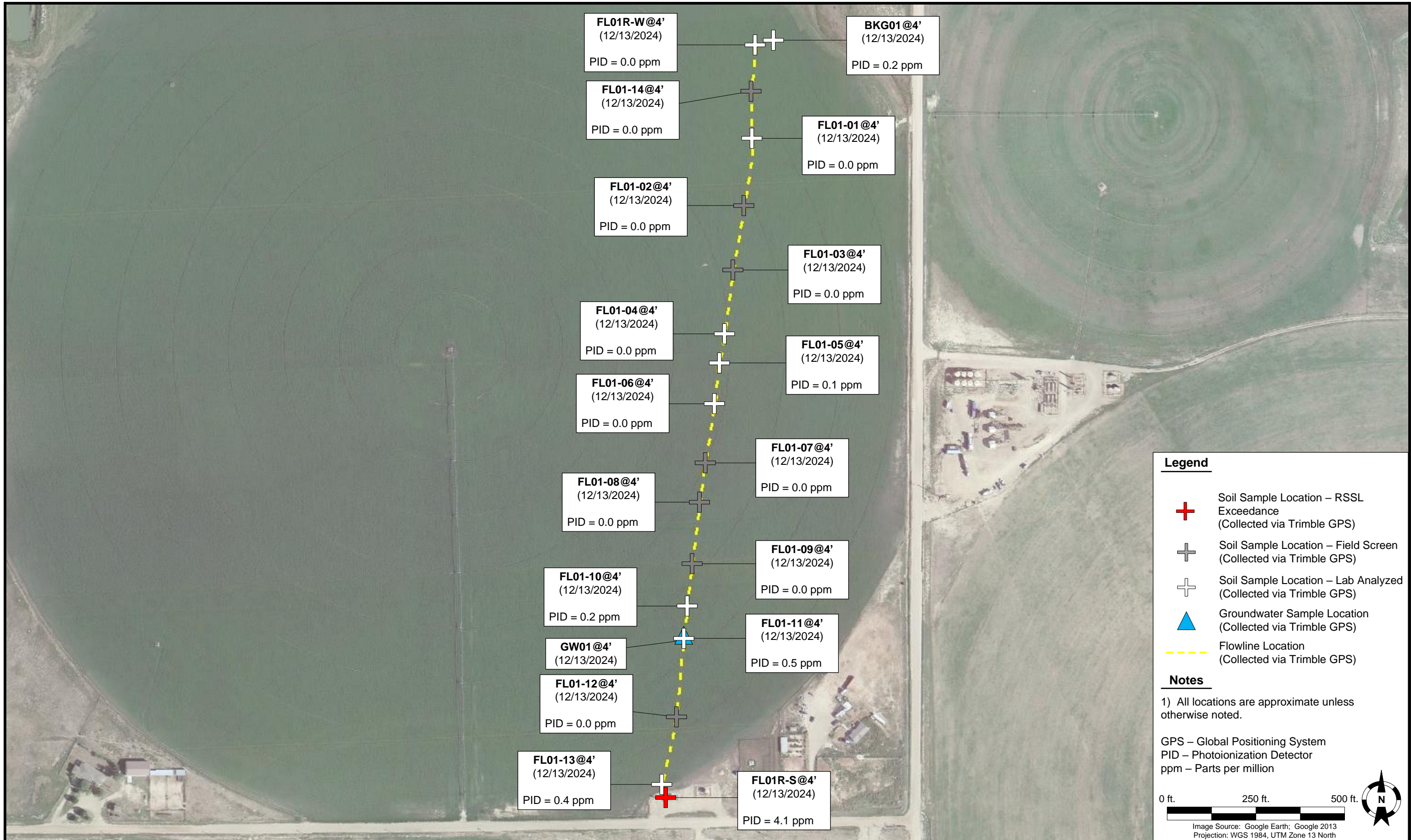
DATE:	February 2025
DESIGNED BY:	J. Whritenour
DRAWN BY:	J. Woffinden



PDC Energy, Inc. – 69175 – DJ Basin
Pettinger 43-2
 SESE, Section 2, Township 6 North, Range 64 West
 Weld County, Colorado

Site Location Map

Figure
1



Legend

- + Soil Sample Location – RSSL Exceedance (Collected via Trimble GPS)
- + Soil Sample Location – Field Screen (Collected via Trimble GPS)
- + Soil Sample Location – Lab Analyzed (Collected via Trimble GPS)
- ▲ Groundwater Sample Location (Collected via Trimble GPS)
- Flowline Location (Collected via Trimble GPS)

Notes

1) All locations are approximate unless otherwise noted.

GPS – Global Positioning System
 PID – Photoionization Detector
 ppm – Parts per million

0 ft. 250 ft. 500 ft.

Image Source: Google Earth; Google 2013
 Projection: WGS 1984, UTM Zone 13 North

DATE: February 11, 2024

DESIGNED BY: J. Whritenour

DRAWN BY: D. Gray



PDC Energy, Inc. – 69175 – DJ Basin
Pettinger 43-2 Flowline
 NESE, Section 2, Township 6 North, Range 64 West
 Weld County, Colorado

**SOIL SAMPLE
 LOCATION MAP
 (FLOWLINE)**

**FIGURE
 2**