

TABLE 1
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
PDC 69175
IVEY LC PAD, ADAMS COUNTY, COLORADO
REM #

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**		
Waste Char #1	10/21/2024	0.2	<0.0020	0.077	0.031	0.29	0.37	0.11	0.052	30	30	<50	<50
Waste Char #2	10/21/2024	0.2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-01	10/21/2024	0.8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-02	10/22/2024	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-03	10/22/2024	0.8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-04	10/27/2024	0.8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	0.038	<0.0038	<100.5	1.4	260	79
FS-05	10/27/2024	0.8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-06	10/27/2024	0.8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-07	10/27/2024	0.8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-08	10/27/2024	0.8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-09	10/27/2024	0.8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-10	10/27/2024	0.8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-11	10/27/2024	0.8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-12	10/27/2024	0.8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-13	10/27/2024	0.8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-02 (2)	11/6/2024	1	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-04 (2)	11/6/2024	1.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-04 (3)	11/19/2024	2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-10(2)	12/2/2024	1.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<100.5	<0.50	<50	<50
FS-10(3) N Wall	12/13/2024	2	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending
FS-10(3) S Wall	12/13/2024	2	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending
FS-10(3) E Wall	12/13/2024	2	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending
FS-10(3) W Wall	12/13/2024	2	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending
FS-10(3) Floor	12/13/2024	3	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending

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
- NA - Not analyzed

 = Source material characterization sample, excavated and transported off site for disposal.

 = Material excavated and transported off site for disposal.

TABLE 2
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
PDC 69175
IVEY LC PAD, ADAMS COUNTY, COLORADO
REM #

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
Waste Char #1	10/21/2024	0.2	<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
Waste Char #2	10/21/2024	0.2	<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
FS-01	10/21/2024	0.8	<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
FS-02	10/22/2024	0.5	<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
FS-03	10/22/2024	0.8	<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
FS-04	10/27/2024	0.8	<0.00500	<0.00500	0.0134	<0.00500	<0.00500	<0.00500	0.0127	<0.00500	<0.00500	0.0346	<0.00500	0.00504	0.126	0.0244
FS-05	10/27/2024	0.8	<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
FS-06	10/27/2024	0.8	<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
FS-07	10/27/2024	0.8	<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
FS-08	10/27/2024	0.8	<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
FS-09	10/27/2024	0.8	<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
FS-10	10/27/2024	0.8	<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
FS-11	10/27/2024	0.8	<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
FS-12	10/27/2024	0.8	<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
FS-13	10/27/2024	0.8	<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
FS-02 (2)	11/6/2024	1	<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
FS-04 (2)	11/6/2024	1.5	<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
FS-04 (3)	11/19/2024	2	<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
FS-10(2)	12/2/2024	1.5	<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
FS-10(3) N Wall	12/13/2024	2	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending
FS-10(3) S Wall	12/13/2024	2	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending
FS-10(3) E Wall	12/13/2024	2	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending
FS-10(3) W Wall	12/13/2024	2	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending
FS-10(3) Floor	12/13/2024	3	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending

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

NA - Not analyzed

= Source material characterization sample, excavated and transported off site for disposal.

= Material excavated and transported off site for disposal.

