

TABLE 1

SOIL ANALYTICAL RESULTS
HATCH GULCH PIG LAUNCHER
RIO BLANCO COUNTY, COLORADO
CAERUS OIL AND GAS LLC

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	CONFIRMATION SOIL SAMPLES			
			20211201- HATCHGULCH(PH-1)@1'-2'	20211201- HATCHGULCH(PH-1)@3'-4'	20211201- HATCHGULCH(PH-1)@5'-6'	20211201- HATCHGULCH(PH-2)@1'-2'
Sample Date			12/1/2021	12/1/2021	12/1/2021	12/1/2021
Sample Depth Range (feet)			1-2	3-4	5-6	1-2
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation
Arsenic	0.39	mg/kg	3.12	3.73	4.18	3.91
Barium	15,000	mg/kg	125	200	209	173
Cadmium	70	mg/kg	0.165	0.197	0.226	0.255
Chromium (III)	120,000	mg/kg	12.9	25.6	30.0	18.6
Chromium (VI)	23	mg/kg	ND	ND	ND	ND
Copper	3,100	mg/kg	8.23	10.4	12.7	9.94
Lead	400	mg/kg	5.63	7.69	9.02	6.86
Mercury	23	mg/kg	ND	ND	ND	ND
Nickel	1,600	mg/kg	17.2	14.9	17.0	15.2
Selenium	390	mg/kg	0.903	1.07	1.45	ND
Silver	390	mg/kg	ND	ND	ND	ND
Zinc	23,000	mg/kg	24.6	35.7	40.7	34.7
EC	4.0	mmhos/cm	1.650	1.520	1.290	1.750
pH	6 - 9	SU	8.54	8.61	8.45	9.42
SAR	12	unitless	14.1	12.5	9.21	12.8
TPH-GRO		mg/kg	0.0298	0.0255	0.0293	0.0286
TPH-DRO		mg/kg	2.29	1.15	5.43	2.08
TPH	500	mg/kg	2.3198	1.1755	5.4593	2.1086
Benzene	0.17	mg/kg	ND	ND	ND	ND
Toluene	85	mg/kg	0.00210	0.00288	0.00320	0.00303
Ethylbenzene	100	mg/kg	ND	ND	ND	ND
Total Xylenes	175	mg/kg	0.000891	0.0140	0.00158	0.00117
Acenaphthene	1,000	mg/kg	ND	ND	ND	ND
Anthracene	1,000	mg/kg	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	ND	ND	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	ND	ND	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	ND	ND	ND	ND
Benzo(A)pyrene	0.022	mg/kg	ND	ND	ND	ND
Chrysene	22	mg/kg	ND	ND	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND
Fluoranthene	1,000	mg/kg	ND	ND	ND	ND
Fluorene	1,000	mg/kg	ND	ND	ND	ND
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	ND	ND	ND	ND
Naphthalene	23	mg/kg	ND	ND	ND	ND
Pyrene	1,000	mg/kg	ND	ND	ND	ND

NOTES:
ND - less than the stated reporting limit
BOLD - indicates result exceeds the COGCC concentration level
COGCC - Colorado Oil and Gas Conservation Commission
EC- electrical conductivity
mg/kg - milligrams per kilogram
mmhos/cm - millimhos per centimeter
SAR - sodium adsorption ratio
SU - standard unit
TPH-GRO - total petroleum hydrocarbons-gasoline range organics
TPH-DRO - total petroleum hydrocarbons-diesel range organics
TPH - combination of TPH-GRO and TPH-DRO
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			20211201- HATCHGULCH(PH-2)@3'-4'	20211201- HATCHGULCH(PH-2)@5'-6'	20211201- HATCHGULCH(PH-3)@1'-2'	20211201- HATCHGULCH(PH-3)@3'-4'
Sample Date			12/1/2021	12/1/2021	12/1/2021	12/1/2021
Sample Depth Range (feet)			3-4	5-6	1-2	3-4
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation
Arsenic	0.39	mg/kg	4.00	3.74	3.03	4.37
Barium	15,000	mg/kg	160	163	155	222
Cadmium	70	mg/kg	0.138	0.109	0.128	0.243
Chromium (III)	120,000	mg/kg	27.0	26.4	26.2	22.9
Chromium (VI)	23	mg/kg	ND	ND	ND	ND
Copper	3,100	mg/kg	7.85	8.24	8.25	13.1
Lead	400	mg/kg	6.94	7.07	7.46	9.45
Mercury	23	mg/kg	ND	ND	ND	ND
Nickel	1,600	mg/kg	13.9	14.3	13.4	14.4
Selenium	390	mg/kg	1.70	0.962	ND	1.16
Silver	390	mg/kg	ND	ND	ND	ND
Zinc	23,000	mg/kg	32.3	33.8	32.7	37.7
EC	4.0	mmhos/cm	0.883	1.280	1.370	1.850
pH	6 - 9	SU	8.45	8.36	8.39	7.88
SAR	12	unitless	4.90	6.34	8.08	2.12
TPH-GRO		mg/kg	0.0362	0.0339	0.0424	0.0416
TPH-DRO		mg/kg	0.926	1.39	2.40	8.35
TPH	500	mg/kg	0.9622	1.4239	2.4424	8.3916
Benzene	0.17	mg/kg	ND	ND	ND	ND
Toluene	85	mg/kg	0.00337	0.00322	0.00329	0.00340
Ethylbenzene	100	mg/kg	ND	ND	ND	ND
Total Xylenes	175	mg/kg	0.00139	0.00131	0.00158	0.00178
Acenaphthene	1,000	mg/kg	ND	ND	ND	ND
Anthracene	1,000	mg/kg	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	ND	ND	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	ND	ND	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	ND	ND	ND	ND
Benzo(A)pyrene	0.022	mg/kg	ND	ND	ND	ND
Chrysene	22	mg/kg	ND	ND	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND
Fluoranthene	1,000	mg/kg	ND	ND	ND	ND
Fluorene	1,000	mg/kg	ND	ND	ND	ND
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	ND	ND	ND	ND
Naphthalene	23	mg/kg	ND	ND	ND	ND
Pyrene	1,000	mg/kg	ND	ND	ND	ND

