

Obed Mountain Mine
Soil and Sediment Quality
February 2014

	Elements		Historical		Hydrocarbons																								
	Boron	Strontium	204Hg/202Hg Std Dev	204Pb/206Pb	F2 (C10-C16 Hydrocarbons)	F3-PAH	Total Hydrocarbons (C6-C50)	F2-Naphthalene	Chrom. to baseline at nC50	TEH: (C16-C34)	TEH: (C34-C50)	TVH	TVH: (C6-C10 / BTEX CORRECTED)	198Hg/202Hg	198Hg/202Hg Std Dev	199Hg/202Hg	199Hg/202Hg Std Dev	200Hg/202Hg	200Hg/202Hg Std Dev	201Hg/202Hg	201Hg/202Hg Std Dev	204Hg/202Hg	204Pb/206Pb Std Dev	207Pb/206Pb	207Pb/206Pb Std Dev	208Pb/206Pb	208Pb/206Pb Std Dev	87Sr/86Sr	
MDL	mg/kg	mg/kg	-	-	mg/kg	mg/kg	mg/kg	mg/kg	-	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	10			25	50	50	25		50	50	10	10																

Location	Date	Boron	Strontium	204Hg/202Hg	204Pb/206Pb	F2 (C10-C16 Hydrocarbons)	F3-PAH	Total Hydrocarbons (C6-C50)	F2-Naphthalene	Chrom. to baseline at nC50	TEH: (C16-C34)	TEH: (C34-C50)	TVH	TVH: (C6-C10 / BTEX CORRECTED)	198Hg/202Hg	198Hg/202Hg Std Dev	199Hg/202Hg	199Hg/202Hg Std Dev	200Hg/202Hg	200Hg/202Hg Std Dev	201Hg/202Hg	201Hg/202Hg Std Dev	204Hg/202Hg	204Pb/206Pb Std Dev	207Pb/206Pb	207Pb/206Pb Std Dev	208Pb/206Pb	208Pb/206Pb Std Dev	87Sr/86Sr	
APC	25-Feb-14	<2	45	0.00564	0.05635	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26-Feb-14	-	-	-	-	<25	<50	<50	<25	1	<50	<50	<10	<10	0.3367	0.0075	0.569	0.01085	0.7768	0.01474	0.4426	0.01003	0.2419	0.00058	0.80773	0.00644	2.0095	0.00853	0.706724	
ATR-AD1	26-Feb-14	<2	45	0.00936	0.05804	<25	<50	<50	<25	1	<50	<50	<10	<10	0.336	0.00222	0.5681	0.0106	0.7769	0.01632	0.4427	0.00522	0.2489	0.00104	0.80547	0.00428	2.0104	0.01026	0.709622	
ATR-WD1	25-Feb-14	<2	82	0.01117	0.05732	<25	<50	<50	<25	1	<50	<50	<10	<10	0.3358	0.01107	0.5679	0.01182	0.777	0.01742	0.442	0.00777	0.2485	0.00081	0.80347	0.00665	2.022	0.01124	0.709694	
PLC-DS1	26-Feb-14	<2	42	0.01023	0.05628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27-Feb-14	-	-	-	-	<25	<50	<50	<25	1	<50	<50	<10	<10	0.3366	0.00908	0.5668	0.01319	0.7768	0.01455	0.4422	0.00678	0.2451	0.00058	0.80896	0.00309	2.0126	0.00475	0.706932	
PLC-US	26-Feb-14	<2	15	0.00418	0.05742	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27-Feb-14	-	-	-	-	<25	<50	<50	<25	1	<50	<50	<10	<10	0.3363	0.00995	0.568	0.01008	0.7777	0.01036	0.443	0.00799	0.236	0.00077	0.80523	0.00453	2.0125	0.01017	0.708746	

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		Metals																											
	87Sr/86Sr Std Dev	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cerium	Cesium	Chromium (III+VI)	Cobalt	Copper	Dysprosium	Erbium	Europium	Gadolinium	Gallium	Hafnium	Holmium	Lanthanum	Lead	Lutetium	Mercury	Molybdenum	Neodymium	Nickel	Niobium	Selenium	Silver	Strontium
	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL		0.2	0.2	5	1	0.5			0.5	1	2									5		0.005	1		2		0.5	1	