TABLE 3
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
PDC 69175
IVEY LC PAD, ADAMS COUNTY, COLORADO
REM #

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
Waste Char #1	10/21/2024	0.2	7.8	6.02	14.9	<2.00
Waste Char #2	10/21/2024	0.2	8.06	2.33	6.88	<2.00
FS-01	10/21/2024	0.8	7.72	2.51	3.06	<2.00
FS-02	10/22/2024	0.5	8.11	4.03	13.0	<2.00
FS-03	10/22/2024	0.8	8.35	0.557	2.18	<2.00
FS-04	10/27/2024	0.8	8.04	0.853	2.61	<2.00
FS-05	10/27/2024	0.8	8.51	0.581	2.70	<2.00
FS-06	10/27/2024	0.8	8.30	1.04	3.73	<2.00
FS-07	10/27/2024	0.8	8.37	0.506	2.33	<2.00
FS-08	10/27/2024	0.8	8.58	0.362	0.861	<2.00
FS-09	10/27/2024	0.8	8.37	0.392	2.08	<2.00
FS-10	10/27/2024	0.8	8.90	0.299	1.58	<2.00
FS-11	10/27/2024	0.8	8.44	1.1	3.71	<2.00
FS-12	10/27/2024	0.8	8.37	0.561	2.49	<2.00
FS-13	10/27/2024	0.8	8.62	0.542	2.48	<2.00
BG-N-ON	10/25/2024	0.8	8.34	1.07	2.07	<2.00
BG-S-ON	10/25/2024	0.8	8.57	2.08	7.82	<2.00
BG-E-N	10/27/2024	0.8	7.66	0.451	0.765	<2.00
BG-E-S	10/27/2024	0.8	7.14	0.492	0.514	<2.00
BG-N	10/27/2024	0.8	7.66	0.299	0.256	<2.00
BG-W	10/27/2024	0.8	8.62	0.165	0.627	<2.00
FS-02 (2)	11/6/2024	1	8.15	2.18	5.8	<2.00
FS-04 (2)	11/6/2024	1.5	8.15	2.58	7.92	<2.00
FS-04 (3)	11/19/2024	2	8.17	1.29	5.86	<2.00
FS-10(2)	12/2/2024	1.5	8.91	0.977	8.56	<2.00
FS-10(3) N Wall	12/13/2024	2	8.20	2.00	6.30	<2.00
FS-10(3) S Wall	12/13/2024	2	8.71	2.09	16.60	<2.00
FS-10(3) E Wall	12/13/2024	2	9.23	0.928	9.63	<2.00
FS-10(3) W Wall	12/13/2024	2	9.02	1.57	12.3	<2.00
FS-10(3) Floor	12/13/2024	3	8.17	4.29	10.8	2.25
			Not resolved	Not resolved	Not resolved	Not resolved

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
Maximum Root Background Concentration (0 - 3 ft)			8.62	2.08	7.82	<2.00

1. Bold faced values exceed the ECMC Table 915-1 limit(s)
2. Blue highlighted soil analytical values indicate a regulatory exceedance

NA - Not analyzed

 = Source material characterization sample, excavated and transported off site for disposal.

 = Material excavated and transported off site for disposal.

TABLE 4
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
PDC 69175
IVEY LC PAD, ADAMS COUNTY, COLORADO
REM #

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
Waste Char #1	10/21/2024	0.2	1.03	148	<0.200	<0.30	3.23	5.12	5.54	<0.260	0.0391	9.97
Waste Char #2	10/21/2024	0.2	0.832	40.0	<0.200	<0.30	2.17	3.67	1.95	<0.260	0.0274	7.42
FS-01	10/21/2024	0.8	1.01	43.5	<0.200	<0.30	2.57	5.03	2.35	<0.260	0.0263	7.66
FS-02	10/22/2024	0.5	1.68	84.0	<0.200	<0.30	3.75	3.21	3.25	<0.260	<0.0200	13.8
FS-03	10/22/2024	0.8	2.77	583	<0.200	<0.30	6.79	5.39	5.62	<0.260	0.0279	19.2
FS-04	10/27/2024	0.8	1.22	68.6	<0.200	<0.30	3.11	5.34	2.24	<0.260	<0.0200	9.6
FS-05	10/27/2024	0.8	0.924	37	<0.200	<0.30	2.01	3.43	1.79	<0.260	<0.0200	6.15
FS-06	10/27/2024	0.8	1.07	37.2	<0.200	<0.30	2.62	3.43	2.25	<0.260	<0.0200	8
FS-07	10/27/2024	0.8	0.948	78.8	<0.200	<0.30	2.19	3.48	1.98	<0.260	<0.0200	6.7
FS-08	10/27/2024	0.8	1.12	163	<0.200	<0.30	3.14	7.71	3.15	<0.260	0.0348	10.4
FS-09	10/27/2024	0.8	1.15	39.7	<0.200	<0.30	1.97	4.00	2.06	<0.260	<0.0200	6.83
FS-10	10/27/2024	0.8	1.21	70.1	<0.200	<0.30	2.27	4.98	2.41	<0.260	<0.0200	7.22
FS-11	10/27/2024	0.8	0.995	37.9	<0.200	<0.30	0.765	5.15	0.62	<0.260	<0.0200	2.52
FS-12	10/27/2024	0.8	0.903	32.4	<0.200	<0.30	2.40	3.17	2.36	<0.260	<0.0200	7.45
FS-13	10/27/2024	0.8	0.747	23.8	<0.200	<0.30	1.85	2.95	1.94	<0.260	<0.0200	6.41
BG-N-ON	10/25/2024	0.8	4.67	250	0.236	<0.30	7.50	10.7	7.64	<0.260	0.0431	25.7
BG-S-ON	10/25/2024	0.8	4.19	297	0.232	<0.30	6.64	9.92	6.96	<0.260	0.0393	23.3
BG-E-N	10/27/2024	0.8	1.06	122	0.242	<0.30	2.81	11.8	2.79	0.276	0.0645	9.76
BG-E-S	10/27/2024	0.8	1.14	113	0.281	<0.30	2.96	13.0	2.91	0.336	0.0607	10.1
BG-N	10/27/2024	0.8	1.31	149	0.311	<0.30	3.36	14.9	3.26	<0.260	0.0803	10.9
BG-W	10/27/2024	0.8	1.23	145	0.316	<0.30	3.37	16.0	3.13	<0.260	0.0912	10.7
FS-02 (2)	11/6/2024	1	5.10	184	0.396	<0.30	7.26	11.5	7.91	0.27	0.0781	25.8
FS-04 (2)	11/6/2024	1.5	5.45	174	0.402	<0.30	7.39	12.1	8.21	<0.260	0.075	26.6
FS-04 (3)	11/19/2024	2	5.09	245	0.373	<0.30	6.81	11.6	7.49	<0.260	0.0721	24.6
FS-10(2)	12/2/2024	1.5	5.21	182	0.343	<0.30	8.00	12.6	16.9	<0.260	0.0592	27.3
FS-10(3) N Wall	12/13/2024	2	4.65	205	0.327	<0.30	12.80	11.3	8.5	<0.260	0.0569	27.7
FS-10(3) S Wall	12/13/2024	2	4.78	214	0.447	<0.30	14.40	12.2	8.66	0.271	0.0721	27.5
FS-10(3) E Wall	12/13/2024	2	5.14	87.6	0.399	<0.30	15.10	12.7	8.84	0.394	0.0753	28.2

