

Obed Mountain Mine
Soil and Sediment Quality
November 2013

	Hydrocarbons										Leachable Anions & Nutrients		Leachable Metals														
	F2 (C10-C16 Hydrocarbons)	F3-PAH	Total Hydrocarbons (C6-C50)	F2-Naphthalene	Chrom. to baseline at nC50	Gravimetric Heavy Hydrocarbons	TEH: (C16-C34)	TEH: (C34-C50)	TVH	TVH: (C6-C10 / BTEX CORRECTED)	Kjeldahl Nitrogen Total	Nitrogen (Organic)	Barium	Barium, extractable	Boron (B), Hot Water Ext.	Aluminium	Antimony	Arsenic	Barium	Beryllium	Bismuth	Cadmium	Calcium	Chromium (III+VI)	Cobalt	Copper	Iron
MDL	20	20	20	20	-	500	20	20	10	10	0.02	0.02	5	5	0.1	50	0.1	0.1	0.5	0.2	0.2	0.1	100	0.5	0.1	0.5	50

Location	Date	Depth (m)	F2 (C10-C16 Hydrocarbons)	F3-PAH	Total Hydrocarbons (C6-C50)	F2-Naphthalene	Chrom. to baseline at nC50	Gravimetric Heavy Hydrocarbons	TEH: (C16-C34)	TEH: (C34-C50)	TVH	TVH: (C6-C10 / BTEX CORRECTED)	Kjeldahl Nitrogen Total	Nitrogen (Organic)	Barium	Barium, extractable	Boron (B), Hot Water Ext.	Aluminium	Antimony	Arsenic	Barium	Beryllium	Bismuth	Cadmium	Calcium	Chromium (III+VI)	Cobalt	Copper	Iron
APC	06-Nov-13		-	-	-	-	-	-	-	-	-	-	0.224	0.223	-	-	-	-	0.39	8.65	304	<1	-	<0.5	-	10.4	12.3	15.7	-
	07-Nov-13		<20	<20	<20	<20	1	-	<20	<20	<10	<10	0.022	0.022	-	16.1	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Atr 1105HP	08-Nov-13		-	-	-	-	-	-	-	-	-	-	0.059	0.057	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ATR-CON	07-Nov-13		57	419	625	57	1	-	419	149	<30	<30	-	-	-	136	1.03	10,900	0.41	7.3	607	0.72	0.22	0.35	38,400	13.1	7.13	17.3	14,700
ENV102R	09-Nov-13	-0.09-0	-	-	-	-	-	-	-	-	-	-	-	-	46.6	-	0.56	6380	0.37	8.36	211	0.61	<0.2	0.52	10,100	12.6	7.64	14.8	14,100
ENV105R	09-Nov-13	-0.04-0	-	-	-	-	-	-	-	-	-	-	-	-	41.3	-	0.61	7840	0.26	4.91	207	0.36	<0.2	0.33	8920	12.5	6.21	10.6	13,600
ENV106R	09-Nov-13	-0.55-0	-	-	-	-	-	-	-	-	-	-	-	-	48.1	-	0.87	6700	0.36	5.8	314	0.55	<0.2	0.27	11,100	11.3	6.32	12.5	11,700
ENV112R	09-Nov-13	-0.03-0	-	-	-	-	-	-	-	-	-	-	-	-	49.1	-	0.8	8630	0.31	5.61	363	0.45	<0.2	0.25	10,400	12.9	6.33	11.8	13,400
ENV118L	09-Nov-13	-0.35	-	-	-	-	-	-	-	-	-	-	-	-	54.7	-	1.48	5880	0.43	6.98	374	0.74	<0.2	0.29	11,700	10	6.18	15.1	10,400
ENV123L	09-Nov-13	-0.25	-	-	-	-	-	-	-	-	-	-	-	-	60.1	-	0.71	7360	0.42	6.57	526	0.64	<0.2	0.36	14,900	9.09	5.07	13.7	9610
ENV127L	09-Nov-13	-0.4	-	-	-	-	-	-	-	-	-	-	-	-	53	-	1.24	6800	0.31	5.28	291	0.42	<0.2	0.26	9900	11.1	6.05	10.9	11,900
ENV128L	09-Nov-13	0.6	-	-	-	-	-	-	-	-	-	-	-	-	36.1	-	0.22	7780	0.18	4.73	119	0.34	<0.2	0.17	4550	13.2	6.11	8.08	14,100
ENV129L	09-Nov-13	-0.04	-	-	-	-	-	-	-	-	-	-	-	-	44.1	-	0.52	6610	0.23	5.44	171	0.38	<0.2	0.22	6690	11.7	7.46	9.51	13,500
ENV132L	09-Nov-13	-0.1	-	-	-	-	-	-	-	-	-	-	-	-	151	-	2.61	3620	0.14	4.99	607	0.22	<0.2	0.22	27,700	5.61	6.5	5.95	29,700
ENV133L	09-Nov-13	0.07	-	-	-	-	-	-	-	-	-	-	-	-	36.6	-	0.5	5910	0.36	6.21	222	0.41	<0.2	0.15	7320	10.5	6.55	8.51	11,900
