

Table 915-1		Fulcrum Energy Operating Surprise Damfino S6 Attachment D - Analytical Summary																
		Soil Characterization Samples - 10/21/2022																
Contaminant of Concern	RSSL Concentrations	Units	Sample ID	SD_01 @ 6"	SD_02 @ 3"	SD_02 @ 12"	SD_03 @ 3"	SD_04 @ 2"	SD_05 @ 3"	SD_06 @ 3"	SD_07 @ 4"	SD_07 @ 12"	SD_08 @ 6"	SD_09 @ 6"	SD_10 @ 3"	SD_11 @ 4"	SD_12 @ 4"	SD_13 @ 3"
			Depth - BGS (Inches)	6	3	12	3	2	3	3	4	12	6	6	3	4	4	3
Organic Compounds in Soil	RSSL Concentrations	Units																
TPH-TVPH (Gasoline Range Organics-C6-C10)	500	mg/kg	79.8	245	14.3	459	679	16200	609	2380	3.07	2720	394	403	18.9	11.7	5.09	
TPH-TEPH (Diesel Range Organics-C10-C28)		mg/kg	3280	20200	84.9	27300	38800	99100	13800	14800	ND	23500	14000	20700	17300	10500	1710	
TPH-ORO (Oil Range Organics-C28-C40)		mg/kg	ND	357	ND	684	561	270	ND	ND	ND	494	196	424	8380	3930	140	
Total TPH (GRO+DRO+ORO)		mg/kg	3360	20802	99.2	28443	40040	115570	14409	17180	3.07	26714	14590	21527	25699	14442	1855	
Benzene	1.2	mg/kg	ND	ND	ND	ND	0.0393	0.0843	0.00422	0.00474	ND	ND	0.013	ND	ND	ND	ND	
Toluene	490	mg/kg	ND	0.0479	ND	0.529	0.349	0.315	0.334	0.0866	ND	0.0750	0.179	0.0578	ND	ND	ND	
Ethylbenzene	5.8	mg/kg	ND	0.0324	ND	0.0489	0.231	0.206	0.52	0.517	ND	0.102	0.159	0.705	ND	ND	ND	
Xylenes (total)	58	mg/kg	0.0202	0.204	ND	0.308	10.9	1.09	4.57	0.308	ND	0.860	0.864	0.483	0.0336	0.00660	ND	
1,2,4-Trimethylbenzene	30	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,3,5-Trimethylbenzene	27	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Soil Suitability for Reclamation																		
Electrical Conductivity (EC)	<4 mmhos/cm	mmhos/cm	1.45	6.13	0.801	11.9	1.47	8.65	0.593	3.69	0.681	0.923	3.34	0.497	2.420	6.34	1.620	
Sodium Adsorption Ratio (SAR)	< 6	ratio	3.20	1.84	1.93	3.52	1.51	3.13	1.25	1.57	3.24	0.758	1.79	0.60	1.68	2.57	2.32	
pH	6.0-8.3	su	7.94	8.03	8.23	9.08	8.33	7.83	7.95	7.85	8.29	7.82	7.85	8.06	7.88	7.38	8.27	
Notes:			Sample concentrations in red font exceed Table 915-1 standards															
			TPH - Total Petroleum Hydrocarbons					BGS - Below ground surface										
			ND - Not Detected					mg/kg - milligrams per kilogram										
			NA - Not Analyzed					mmhos/cm - millimhos per centimeter										

COGCC Table 915-1	Fulcrum Energy Operating Surprise Damfino S6 Attachment D - Analytical Summary								
	Soil Characterization Samples - 12/15/2022								
	Sample ID & Depth	SS_Wellhead_01 @ 7'	SS_01 @ 7'	SS_02 @ 7'	SS_03 @ 7'	SS_05 @ 7'	SS_07 @ 7'	SS_09 @ 7'	
Contaminant of Concern	Depth - BGS (Inches)	84	84	84	84	84	84	84	
Organic Compounds in Soil	RSSL Concentrations	Units							
TPH-TVPH (Gasoline Range Organics-C6-C10)	500	mg/kg	NA	NA	ND	ND	ND	ND	ND
TPH-TEPH (Diesel Range Organics-C10-C28)		mg/kg	393	1160	ND	ND	ND	ND	ND
TPH-RRO (Residual Range Organics-C28-C40)		mg/kg	ND	ND	ND	ND	ND	ND	ND
Total TPH (GRO+DRO+RRO)		mg/kg	393	1160	ND	ND	ND	ND	ND
Benzene	1.2	mg/kg	ND	ND	ND	ND	ND	ND	ND
Toluene	490	mg/kg	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.8	mg/kg	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	58	mg/kg	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	30	mg/kg	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	27	mg/kg	0.00558	0.0133	ND	ND	ND	ND	ND
Soil Suitability for Reclamation									
Electrical Conductivity (EC)	<4 mmhos/cm	mmhos/cm	16.9	7.97	0.608	0.923	0.894	1.37	2.77
Sodium Adsorption Ratio (SAR)	<6	ratio	30.5	42.10	3.69	2.44	2.01	7.26	1.11
pH	6.0-8.3	su	8.01	7.99	8.20	8.03	8.35	8.28	7.99
Notes: Sample concentrations in red font exceed Table 915-1 standards TPH - Total Petroleum Hydrocarbons BGS - Below ground surface ND - Not Detected mg/kg - milligrams per kilogram NA - Not Analyzed mmhos/cm - millimhos per centimeter									