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
FS-10(3) W Wall	12/13/2024	2	5.13	108	0.414	<0.30	14.00	12.6	8.74	0.288	0.0681	27.9
FS-10(3) Floor	12/13/2024	3	5.09	60.5	0.28	<0.30	14.20	12.4	8.77	0.393	0.0649	28.3
			Resolved (BG)	Resolved (PF)	Resolved (PF)			Resolved (BG)		Resolved (BG)		
Maximum Root Zone Background Concentration (0 - 3 ft)			4.67	297	0.316	<0.30	7.50	16.0	7.64	0.336	0.0912	25.7
125% Root Zone Background Concentration (0 - 3 ft)			5.84	371	0.395	<0.30	9.38	20.0	9.55	0.420	0.1140	32.1

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)

* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed

 = Source material characterization sample, excavated and transported off site for disposal.

 = Material excavated and transported off site for disposal.

TABLE 5
SUMMARY OF BARIUM (Ba) CONCENTRATIONS IN EXCAVATED SOILS CALCULATION (BASED ON REPORTED SPILL VOLUME)
PDC ENERGY INC.
IVEY PAD
FREMONT PROJECT NO. C024-133

Compare Mass of Barium (Ba) Excavated to Barium Released

Barium Removed During Excavation	5047.17 grams
Barium Released Due to Spill	118.922 grams
Excess Barium Removed During Excavation	4928.25 grams

Therefore, approximately 42 times more barium were removed via excavation than were released

Calculation of Barium Removed During Excavation

Avg. Ba Concentration in Excav. Soil Samples	Mass of Excavated Soil	Mass of Ba in Exc. Soil
118.88 mg/kg	42,456 kg	5047.17 grams

Mass of excavated soil is: 36 cubic yards x 1.30 ton/CY = 46.8 tons = 42,456 kg

Sixteen soil samples from the excavation were analyzed for barium; the average concentration was 118.88 mg/kg

Calculation of Barium Released Due to Spill

Produced H2O/Oil Release Volume (bbl)	Produced H2O/Oil Volume (L)	Ba Concentration (ug/L)	Ba Mass Released (mg)	Ba Mass Released (g)
17	2702.78	44000	(44000 ug/L x 2702.78 L)/1000 118922.276	118.922

Net Volume of Produced Fluid Released: (17 bbl)(158.987 L/bbl) = 2702.78 L

1 kg/L is weight of water

Barium concentration in produced fluid sample was 44,000 ug/L (see lab report)

TABLE 6
SUMMARY OF CADMIUM (Cd) CONCENTRATIONS IN EXCAVATED SOILS CALCULATION (BASED ON REPORTED SPILL VOLUME)
PDC ENERGY INC.
IVEY PAD
FREMONT PROJECT NO. C024-243

Compare Mass of Cadmium (Cd) Excavated to Cadmium Released

Cadmium Removed During Excavation	10.02 grams
Cadmium Released Due to Spill	0.001378 grams
Excess Cadmium Removed During Excavation	10.02 grams