ENV135L	09-Nov-13	-0.35	-	-	-	-	-	-	-	-	-	-	-	-	50.8	-	1.88	5870	0.41	6.19	331	0.65	<0.2	0.24	11,600	10.1	5.53	13.5	10,400
ENV138L	09-Nov-13	0.03-0.05	-	-	-	-	-	-	-	-	-	-	-	-	32.6	-	0.26	5750	0.23	5.21	264	0.27	<0.2	0.25	11,200	10.1	5.55	7.48	12,600
ENV142R	09-Nov-13	0.55	-	-	-	-	-	-	-	-	-	-	-	-	43.3	-	1.34	6320	0.38	7.02	287	0.56	<0.2	0.22	10,300	11.3	6.74	12	12,000
GREEN PIT	07-Nov-13		-	-	-	-	-	-	-	-	-	-	0.315	0.312	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SOIL001	08-Nov-13	0.07-0.3	<20	-	95	-	1	-	74	21	<10	<10	0.121	0.12	-	38.5	0.53	8640	0.4	7.48	222	0.59	<0.2	0.21	6610	15.2	7.43	17.7	16,200
		0-0.07	<20	-	52	-	1	-	52	<20	<10	<10	0.211	0.21	-	53.3	0.36	9920	0.57	7.94	233	0.65	<0.2	0.29	8150	17.8	9.71	20.8	19,200
SOIL002	08-Nov-13	0.1-0.25	<20	-	<20	-	1	-	<20	<20	<10	<10	0.047	0.046	-	64.2	<0.1	12,400	0.74	8.29	327	0.77	0.24	0.33	7820	26.1	13.2	31.5	29,300
		0-0.1	<20	-	64	-	1	-	43	21	<10	<10	0.063	0.063	-	62.5	<0.1	11,800	0.61	7.88	232	0.68	0.21	0.29	7770	24.6	13	28.1	23,200
SOIL003	08-Nov-13	-0.11-0	<20	-	52	-	1	-	52	<20	<10	<10	0.092	0.092	-	36.5	0.59	5540	0.24	5.91	276	0.34	<0.2	0.27	11,400	9.57	5.82	9.88	12,400
		0-0.12	<20	-	27	-	1	-	27	<20	<10	<10	0.093	0.093	-	55	0.39	7150	0.3	5.28	221	0.35	<0.2	0.35	13,000	12.3	6.26	12	14,200
SOIL004	08-Nov-13	-0.4-0	<20	-	<20	-	1	-	<20	<20	<10	<10	0.036	0.036	-	34.3	0.56	6840	0.26	5.79	193	0.36	<0.2	0.19	7020	11.4	7.52	8.14	13,200
		-0.43-0.4	<20	-	142	-	1	-	114	28	<10	<10	0.528	0.527	-	47.6	1.14	5600	0.33	5.89	346	0.49	<0.2	0.17	9010	8.62	5.56	8.59	9540
SOIL005	08-Nov-13	0-0.2	<44	-	109	-	1	-	109	<44	<30	<30	0.33	0.329	-	69.5	0.16	12,300	0.25	3.24	257	0.42	<0.2	0.41	14,000	17.1	5.53	11.9	13,600
		0.09-0.3	<20	-	<20	-	1	-	<20	<20	<10	<10	0.081	0.081	-	45.4	<0.2	11,900	0.36	7.12	152	0.53	<0.2	0.16	5380	16.1	7.01	13.1	17,400
		-0.29-0	<49	-	859	-	0	1640	524	335	<30	<30	0.974	-	-	111	0.58	3390	0.15	2.27	287	<0.2	<0.2	0.28	18,700	4.94	2.47	10.2	5530

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	Metals																	Organic / Inorganic Carbon								
	Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Phosphorus	Potassium	Selenium	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Uranium	Vanadium	Zinc	CaCO3 Equivalent	Inorganic Carbon	TOC	Total Carbon by Combustion	Soil Particle Size (>75 um)	% Sand (2.0mm - 0.05mm)	% Clay (<2um)
	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	% dry weight	%	% by weight	%	%
MDL	0.5	0.5	20	1	0.005	0.1	0.5	50	50	0.2	0.2	100	1	0.05	2	1	0.05	0.2	5	0.8	0.1	0.1	0.1	1	0.1	0.1

Location	Date	Depth (m)	Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Phosphorus	Potassium	Selenium	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Uranium	Vanadium	Zinc	CaCO3 Equivalent	Inorganic Carbon	TOC	Total Carbon by Combustion	Soil Particle Size (>75 um)	% Sand (2.0mm - 0.05mm)	% Clay (<2um)
APC	06-Nov-13	9.3	-	-	-	0.054	1.2	24.8	-	-	<0.5	<1	-	-	<0.5	<2	-	<2	20.2	39	1.21	0.15	12	12.1	76	-	-	
