

Table 1

Ma State 3 Soil Sample Analytical Results
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Lincoln County, Colorado

Analyte	COGCC Table 915-1 Cleanup Concentrations		Units	Sample ID / Results		
	Residential Soil Screening Level Concentrations	Protection of Groundwater Soil Screening Level Concentrations		Sample Date: 4/13/2021		
				SS11 @ 0-6'''	SS12 @ 3-9'''	BG03 @ 0-6'''
Soil Suitability for Reclamation						
EC	4	--	mmhos/cm	0.375	1.95	1.06
SAR	6	--	--	0.369	1.45	0.121
pH	6-8.3	--	--	8.15	7.84	7.22
boron	2	--	mg/L	0.116	0.0803	0.217
Total Petroleum Hydrocarbons						
GRO	--	--	mg/kg	<0.50	<0.50	<0.50
DRO	--	--	mg/kg	<50	<50	<50
ORO	--	--	mg/kg	<50	<50	<50
TPH	500	--	mg/kg	<100.5	<100.5	<100.5
Organic Compounds in Soils						
benzene	1.2	0.0026 (M)	mg/kg	<0.0020	<0.0020	<0.0020
toluene	490	0.69 (M)	mg/kg	<0.0050	<0.0050	<0.0050
ethylbenzene	5.8	0.78 (M)	mg/kg	<0.0050	<0.0050	<0.0050
total xylenes	58	9.9 (M)	mg/kg	<0.010	<0.010	<0.010
1,2,4-trimethylbenzene	30	0.0081 (R)	mg/kg	<0.0050	<0.0050	<0.0050
1,3,5-trimethylbenzene	27	0.0087 (R)	mg/kg	<0.0050	<0.0050	<0.0050
naphthalene	2	0.0038 (R)	mg/kg	<0.0038	<0.0038	<0.0038
acenaphthene	360	0.55 (R)	mg/kg	<0.0050	<0.0050	<0.0050
anthracene	1800	5.8 (R)	mg/kg	<0.0050	<0.0050	<0.0050
benz(a)anthracene	1.1	0.011 (R)	mg/kg	<0.0050	<0.0050	<0.0050
benzo(b)fluoranthene	1.1	0.3 (R)	mg/kg	<0.0050	<0.0050	<0.0050
benzo(k)fluoranthene	11	2.9 (R)	mg/kg	<0.0050	<0.0050	<0.0050
benzo(a)pyrene	0.11	0.24 (M)	mg/kg	<0.0050	<0.0050	<0.0050
chrysene	110	9 (R)	mg/kg	<0.0050	<0.0050	<0.0050
dibenzo(a,h)anthracene	0.11	0.096 (R)	mg/kg	<0.0050	<0.0050	<0.0050
fluoranthene	240	8.9 (R)	mg/kg	<0.0050	<0.0050	<0.0050
fluorene	240	0.54 (R)	mg/kg	<0.0050	<0.0050	<0.0050
indeno(1,2,3-cd)pyrene	1.1	0.98 (R)	mg/kg	<0.0050	<0.0050	<0.0050
pyrene	180	1.3 (R)	mg/kg	<0.0050	<0.0050	<0.0050
1-methylnaphthalene	18	0.006 (R)	mg/kg	<0.0050	<0.0050	<0.0050
2-methylnaphthalene	24	0.019 (R)	mg/kg	<0.0050	<0.0050	<0.0050

Metals in Soils						
arsenic	0.68	0.29 (M)	mg/kg	2.94*	2.14**	2.88
barium	15000	82 (M)	mg/kg	109**	83.1**	110
cadmium	71	0.38 (M)	mg/kg	0.261	<0.226	0.309
chromium (VI)	0.3	0.00067 (R)	mg/kg	<0.30***	<0.30***	<0.30***
copper	3100	46 (M)	mg/kg	10.3	8.27	11.1
lead	400	14 (M)	mg/kg	10.3	6.85	11.6
nickel	1500	26 (R)	mg/kg	9.46	7.19	8.99
selenium	390	0.26 (M)	mg/kg	1.02**	0.663**	1.09
silver	390	0.8 (R)	mg/kg	0.0474	0.0342	0.0444
zinc	23,000	370(R)	mg/kg	46.9	32.5	49.7

Notes:

COGCC - Colorado Oil and Gas Conservation Commission

EC - electrical conductivity

-- - Not applicable or not analyzed

mmhos/cm - millimhos per centimeter

SAR - sodium adsorption ratio

mg/L - milligram per liter

GRO - gasoline range organics

mg/kg - milligrams per kilogram

< - indicates result is less than the laboratory reporting limit

DRO - diesel range organics

ORO - oil range organics

TPH - total petroleum hydrocarbons is the sum of GRO, DRO, and ORO

(M) - indicates concentration is derived from the drinking water maximum contaminant level

(R) - indicates concentration is derived from a risk-based approach

Bold indicates result exceeds applicable standard

* - Result is above the Table 915-1 standard but is within 25% of background and thus compliant per Table 915-1's footnote 11

** - Result is above the Table 915-1 standard but is below the background concentration

*** - Per Table 915-1's footnote 9, the operator is substituting the method detection limit for the concentration listed in Table 915-1.