Therefore, approximately 7,271 times more Cadmium were removed via excavation than were released

Calculation of Cadmium Removed During Excavation

Avg. Cd Concentration in Excav. Soil Samples	Mass of Excavated Soil	Mass of Cd in Exc. Soil
0.236 mg/kg	42,456 kg	10.02 grams

Mass of excavated soil is: 36 cubic yards x 1.30 ton/CY = 46.8 tons = 42,456 kg

Sixteen soil samples from the excavation were analyzed for Cadmium; the average concentration was 0.236 mg/kg

Calculation of Cadmium Released Due to Spill

Produced H2O/Oil Release Volume (bbl)	Produced H2O/Oil Volume (L)	Cd Concentration (ug/L)	Cd Mass Released (mg)	Cd Mass Released (g)
17	2702.78	0.51	0.51 ug/L x 2702.78 L)/1000 1.378	0.001378

Net Volume of Produced Fluid Released: (17 bbl)(158.987 L/bbl) = 2702.78 L

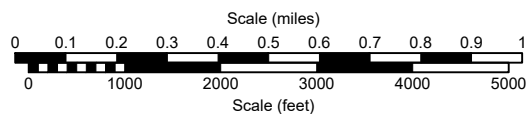
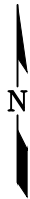
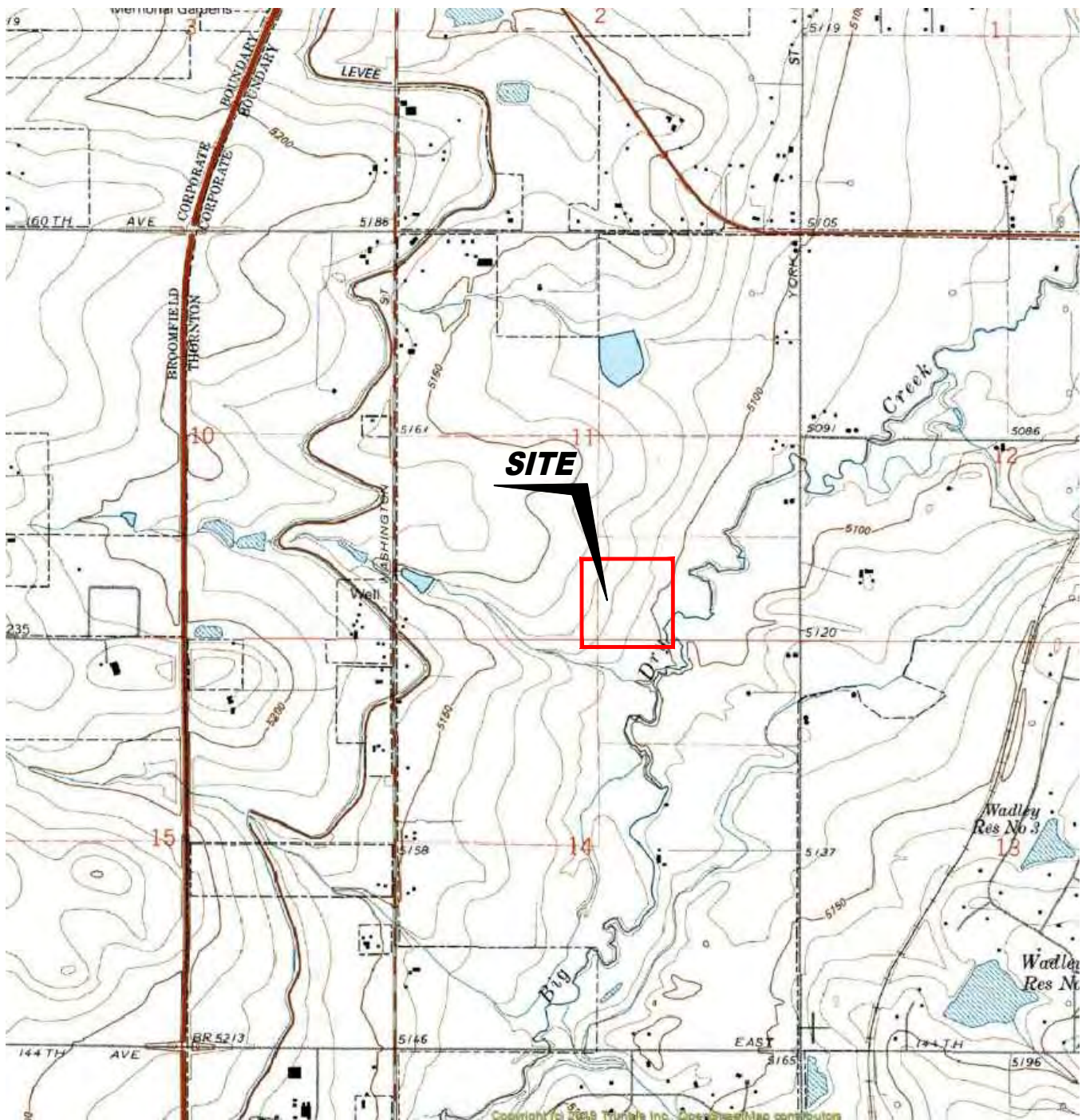
1 kg/L is weight of water