	07-Nov-13		-	-	-	0.0211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.16	0.14	0.53	0.7	-	-	
Atr 1105HP	08-Nov-13		-	-	-	0.0339	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.52	1.14	1.15	2.3	-	-	
ATR-CON	07-Nov-13		15.4	11.6	8790	465	0.0848	1.26	19.3	510	1010	0.68	<0.2	480	209	0.12	<2	102	2.66	20.3	67.5	3.14	0.38	12.3	12.7	5.3	-	-
ENV102R	09-Nov-13	-0.09-0	9.42	7.51	3010	382	0.0388	0.87	19	410	449	0.45	<0.2	260	75.8	0.107	<2	85.3	1.79	20	39.3	1.22	0.15	4.16	4.3	-	-	
ENV105R	09-Nov-13	-0.04-0	7.67	8.02	3300	557	0.0425	0.69	16.4	507	589	0.39	<0.2	270	60.6	0.106	<2	52.5	1.23	19.1	47.1	0.86	0.1	5.74	5.8	-	-	
ENV106R	09-Nov-13	-0.55-0	9.29	8.36	3230	396	0.0505	1.04	16.6	430	488	0.52	<0.2	430	109	0.151	<2	119	1.95	19.4	45	1.24	0.15	11.2	11.4	-	-	
ENV112R	09-Nov-13	-0.03-0	9.89	8.83	3960	432	0.0415	0.82	17	485	684	0.45	<0.2	420	94.5	0.128	<2	82.9	1.65	19	50.6	1.41	0.17	6.99	7.2	-	-	
ENV118L	09-Nov-13	-0.35	11.2	7.16	2880	353	0.0603	1.4	16.5	391	392	0.64	<0.2	550	144	0.177	<2	194	2.37	20.3	40.6	1.36	0.16	22.2	22.3	-	-	
ENV123L	09-Nov-13	-0.25	12.1	6.37	3360	304	0.0618	1.45	14.1	363	525	0.7	<0.2	860	201	0.179	<2	183	3.17	18.3	47	1.37	0.16	19.4	19.6	-	-	
ENV127L	09-Nov-13	-0.4	8.39	7.79	3200	336	0.0468	0.85	16	430	515	0.43	<0.2	370	89.8	0.121	<2	96.9	1.61	18	43.6	1.23	0.15	11.4	11.5	-	-	
ENV128L	09-Nov-13	0.6	6.75	8.87	2950	372	0.0236	0.53	14.9	503	463	0.22	<0.2	<100	32.8	0.082	<2	48.2	0.836	19.9	40.6	<0.8	<0.1	1.29	1.3	-	-	
ENV129L	09-Nov-13	-0.04	7.79	8.64	3130	513	0.031	0.58	16.7	413	442	0.3	<0.2	170	50.9	0.094	<2	54.2	1.04	17.7	41.2	0.98	0.12	2.36	2.5	-	-	
ENV132L	09-Nov-13	-0.1	5.03	5.43	2690	5300	0.0624	1.32	8.88	852	265	0.4	<0.2	510	92.5	0.06	<2	32.3	1.1	8.45	28.8	1.73	0.21	15.9	16.1	-	-	
ENV133L	09-Nov-13	0.07	7.27	6.58	2960	395	0.0272	0.75	15.7	354	482	0.25	<0.2	250	60.6	0.107	<2	127	0.983	17.5	35.3	1.71	0.21	8.35	8.6	-	-	
ENV135L	09-Nov-13	-0.35	9.57	7.25	2960	332	0.0461	1.33	15.7	411	389	0.5	<0.2	490	129	0.159	<2	203	2.07	19.9	38.4	1.34	0.16	24.3	24.4	-	-	
ENV138L	09-Nov-13	0.03-0.05	6.43	7.44	3400	310	0.0356	0.54	14.7	510	484	0.24	<0.2	180	57.4	0.11	<2	57.5	1.02	14.8	37.3	1.94	0.23	2.45	2.7	-	-	
ENV142R	09-Nov-13	0.55	8.93	7.79	3230	370	0.0344	1.06	17.6	390	477	0.35	<0.2	390	94.8	0.156	<2	155	1.63	19.8	41.3	1.4	0.17	11.7	11.9	-	-	
GREEN PIT	07-Nov-13		-	-	-	0.0795	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.44	0.17	16.6	16.8	-	-	
SOIL001	08-Nov-13	0.07-0.3	10.7	9.21	3730	328	0.0528	1.01	23.3	517	879	0.29	<0.2	<100	53.2	0.213	<2	83.2	1.57	21.3	59.8	<0.8	<0.1	7.05	7.1	-	-	
		0-0.07	11.5	10.3	4190	499	0.0495	1.06	27.6	573	816	0.4	<0.2	<100	53.9	0.179	<2	76.8	1.53	26.4	68.1	0.98	0.12	7.51	7.6	-	-	
SOIL002	08-Nov-13	0.1-0.25	13.7	12	5490	901	0.0817	1.69	40.4	795	1070	0.52	<0.2	<100	39.3	0.222	<2	65	1.52	38.1	94.3	1.2	0.14	1.06	1.2	-	-	
		0-0.1	13.2	12.5	5200	626	0.0621	1.2	37.4	736	980	0.4	<0.2	<100	33.4	0.193	<2	59.3	1.39	33.3	84.8	1.43	0.17	1.47	1.6	-	-	