Table 915-1		Fulcrum Energy Operating Surprise Damfino S6 Attachment D - Analytical Summary							
		Background Samples - 4/27/2023			Soil Characterization Samples - 4/27/2023				
		Sample ID	BG_Damfino_02@5'	BG_Damfino_03@5'	SS_Damfino_7@7'	SS_Damfino_West@3'	SS_Damfino_East@3'	SS_Damfino_Stockpile	
Contaminant of Concern		Depth - BGS (inches)	60	60	84	36	36	12	
Organic Compounds in Soil		RSSL Concentrations	Units						
TPH-TVPH (Gasoline Range Organics-C6-C10)		500	mg/kg	NA	NA	1.68	ND	ND	ND
TPH-TEPH (Diesel Range Organics-C10-C28)			mg/kg	NA	NA	539	ND	ND	1830
TPH-ORO (Oil Range Organics-C28-C40)			mg/kg	NA	NA	212	ND	ND	ND
Total TPH (GRO+DRO+ORO)			mg/kg	NA	NA	752.6	ND	ND	ND
Benzene		1.2	mg/kg	NA	NA	ND	ND	ND	ND
Toluene		490	mg/kg	NA	NA	ND	ND	ND	ND
Ethylbenzene		5.8	mg/kg	NA	NA	ND	ND	ND	ND
Xylenes (total)		58	mg/kg	NA	NA	ND	ND	ND	ND
1,2,4-Trimethylbenzene		30	mg/kg	NA	NA	ND	ND	ND	0.00242
1,3,5-Trimethylbenzene		27	mg/kg	NA	NA	ND	ND	ND	ND
Acenaphthene		360	mg/kg	NA	NA	ND	ND	ND	ND
Anthracene		1800	mg/kg	NA	NA	ND	ND	ND	ND
Benzo(A)anthracene		1.1	mg/kg	NA	NA	ND	ND	ND	ND
Benzo(B)fluoranthene		1.1	mg/kg	NA	NA	ND	ND	ND	ND
Benzo(K)fluoranthene		11	mg/kg	NA	NA	ND	ND	ND	ND
Benzo(A)pyrene		0.11	mg/kg	NA	NA	ND	ND	ND	ND
Chrysene		110	mg/kg	NA	NA	ND	ND	ND	ND
Dibenzo(A,H)anthracene		0.11	mg/kg	NA	NA	ND	ND	ND	ND
Fluoranthene		240	mg/kg	NA	NA	ND	ND	ND	ND
Fluorene		240	mg/kg	NA	NA	ND	ND	ND	ND
Indeno(1,2,3,C,D)pyrene		1.1	mg/kg	NA	NA	ND	ND	ND	ND
1-Methylnaphthalene		18	mg/kg	NA	NA	ND	ND	ND	NA
2-Methylnaphthalene		24	mg/kg	NA	NA	ND	ND	ND	ND
Naphthalene		2	mg/kg	NA	NA	ND	ND	ND	ND
Pyrene		180	mg/kg	NA	NA	ND	ND	ND	0.182
Soil Suitability for Reclamation									
Electrical Conductivity (EC)		<4 mmhos/cm	mmhos/cm	0.194	0.507	1.310	0.560	0.336	0.336
Sodium Adsorption Ratio (SAR)		< 6	ratio	6.81	6.73	2.07	0.181	0.308	0.308
pH		6.0-8.3	su	7.88	8.71	8.57	8.27	7.94	9.29
Boron (Hot Water Soluble)		2	mg/l	0.136	ND	ND	ND	0.127	0.127
Metals in Soils		RSSL							
Arsenic		0.68	mg/kg	4.09	0.686	1.36	3.81	3.56	2.48
Barium		15,000	mg/kg	NA	NA	104.0	199	223	946
Cadmium		71	mg/kg	NA	NA	ND	0.248	0.274	0.184
Chromium (Hexavalent)		0.3	mg/kg	NA	NA	ND	ND	1.99	NA
Copper		3,100	mg/kg	NA	NA	ND	19	20.2	NA
Lead		400	mg/kg	NA	NA	ND	10.50	10.30	10.20
Nickel		1,500	mg/kg	NA	NA	10.50	18.70	17.70	NA
Selenium		390	mg/kg	NA	NA	ND	0.365	0.312	0.303
Silver		390	mg/kg	NA	NA	ND	ND	ND	ND
Zinc		23,000	mg/kg	NA	NA	ND	ND	ND	NA
Notes:		Sample concentrations in red font exceed Table 915-1 standards mg/kg - milligrams per kilogram mmhos/cm - millimhos per centimeter				TPH - Total Petroleum Hydrocarbons SAR - Sodium Adsorption Ratio NA - Not Analyzed BGS - Below Ground Surface			