Cadmium concentration in produced fluids sample was 0.510 ug/L

TABLE 7
SUMMARY OF TOTAL RECOVERABLE METALS IN PRODUCED FLUID CHEMISTRY DATA
PDC ENERGY INC.
IVEY PAD
FREMONT PROJECT NO. C024-243

Sample ID	Sample Date	Arsenic (ug/L)	Barium (ug/L)	Cadmium (ug/L)	Chromium IV (ug/L)	Copper (ug/L)	Lead (ug/L)	Nickel (ug/L)	Selenium (ug/L)	Silver (ug/L)	Zinc (ug/L)
PF	10/25/2024	2.9	44000	0.510	<10	10.2	2.54	6.9	<1.00	0.2450	871

NA - not analyzed



USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

PDC Energy, Inc. ~ Ivey LC Pad
SWSE Sec. 11, T1S, R68W, 6th PM
Adams County, Colorado
39.974864°, -104.965650°

Project No.	Location ID	Initial Spill/Release Report Doc#
CO24-243	442411	
Date	Remediation #	Filename
12/10/24		24243T





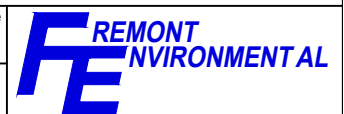
LEGEND

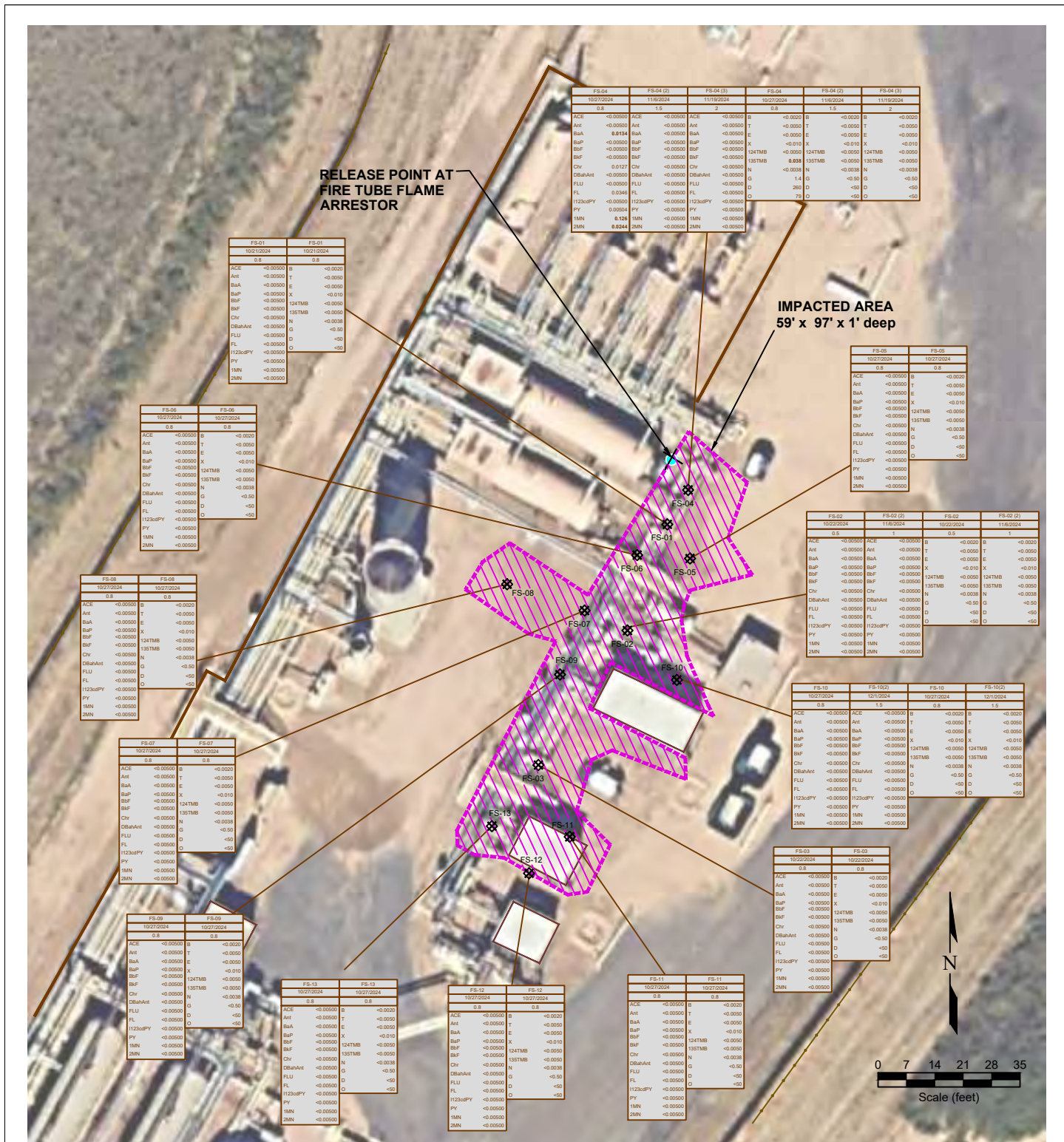
✱ POINT OF RELEASE	○ ABOVE GROUND STORAGE TANK	FORMER FACILITY	— FENCE LINE
XXXXX AREA OF EXCAVATION	BUILDING BUILDING	CONTAINMENT WALL	IMPACTED AREA