SOIL003	08-Nov-13	-0.11-0	7.2	7.14	3200	467	0.0401	0.69	15.4	498	505	0.26	<0.2	240	78.6	0.109	<2	53.9	1.03	15	59.7	1.42	0.17	4.35	4.5	-	-	
		0-0.12	7.19	7.22	3560	524	0.0312	0.73	17.8	604	711	0.32	<0.2	200	75.7	0.106	<2	55.9	1.02	18.6	66.2	1.66	0.2	3.94	4.1	-	-	
SOIL004	08-Nov-13	-0.4-0	7.33	6.94	3310	462	0.0284	0.69	16.6	385	493	0.24	<0.2	250	60.1	0.105	<2	109	0.963	18.9	38.1	1.29	0.15	5.38	5.5	-	-	
		-0.43-0.4	8.42	4.95	2700	364	0.0388	1.13	13.4	335	417	0.39	<0.2	480	110	0.143	<2	213	1.66	17.2	37.4	1.57	0.19	12.2	12.4	-	-	
SOIL005	08-Nov-13	0-0.2	8.22	10.7	4240	573	0.0583	0.67	17.6	728	822	0.58	<0.2	180	104	0.128	<2	43.6	2.44	22.5	62.7	<0.8	<0.1	6.38	6.4	-	-	
		0.09-0.3	10.5	8.14	3490	350	0.0314	0.59	19.9	415	676	<0.2	<0.2	<100	17.3	0.148	<2	41.8	0.76	25.2	44.1	<0.8	<0.1	2.18	2.2	-	-	
		-0.29-0	5.84	2.82	2440	474	0.0992	0.48	7.51	823	734	0.25	<0.2	380	94.4	0.067	<2	36.4	0.641	7.71	81.9	0.89	0.11	29.7	29.8	-	8.9	23.1

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	Particle Size					Physical Tests		Plant Available Nutrients																	
	% Silt (0.05mm - 2um)	Clay % Texture	Sand % Texture	Silt % Texture	Texture	CaCO3 Equivalent	Moisture		Ammonia as N	Benzo[b]jfluoranthene	C4 Benzanthracenes/Chrysenes	C4 Dibenzothiophenes	C4 Fluorathenes/Pyrenes	C4 Naphthalenes	C4 Phenanthrenes/Anthracenes	Biphenyl	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Acridine	Benzo(e)pyrene
MDL	0.1	1	1	1	-	0.7	0.1	1	0.005	0.04	0.04	0.04	0.04	0.04	0.01	0.01	0.005	0.005	0.005	0.004	0.005	0.005	0.005	0.005	0.01

Location	Date	Depth (m)	% Silt (0.05mm - 2um)	Clay % Texture	Sand % Texture	Silt % Texture	Texture	CaCO3 Equivalent	Moisture	Ammonia as N	Benzo[b]jfluoranthene	C4 Benzanthracenes/Chrysenes	C4 Dibenzothiophenes	C4 Fluorathenes/Pyrenes	C4 Naphthalenes	C4 Phenanthrenes/Anthracenes	Biphenyl	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Acridine	Benzo(e)pyrene
APC	06-Nov-13	-	7.5	82.4	10.1	1	-	48.8	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07-Nov-13	-	3.4	95	1.6	1	-	21.6	1.2	<0.005	<0.04	<0.04	<0.04	<0.04	0.189	<0.01	<0.01	<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.01
Atr 1105HP	08-Nov-13	-	12.9	66.2	20.9	-	9.5	28.1	21.5	0.0066	<0.04	<0.04	<0.04	<0.04	0.043	<0.01	<0.01	0.0137	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.01
ATR-CON	07-Nov-13	-	31.3	12	56.7	-	-	66	-	<0.005	<0.04	0.053	0.081	1.01	14.2	0.016	0.146	0.0996	0.0198	<0.005	0.0417	<0.005	<0.005	<0.005	<0.005	<0.01