Location	Date	87Sr/86Sr	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cerium	Cesium	Chromium (III+VI)	Cobalt	Copper	Dysprosium	Erbium	Europium	Gadolinium	Gallium	Hafnium	Holmium	Lanthanum	Lead	Lutetium	Mercury	Molybdenum	Neodymium	Nickel	Niobium	Selenium	Silver	Strontium
APC	25-Feb-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26-Feb-14	0.0000458925	0.32	7.35	194 - 979	<1 - 1	<0.5	42.8	2.3	10.1	7.7 - 8.9	8.8	2.4	1.38	0.73	2.99	12.4	6.4	0.47	22.7	7.6	0.25	0.0208	<1	17.5	17.6	8.5	<0.5	<1	251
ATR-AD1	26-Feb-14	0.000130332	0.22	2.6	46.5 - 687	<1	<0.5	45.7	2	4.02	2.8 - 7.9	2.7	2.43	1.39	0.74	3.09	9	6.4	0.48	23.8	5.6	0.24	0.0312	<1	18.9	6.3	7.6	<0.5	<1	218
ATR-WD1	25-Feb-14	0.0000258473	0.2	4.06	103 - 440	<1	<0.5	44.9	1.2	10.4	5.5 - 5.7	7.8	2.86	1.74	0.71	3.34	6.8	8.2	0.6	23	5.9	0.3	0.0248	<1	18.5	14.8	7.2	<0.5	<1	193.5
PLC-DS1	26-Feb-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27-Feb-14	0.0000380335	<0.2	3.55	99.3 - 1041	<1	<0.5	43.4	1.9	8.06	3.8 - 6.3	4.4	2.88	1.78	0.76	3.46	10	6.6	0.57	23.5	<5	0.26	0.0143	<1	18.2	10.7	8.7	<0.5	<1	216.8
PLC-US	26-Feb-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27-Feb-14	0.000147232	<0.2	4.92	78 - 684	<1	<0.5	42	1.8	10	4.6 - 6.9	6.1	2.84	1.67	0.71	3.32	10.6	7	0.57	22.3	<5	0.29	0.0227	<1	17.6	11.6	8.4	<0.5	<1	156.2

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																NORM			Organic / Inorganic Carbon				Particle Size				Physical Tests	
	Thallium	Thorium	Tin	Praseodymium	Rubidium	Samarium	Tungsten	Uranium	Vanadium	Tantalum	Zinc	Terbium	Zirconium	Thulium	Ytterbium	Yttrium	Lead-210	Radium-226	Radium-228	CaCO3 Equivalent	Inorganic Carbon	TOC	Total Carbon by Combustion	Clay % Texture	Sand % Texture	Silt % Texture	Texture	Moisture
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Bq/g	Bq/g	Bq/g	%	mg/kg	% dry weight	%	% by weight	% by weight	% by weight	-	%
MDL	0.5		2					2	1		10								0.8	0.1	0.1	0.1	1	1	1		0.1	

Location	Date																												
APC	25-Feb-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.2	-	-	-	-	-	-	-	-	-	27
	26-Feb-14	<0.5	5.9	<2 - 1	4.73	54.6	3.31	1	<2 - 2.4	19 - 72	0.6	38	0.44	248.7	0.22	1.64	14	-	-	-	1.3	0.16	1.93	2.1	5.8	87	7.2	1	19.1
ATR-AD1	26-Feb-14	<0.5	6.5	<1	5.11	49	3.32	0.5	<2 - 1.8	6.1 - 63	0.6	16	0.46	268.5	0.21	1.49	14.2	<0.2	<0.5	<0.2	6.48	0.78	0.73	1.5	6.7	85	8.3	1	31 - 39.5
ATR-WD1	25-Feb-14	<0.5	7.1	<2 - 1	4.98	42.3	3.32	0.5	<2 - 2.4	15.4 - 47	0.4	39	0.51	329.9	0.26	1.95	17.5	<0.2	<0.5	<0.2	21	2.52	1.08	3.6	-	-	-	-	28 - 32
PLC-DS1	26-Feb-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.2	-	-	-	-	-	-	-	-	22	
	27-Feb-14	<0.5	6.8	<2 - 1	4.99	47.3	3.53	0.9	<2 - 2.5	12.4 - 56	0.7	24	0.52	249.9	0.24	1.65	16.5	-	-	-	6.5	0.78	0.64	1.4	3.2	91	5.8	1	25.3
PLC-US	26-Feb-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.2	-	-	-	-	-	-	-	-	38	
	27-Feb-14	<0.5	5.8	<1	4.85	53.3	3.36	1	<2 - 2.5	13.3 - 62	0.5	32	0.51	290.3	0.24	1.79	18.1	-	-	-	<0.8	<0.1	2.28	2.3	6.7	83	10.3	1	40.8

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	Polycyclic Aromatic Hydrocarbons																		Volatile Organic Compounds							
	B(a)P Total Potency Equivalent	Benzo[b+j]fluoranthene	IACR:Coarse	IACR:Fine	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylenes Total	Styrene
MDL	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		0.01	0.05	0.05	0.005	0.005	0.004	0.01	0.01	0.01	0.01	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.05	0.01	0.05	0.05	0.1	0.05

Location	Date	B(a)P Total Potency Equivalent	Benzo[b+j]fluoranthene	IACR:Coarse	IACR:Fine	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylenes Total	Styrene
APC	25-Feb-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26-Feb-14	<0.02	<0.01	<0.05	<0.05	<0.005	<0.005	<0.004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	<0.05
ATR-AD1	26-Feb-14	<0.02	<0.01	<0.05	<0.05	<0.005	<0.005	<0.004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	<0.05
ATR-WD1	25-Feb-14	<0.02	<0.01	<0.05	<0.05	<0.005	<0.005	0.0082	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.01	<0.01	<0.01	<0.01	0.018	<0.01	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	<0.05
PLC-DS1	26-Feb-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27-Feb-14	<0.02	<0.01	<0.05	<0.05	<0.005	<0.005	<0.004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	<0.05
PLC-US	26-Feb-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27-Feb-14	<0.02	<0.01	<0.05	<0.05	<0.005	<0.005	<0.004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	<0.05