Figure 2
SITE MAP

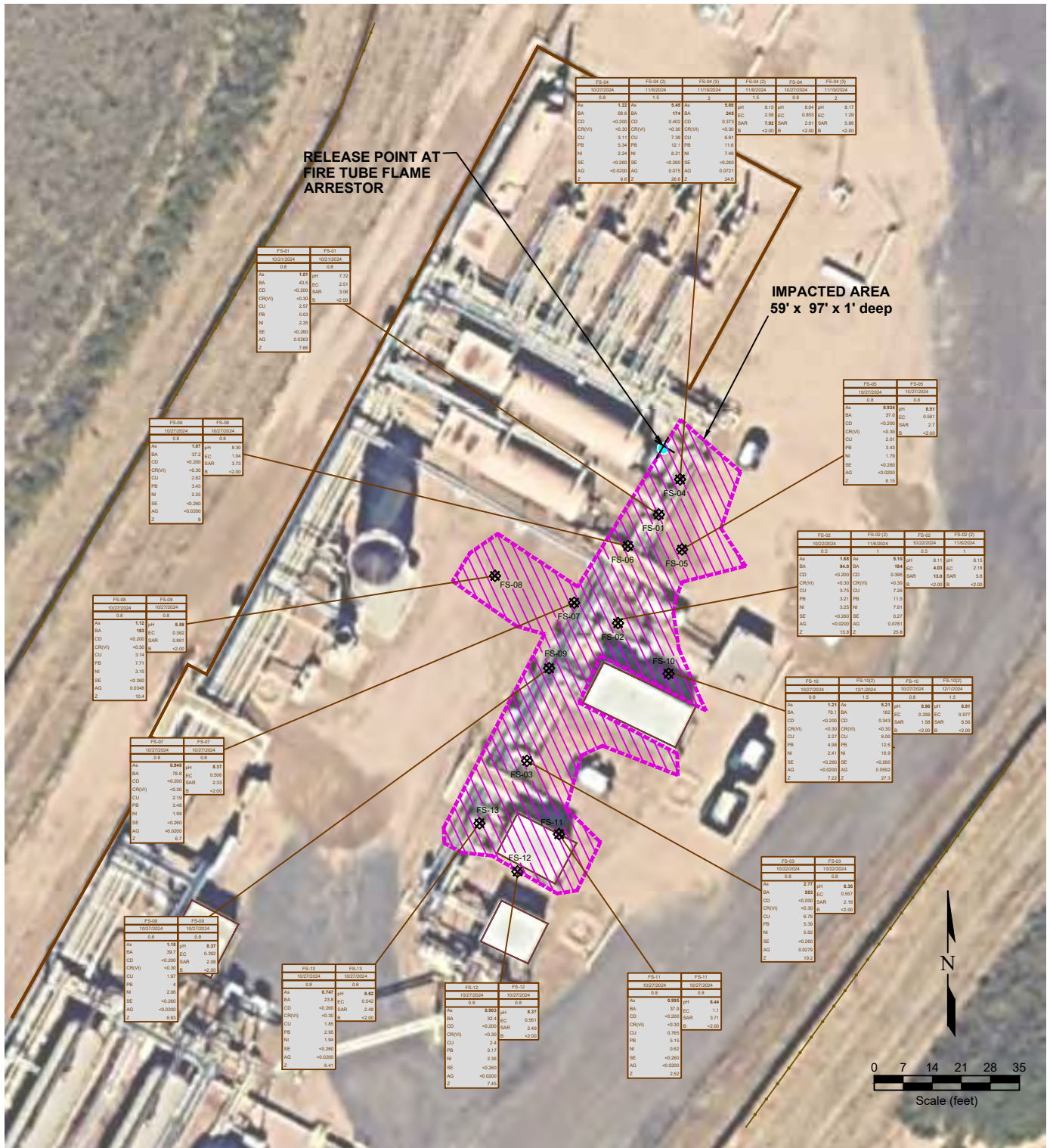
PDC Energy, Inc. ~ Ivey LC Pad
SWSE Sec. 11, T1S, R68W, 6th PM
Adams County, Colorado
39.974864°, -104.965650°