ENV102R	09-Nov-13	-0.09-0	11.4	81	7.6	1	-	27.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV105R	09-Nov-13	-0.04-0	12.4	61.2	26.4	1	-	45.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV106R	09-Nov-13	-0.55-0	12.4	60.8	26.8	1	-	36.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV112R	09-Nov-13	-0.03-0	18.4	42.8	38.8	1	-	45.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV118L	09-Nov-13	-0.35	12.8	56	31.2	1	-	39.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV123L	09-Nov-13	-0.25	23.4	46	30.6	1	-	49.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV127L	09-Nov-13	-0.4	12.4	64.8	22.8	1	-	49.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV128L	09-Nov-13	0.6	8	75	17	1	-	18.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV129L	09-Nov-13	-0.04	11.6	70.8	17.6	1	-	24.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV132L	09-Nov-13	-0.1	12.8	42.8	44.4	1	-	44.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV133L	09-Nov-13	0.07	9.4	80.8	9.8	1	-	18.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV135L	09-Nov-13	-0.35	12.2	64.2	23.6	1	-	33.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV138L	09-Nov-13	0.03-0.05	10	73.4	16.6	1	-	30.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV142R	09-Nov-13	0.55	10.4	71.8	17.8	1	-	48.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GREEN PIT	07-Nov-13	-	39	28.8	32.2	-	1.99	-	28.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SOIL001	08-Nov-13	0.07-0.3	19.1	54	26.9	-	0.77	18.4	3.6	0.0162	<0.04	<0.04	<0.04	0.398	<0.4	<0.01	0.067	0.045	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.01
		0-0.07	20.9	53.2	25.9	-	1.3	19.1	7.1	0.0158	<0.04	0.04	<0.04	0.382	<0.4	<0.01	0.058	0.0358	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.01
SOIL002	08-Nov-13	0.1-0.25	24.2	37.6	38.2	-	1.26	17.6	4	0.0189	<0.04	<0.04	<0.04	0.062	0.343	<0.01	0.019	0.0088	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.01
		0-0.1	22.6	44	33.4	-	1.06	19.5	3.9	0.0218	<0.04	<0.04	<0.04	0.091	<0.4	<0.01	0.022	0.0103	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.01
SOIL003	08-Nov-13	-0.11-0	10.1	72	17.9	-	2.29	26	2.2	<0.005	<0.04	<0.04	<0.04	0.158	1.33	<0.01	0.026	0.0168	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.01
		0-0.12	12	71	17	-	2.93	32.6	3.1	0.0259	<0.04	<0.04	<0.04	0.319	3.09	<0.01	0.062	0.0358	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.01
SOIL004	08-Nov-13	-0.4-0	8.2	78	13.8	1	1.59	25.6	2.4	<0.005	<0.04	<0.04	<0.04	0.148	<0.4	<0.01	0.024	0.0156	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.01
		-0.43-0.4	9.2	73.4	17.4	-	1.99	38.6	5.7	<0.005	<0.04	0.107	0.123	2.53	21.3	0.023	0.457	0.292	0.0412	<0.005	<0.004	<0.005	<0.005	0.0137	<0.01	
		0-0.2	19.1	46	34.9	-	2.11	66.4	9	<0.005	<0.04	<0.04	<0.04	0.105	0.416	<0.01	0.02	0.0144	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.01
SOIL005	08-Nov-13	0.09-0.3	23	50	27	-	<0.7	18.6	3.5	<0.005	<0.04	<0.04	<0.04	<0.4	<0.04	<0.01	<0.01	<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.01
		-0.29-0	68	-	-	-	2.56	69.1	-	<0.5	<0.4	<4	<4	1.95	<4	<0.1	0.57	0.433	<0.05	<0.05	<0.04	<0.5	<0.5	<0.05	<1	

Polycyclic Aromatic Hydrocarbons