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			20211201- HATCHGULCH(PH-3)@5'-6'	20211201- HATCHGULCH(PH-4)@1'-2'	20211201- HATCHGULCH(PH-4)@3'-4'	20211201- HATCHGULCH(PH-4)@5'-6'
Sample Date			12/1/2021	12/1/2021	12/1/2021	12/1/2021
Sample Depth Range (feet)			5-6	1-2	3-4	5-6
Sample Type			Confirmation	Confirmation		Confirmation
Arsenic	0.39	mg/kg	3.30	4.25	3.06	3.29
Barium	15,000	mg/kg	180	217	180	181
Cadmium	70	mg/kg	0.159	0.235	0.123	0.171
Chromium (III)	120,000	mg/kg	26.7	22.8	27.5	27.9
Chromium (VI)	23	mg/kg	ND	ND	ND	ND
Copper	3,100	mg/kg	10.2	12.1	9.09	9.36
Lead	400	mg/kg	8.19	9.67	8.01	7.73
Mercury	23	mg/kg	0.0205	ND	ND	ND
Nickel	1,600	mg/kg	14.3	14.1	14.1	13.8
Selenium	390	mg/kg	ND	ND	0.909	ND
Silver	390	mg/kg	ND	ND	ND	ND
Zinc	23,000	mg/kg	35.9	38.7	34.1	33.2
EC	4.0	mmhos/cm	1.080	0.888	1.760	1.740
pH	6 - 9	SU	8.21	8.55	8.23	8.81
SAR	12	unitless	1.67	5.43	4.87	10.9
TPH-GRO		mg/kg	0.0313	0.0375	0.0447	0.0390
TPH-DRO		mg/kg	1.08	5.20	1.55	1.05
TPH	500	mg/kg	1.1113	5.2375	1.5947	1.0890
Benzene	0.17	mg/kg	ND	ND	ND	ND
Toluene	85	mg/kg	0.00317	0.00285	0.0032	0.00332
Ethylbenzene	100	mg/kg	ND	ND	ND	ND
Total Xylenes	175	mg/kg	0.000916	0.00116	0.00147	0.00134
Acenaphthene	1,000	mg/kg	ND	ND	ND	ND
Anthracene	1,000	mg/kg	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	ND	ND	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	ND	ND	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	ND	ND	ND	ND
Benzo(A)pyrene	0.022	mg/kg	ND	ND	ND	ND
Chrysene	22	mg/kg	ND	ND	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND
Fluoranthene	1,000	mg/kg	ND	ND	ND	ND
Fluorene	1,000	mg/kg	ND	ND	ND	ND
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	ND	ND	ND	ND
Naphthalene	23	mg/kg	ND	ND	ND	ND
Pyrene	1,000	mg/kg	ND	ND	ND	ND