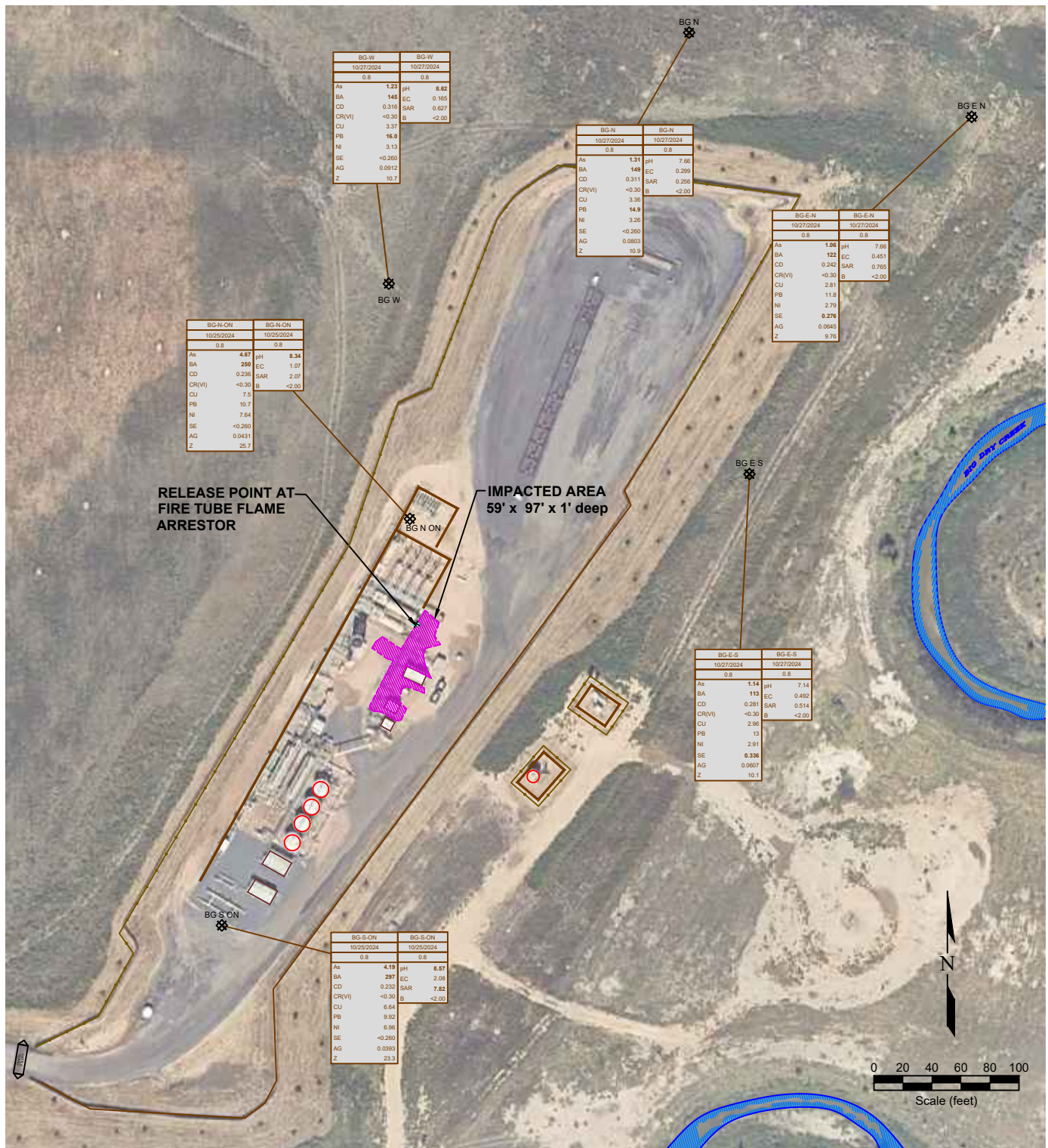
Project No. CO24-243	Location ID 442411	Initial Spill/Release Report Doc#
Date 12/11/24	Remediation #	Filename 24243Q