	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	C1 Acenaphthenes	C1 Benz(a)Anthracenes/Chrysenes	C1 Benzofluoranthenes/Benzopyrenes	C1 Biphenyls	C1 Dibenzothiophenes	Chrysene	C1 Fluoranthenes/Pyrenes	C1 Fluorenes	C1 Phenanthrenes/Anthracenes	Dibenz(a,h)anthracene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene	C2 Benzofluoranthenes/Benzopyrenes	C2 Biphenyls	C2 Dibenzothiophenes	C2 Fluoranthenes/Pyrenes
MDL	0.005	0.005	0.04	0.04	0.04	0.04	0.04	0.005	0.04	0.04	0.04	0.005	0.01	0.005	0.005	0.005	0.005	0.01	0.005	0.005	0.005	0.01	0.04	0.04	0.04	0.04

Location	Date	Depth (m)	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	C1 Acenaphthenes	C1 Benz(a)Anthracenes/Chrysenes	C1 Benzofluoranthenes/Benzopyrenes	C1 Biphenyls	C1 Dibenzothiophenes	Chrysene	C1 Fluoranthenes/Pyrenes	C1 Fluorenes	C1 Phenanthrenes/Anthracenes	Dibenz(a,h)anthracene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene	C2 Benzofluoranthenes/Benzopyrenes	C2 Biphenyls	C2 Dibenzothiophenes	C2 Fluoranthenes/Pyrenes	
APC	06-Nov-13		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07-Nov-13		<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	0.192	<0.04	<0.04	<0.04	<0.04	
Atr 1105HP	08-Nov-13		<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	0.0073	0.04	0.0131	0.005	<0.005	0.043	<0.04	<0.04	<0.04	<0.04	
ATR-CON	07-Nov-13		0.0079	<0.005	0.055	<0.04	<0.04	<0.04	0.1	0.0132	0.223	0.066	0.279	<0.005	<0.01	0.0806	0.0498	<0.005	<0.005	0.083	0.0768	0.0784	<0.005	14.2	<0.04	<0.04	0.077	0.111	
ENV102R	09-Nov-13	-0.09-0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV105R	09-Nov-13	-0.04-0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV106R	09-Nov-13	-0.55-0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV112R	09-Nov-13	-0.03-0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV118L	09-Nov-13	-0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV123L	09-Nov-13	-0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV127L	09-Nov-13	-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV128L	09-Nov-13	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV129L	09-Nov-13	-0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV132L	09-Nov-13	-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV133L	09-Nov-13	0.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV135L	09-Nov-13	-0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV138L	09-Nov-13	0.03-0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENV142R	09-Nov-13	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GREEN PIT	07-Nov-13		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SOIL001	08-Nov-13	0.07-0.3	0.0082	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	0.0067	0.06	<0.04	0.071	<0.005	<0.01	0.0277	<0.005	0.0083	0.0278	0.063	0.0286	0.0356	<0.005	0.29	<0.04	<0.04	<0.04	0.047	
		0-0.07	0.0088	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	0.008	0.065	<0.04	0.091	<0.005	<0.01	0.0323	<0.005	0.0089	0.0176	0.059	0.0321	0.0402	<0.005	0.37	<0.04	<0.04	<0.04	<0.04	
