

TABLE 1  
SOIL SAMPLE ANALYTICAL AND FIELD RESULTS  
BADGER WASH FEDERAL 1-32  
MESA COUNTY, COLORADO  
GADECCO, LLC

Analyte	COGCC Table 915-1 Cleanup Concentrations		Sample ID / Results (mg/kg)																				
	Residential Soil Screening Level Concentrations (mg/kg)	Protection of Groundwater Soil Screening Level Concentrations (mg/kg)	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023
			SS01	SS02	SS03	SS04	SS05	SS06	SS07	SS08	SS09	SS10	SS11	SS12	SS13	SS14	SS15	SS16	SS17	SS18	SS19	SS20	
Photoionization Detector Reading																							
PID (ppm)	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	118.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Petroleum Hydrocarbons by USEPA Method 8015D																							
TPH - GRO	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	64	<0.50	<0.50	NA	NA	<0.50	
TPH - DRO	NA	NA	<50	<50	<50	<50	<50	<50	<50	<50	<50	270	<50	65	88	53	4,000	<50	<50	NA	NA	<50	
TPH - ORO	NA	NA	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	290	<50	<50	NA	NA	<50	
TPH - Total	500*	500*	<100.50	<100.50	<100.50	<100.50	<100.50	<100.50	<100.50	<100.50	<100.50	<100.50	270	<100.50	65	88	53	4,354	<100.50	<100.50	NA	NA	<100.50
Soil Suitability for Reclamation																							
EC (nmhos/cm)	4	4	2.48	2.47	3.19	3.93	3.39	3.60	3.47	3.84	3.49	4.96	0.423	0.423	0.401	4.99	3.75	5.13	1.33			2.96	
SAR	6	6	0.202	0.0766	0.210	1.45	0.687	0.753	0.761	1.15	0.980	1.98	0.648	0.530	0.157	2.04	1.24	2.63	0.911	NA	NA	0.0603	
pH	6-8.3	6-8.3	7.83	7.63	7.63	7.73	7.77	7.70	7.78	7.79	7.76	7.75	8.10	8.05	8.04	7.86	7.92	7.99	8.01	NA	NA	7.44	
boron	2	2	0.193	0.136	0.180	0.151	0.159	0.403	0.284	0.316	0.264	0.742	0.0601	0.138	0.0968	0.960	0.523	0.935	0.197	NA	NA	0.341	
Organic Compounds in Soils																							
benzene	1.2	0.0026	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0032	<0.0020	<0.0020	<0.0020	0.18	<0.0020	<0.0020	NA	NA	<0.0020	
toluene	490	0.69	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	2.2	<0.0050	<0.0050	NA	NA	<0.0050	
ethylbenzene	5.8	0.78	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.40	<0.0050	<0.0050	NA	NA	<0.0050	
total xylenes	58	9.9	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	3.6	<0.010	<0.010	NA	NA	<0.010	
1,2,4-trimethylbenzene	30	0.0081	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0075	<0.0050	0.91	<0.0050	<0.0050	NA	NA	<0.0050
1,3,5-trimethylbenzene	27	0.0087	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.42	<0.0050	<0.0050	NA	NA	<0.0050	
naphthalene	2	0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	0.0039	<0.0038	0.51	<0.0038	<0.0038	NA	NA	<0.0038
acenaphthene	360	0.55	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0188	<0.0050	NA	NA	<0.0050	
anthracene	1800	5.8	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	<0.0050	
benz(a)anthracene	1.1	0.011	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0170	0.0213	<0.0050	<0.0050	<0.0050	<0.0050	0.0116	<0.0050	NA	NA	<0.0050	
benzo(a)pyrene	0.11	0.24	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	<0.0050	
benzo(b)fluoranthene	1.1	0.3	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	<0.0050	
benzo(k)fluoranthene	11	2.9	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	<0.0050	
chrysene	110	9	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0252	0.00926	<0.0050	<0.0050	<0.0050	0.0177	<0.0050	NA	NA	<0.0050	
dibenzo(a,h)anthracene	0.11	0.096	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	<0.0050	
fluoranthene	240	8.9	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	<0.0050	
fluorene	240	0.54	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0907	<0.0050	NA	NA	<0.0050	
indeno(1,2,3-cd)pyrene	1.1	0.98	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	<0.0050	
pyrene	180	1.3	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	<0.0050	
1-methylnaphthalene	18	0.006	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.00618	0.00544	0.0111	<0.0050	0.0147	<0.0050	1.07	<0.0050	NA	NA	<0.0050	
2-methylnaphthalene	24	0.019	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.00532	0.00693	0.0186	0.0126	0.0244	<0.0050	1.47	0.00539	NA	NA	<0.0050	
Metals in Soils																							
arsenic	0.68	0.29	3.46	3.48	3.34	3.25	3.39	2.62	2.99	3.49	3.09	2.45	2.06	3.73	3.79	2.85	3.03	3.29	3.75			3.18	
barium	15000	82	155	149	162	145	117	82.7	96.6	111	84.8	46.6	86.4	143	117	59.0	147	95.6	162			118	
cadmium	71	0.38	<0.223	<0.224	<0.227	0.217	<0.214	<0.221	<0.220	0.220	<0.221	<0.231	<0.214	0.280	<0.224	<0.235	0.241	<0.222	<0.220	NA	NA	0.253	
chromium (VI)	0.3	0.00067	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	NA	NA	<0.30	
copper	3100	46	5.03	4.91	4.75	5.60	6.01	4.48	4.98	5.76	5.00	4.40	5.39	6.90	6.41	6.50	5.00	5.28	5.74	NA	NA	6.30	
lead	400	14	6.18	5.54	5.58	7.53	7.43	5.11	6.50	8.35	5.51	6.20	4.89	9.07	5.79	8.22	5.90	5.99	5.99	NA	NA	6.99	
nickel	1500	26	6.73	6.44	6.35	6.62	6.78	5.28	6.37	7.55	6.12	5.61	4.73	7.89	6.92	6.61	6.47	7.42	7.00	NA	NA	7.72	
selenium	390	0.26	0.324	0.226	0.332	0.343	0.323	0.328	0.392	0.503	0.342	0.487	0.262	0.338	0.215	0.548	0.697	0.821	0.243			0.304	
silver	390	0.8	0.0387	0.0331	0.0418	0.0381	0.0377	0.0265	0.0326	0.0422	0.0318	<0.0231	0.0244	0.0524	0.0484	0.0263	0.0401	0.0293	0.0370	NA	NA	0.0412	
zinc	23000	370	21.5	20.7	20.4	22.6	23.4	18.9	22.6	25.5	21.3	19.8	17.2	27.6	21.3	23.1	21.8	25.0	22.3	NA	NA	26.0	

Notes:  
COGCC - Colorado Oil and Gas Conservation Commission  
mg/kg - milligrams per kilogram  
PID - Photoionization Detector  
ppm - parts per million  
TPH - total petroleum hydrocarbons  
GRO - gasoline range organics  
DRO - diesel range organics  
ORO - oil range organics

EC - electrical conductivity  
SAR - sodium adsorption ratio  
mmhos/cm - millimhos per centimeter  
<0.00200 - less than laboratory reporting limit  
NA - Not Applicable / Not Analyzed  
**Bold** indicates exceeds allowable level  
\*Allowable level for TPH is 500 mg/kg for combined GRO, DRO, and RRO