SAMPLE ID	DATE	DEPTH	SAMPLE ID	DATE	DEPTH	SAMPLE ID	DATE	DEPTH	SAMPLE ID	DATE	DEPTH
ACE	<0.0050		ACENAPHTHENE (mg/kg)			B	<0.0020		BENZENE (mg/kg)		
Ant	<0.0050		ANTHRACENE (mg/kg)			T	<0.0050		TOLUENE (mg/kg)		
BaA	<0.0050		BENZO (A) ANTHRACENE (mg/kg)			E	<0.0050		ETHYLENEBENZENE (mg/kg)		
BaP	<0.0050		BENZO (A) PYRENE (mg/kg)			X	<0.010		TOTAL XYLENES (mg/kg)		
BbF	<0.0050		BENZO (B) FLUORANTHENE (mg/kg)			124TMB	<0.0050		1,2,4-TRIMETHYLBENZENE (mg/kg)		
BbF	<0.0050		BENZO (K) FLUORANTHENE (mg/kg)			135TMB	<0.0050		1,3,5-TRIMETHYLBENZENE (mg/kg)		
Chr	<0.0050		CHRYSENE (mg/kg)			N	<0.0030		NAPHTHALENE (mg/kg)		
DBaAnt	<0.0050		DIBENZ (A,H) ANTHRACENE (mg/kg)			G	<0.50		TPH-DRO (mg/kg)		
FLU	<0.0050		FLUORANTHENE (mg/kg)			D	<0.50		TPH-DRO (mg/kg)		
FL	<0.0050		FLUORENE (mg/kg)			O	<0.50				
1123aPY	<0.0050		INDENO (1,2,3-CD) PYRENE (mg/kg)								
PY	<0.0050		PYRENE (mg/kg)								
1MN	<0.0050		1-METHYLNAPHTHALENE (mg/kg)								
2MN	<0.0050		2-METHYLNAPHTHALENE (mg/kg)								





LEGEND

- POINT OF RELEASE
- SOIL SAMPLE LOCATION
- ABOVE GROUND STORAGE TANK
- AREA OF EXCAVATION
- FORMER FACILITY
- BUILDING
- FENCE LINE
- CONTAINMENT WALL
- IMPACTED AREA

SAMPLE ID	DATE	DEPTH (ft)	SAMPLE ID	DATE	DEPTH (ft)
As	<0.01	ARSENIC (mg/kg)	As	<0.01	ARSENIC (mg/kg)
BA	<0.01	BARIUM (mg/kg)	BA	<0.01	BARIUM (mg/kg)
CD	<0.01	CADMIUM (mg/kg)	CD	<0.01	CADMIUM (mg/kg)
CR(VI)	<0.01	CHROMIUM (mg/kg)	CR(VI)	<0.01	CHROMIUM (mg/kg)
CU	<0.01	COPPER (mg/kg)	CU	<0.01	COPPER (mg/kg)
PB	<0.01	LEAD (mg/kg)	PB	<0.01	LEAD (mg/kg)
NI	<0.01	NICKEL (mg/kg)	NI	<0.01	NICKEL (mg/kg)
SE	<0.01	SELENIUM (mg/kg)	SE	<0.01	SELENIUM (mg/kg)
AG	<0.01	SILVER (mg/kg)	AG	<0.01	SILVER (mg/kg)
Z	<0.01	ZINC (mg/kg)	Z	<0.01	ZINC (mg/kg)

Figure 5
BACKGROUND SAMPLE SOIL CHEMISTRY MAP

PDC Energy, Inc. ~ Ivey LC Pad
SWSE Sec. 11, T1S, R68W, 6th PM
Adams County, Colorado
39.974864°, -104.965650°

Project No.	Location ID	Initial Spill/Release Report Doc#
CO24-243	442411	
Date	Remediation #	Filename
12/11/24		24243QBKG