SOIL002	08-Nov-13	0.1-0.25	0.0082	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	0.0064	<0.04	<0.04	<0.04	<0.005	<0.01	0.0135	<0.005	0.0072	<0.005	0.07	0.0121	0.0262	<0.005	0.332	<0.04	<0.04	<0.04	<0.04	
		0-0.1	0.0072	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	0.0063	<0.04	<0.04	<0.04	<0.005	<0.01	0.0157	<0.005	0.0072	0.0068	0.075	0.0143	0.0275	<0.005	<0.1	<0.04	<0.04	<0.04	<0.04	
SOIL003	08-Nov-13	-0.11-0	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	0.0102	0.0068	<0.005	0.0101	0.015	0.0122	0.0108	<0.005	1.33	<0.04	<0.04	<0.04	<0.04	
		0-0.12	0.009	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	0.0083	0.08	<0.04	0.08	<0.005	<0.01	0.0347	<0.005	0.011	0.0186	0.107	0.0313	0.0495	<0.005	3.09	<0.04	<0.04	<0.04	0.056	
SOIL004	08-Nov-13	-0.4-0	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	0.0103	0.0064	<0.005	0.0082	0.016	0.0116	0.0106	<0.005	0.13	<0.04	<0.04	<0.04	<0.04	
		-0.43-0.4	0.0102	<0.005	0.123	0.058	<0.04	<0.04	0.177	<0.005	0.397	0.155	0.492	<0.005	<0.01	0.133	0.12	0.0155	0.142	0.104	0.175	0.124	<0.005	21.3	<0.04	0.071	0.114	0.181	
		0-0.2	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	0.0074	0.0051	<0.005	0.0088	0.02	0.0124	0.0085	<0.005	0.42	<0.04	<0.04	<0.04	<0.04	
SOIL005	08-Nov-13	0.09-0.3	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	0.017	<0.04	<0.04	<0.04	<0.04	
		-0.29-0	<0.5	<0.5	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5	<0.4	<0.4	<0.4	<0.5	<1	<0.5	0.118	<0.5	<0.01	<1	0.163	<0.5	<0.05	2.3	<0.4	<0.4	<0.4	<0.4	

Obed Mountain Mine
Soil and Sediment Quality
November 2013

											Speciated Metals		Volatile Organic Compounds							Waste Characterizations
	C2 Naphthalenes	C2 Phenanthrenes/Anthracenes	C2 Fluorenes	C2 subd B(a)Anthracenes/Chrysenes	C3 Benzanthracenes/Chrysenes	C3 Dibenzothiophenes	C3 Fluoranthenes/Pyrenes	C3 Fluorenes	C3 Naphthalenes	C3 Phenanthrenes/Anthracenes	Chromium (hexavalent)	Methyl mercury	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylenes Total	Styrene	pH (Lab)
MDL	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.1	0.00005	0.005	0.01	0.01	0.01	0.01	0.02	0.05	0.1

Location	Date	Depth (m)	C2 Naphthalenes	C2 Phenanthrenes/Anthracenes	C2 Fluorenes	C2 subd B(a)Anthracenes/Chrysenes	C3 Benzanthracenes/Chrysenes	C3 Dibenzothiophenes	C3 Fluoranthenes/Pyrenes	C3 Fluorenes	C3 Naphthalenes	C3 Phenanthrenes/Anthracenes	Chromium (hexavalent)	Methyl mercury	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylenes Total	Styrene	pH (Lab)
APC	06-Nov-13	-	-	-	-	-	-	-	-	-	-	-	0.000246	-	-	-	-	-	-	-	-	6.88
	07-Nov-13		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.18	<0.00005	<0.005	<0.05	<0.015	<0.05	<0.1	<0.05	-	-
Atr 1105HP	08-Nov-13		0.045	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	0.000233	<0.005	<0.01	<0.01	<0.01	<0.01	<0.02	-	-	
ATR-CON	07-Nov-13		0.683	0.407	0.1	<0.04	0.065	0.08	0.057	0.099	0.904	0.323	<0.15	-	<0.015	<0.15	<0.045	<0.15	<0.15	<0.3	<0.15	-