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PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	BACKGROUND SOIL SAMPLES			
			20211201- HATCHGULCH(BG-1)@.5-1'	20211201- HATCHGULCH(BG-1)@1-1.5'	20211201- HATCHGULCH(BG-2)@.5-1'	20211201- HATCHGULCH(BG-2)@1-1.5'
Sample Date			12/1/2021	12/1/2021	12/1/2021	12/1/2021
Sample Depth Range (feet)			0.5-1	1-1.5	0.5-1	1-1.5
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation
Arsenic	0.39	mg/kg	6.46	4.93	3.49	4.00
Barium	15,000	mg/kg	321	246	189	189
Cadmium	70	mg/kg	0.434	0.414	0.179	0.257
Chromium (III)	120,000	mg/kg	36	33.5	40.8	44
Chromium (VI)	23	mg/kg	ND	ND	ND	ND
Copper	3,100	mg/kg	21.9	18	10.6	12.6
Lead	400	mg/kg	15.6	12.6	8.68	10.3
Mercury	23	mg/kg	0.0229	ND	ND	0.0418
Nickel	1,600	mg/kg	29.7	17.7	16.5	19.6
Selenium	390	mg/kg	ND	ND	ND	ND
Silver	390	mg/kg	ND	ND	ND	ND
Zinc	23,000	mg/kg	67.2	55.7	40.1	47.6
EC	4.0	mmhos/cm	0.388	0.490	0.163	0.153
pH	6 - 9	SU	7.61	7.48	7.80	8.15
SAR	12	unitless	0.178	0.215	0.244	0.18
TPH-GRO		mg/kg	NA	NA	NA	NA
TPH-DRO		mg/kg	NA	NA	NA	NA
TPH	500	mg/kg	NA	NA	NA	NA
Benzene	0.17	mg/kg	ND	ND	ND	ND
Toluene	85	mg/kg	0.00298	0.00308	0.00280	0.00288
Ethylbenzene	100	mg/kg	ND	ND	ND	ND
Total Xylenes	175	mg/kg	0.0011	0.00133	0.00128	0.00115
Acenaphthene	1,000	mg/kg	ND	ND	ND	ND
Anthracene	1,000	mg/kg	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	ND	ND	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	ND	ND	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	ND	ND	ND	ND
Benzo(A)pyrene	0.022	mg/kg	ND	ND	ND	ND
Chrysene	22	mg/kg	ND	ND	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND
Fluoranthene	1,000	mg/kg	ND	ND	ND	ND
Fluorene	1,000	mg/kg	ND	ND	ND	ND
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	ND	ND	ND	ND
Naphthalene	23	mg/kg	ND	ND	ND	ND
Pyrene	1,000	mg/kg	ND	ND	ND	ND

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			20211201- HATCHGULCH(BG-3)@.5-1'	20211201- HATCHGULCH(BG-3)@1-1.5'	20211201- HATCHGULCH(BG-4)@.5-1'	20211201- HATCHGULCH(BG-4)@1-1.5'
Sample Date			12/1/2021	12/1/2021	12/1/2021	12/1/2021
Sample Depth Range (feet)			0.5-1	1-1.5	0.5-1	1-1.5
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation
Arsenic	0.39	mg/kg	2.73	3.66	6.02	4.98
Barium	15,000	mg/kg	169	227	235	201
Cadmium	70	mg/kg	0.3	0.285	0.235	0.224
Chromium (III)	120,000	mg/kg	30.7	40.5	37.2	33.6
Chromium (VI)	23	mg/kg	ND	ND	ND	ND
Copper	3,100	mg/kg	14.5	13.4	14	12.7
Lead	400	mg/kg	9.94	11.2	14.2	10.4
Mercury	23	mg/kg	0.0414	0.0292	0.0288	0.0324
Nickel	1,600	mg/kg	13.2	18	19.4	17.2
Selenium	390	mg/kg	ND	ND	0.872	ND
Silver	390	mg/kg	ND	ND	ND	ND
Zinc	23,000	mg/kg	50.3	49.2	50.1	46.6
EC	4.0	mmhos/cm	0.868	0.269	0.166	0.208
pH	6 - 9	SU	7.1	7.68	7.92	7.8
SAR	12	unitless	NA	0.323	0.398	0.385
TPH-GRO		mg/kg	NA	NA	NA	NA
TPH-DRO		mg/kg	NA	NA	NA	NA
TPH	500	mg/kg	NA	NA	NA	NA
Benzene	0.17	mg/kg	ND	ND	ND	ND
Toluene	85	mg/kg	0.00552	0.00318	0.00293	0.0033
Ethylbenzene	100	mg/kg	ND	ND	ND	ND
Total Xylenes	175	mg/kg	0.00274	0.0012	0.00143	0.00113
Acenaphthene	1,000	mg/kg	ND	ND	ND	ND
Anthracene	1,000	mg/kg	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	ND	ND	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	ND	ND	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	ND	ND	ND	ND
Benzo(A)pyrene	0.022	mg/kg	ND	ND	ND	ND
Chrysene	22	mg/kg	ND	ND	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND
Fluoranthene	1,000	mg/kg	0.00431	0.00383	ND	ND
Fluorene	1,000	mg/kg	ND	ND	ND	ND
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	ND	ND	ND	ND
Naphthalene	23	mg/kg	ND	ND	ND	ND
Pyrene	1,000	mg/kg	0.00263	0.00230	ND	ND

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