ENV102R	09-Nov-13	-0.09-0	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV105R	09-Nov-13	-0.04-0	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV106R	09-Nov-13	-0.55-0	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV112R	09-Nov-13	-0.03-0	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV118L	09-Nov-13	-0.35	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV123L	09-Nov-13	-0.25	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV127L	09-Nov-13	-0.4	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV128L	09-Nov-13	0.6	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV129L	09-Nov-13	-0.04	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV132L	09-Nov-13	-0.1	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV133L	09-Nov-13	0.07	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV135L	09-Nov-13	-0.35	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV138L	09-Nov-13	0.03-0.05	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
ENV142R	09-Nov-13	0.55	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
GREEN PIT	07-Nov-13		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SOIL001	08-Nov-13	0.07-0.3	0.276	0.1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.411	0.061	<0.1	<0.00005	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
		0-0.07	0.263	0.12	<0.04	<0.04	<0.04	<0.04	<0.04	0.045	0.399	0.093	<0.1	0.000108	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
SOIL002	08-Nov-13	0.1-0.25	0.076	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.078	<0.04	<0.1	<0.00005	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
		0-0.1	0.09	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.096	0.558	<0.1	<0.00005	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
SOIL003	08-Nov-13	-0.11-0	0.117	0.057	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.158	0.227	<0.1	0.000087	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
		0-0.12	0.246	0.115	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.33	0.516	<0.1	<0.00005	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
SOIL004	08-Nov-13	-0.4-0	0.112	0.047	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.152	0.23	0.1	<0.00005	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
		-0.43-0.4	1.93	0.737	0.233	0.057	0.111	0.123	0.095	0.226	2.73	2.85	<0.1	<0.00005	0.0058	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
		0-0.2	0.092	0.047	<0.04	<0.04	<0.04	<0.04	<0.04	0.045	0.111	0.137	<0.1	0.000445	<0.015	<0.15	<0.045	<0.15	<0.15	<0.3	-	-
SOIL005	08-Nov-13	0.09-0.3	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.1	0.000142	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
		-0.29-0	2.6	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	3.4	<0.4	<1.5	0.000377	<0.015	<0.15	<0.045	<0.15	<0.15	<0.3	-	-

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Hydrocarbons												Leachable Anions & Nutrients		Leachable Metals													
F2 (C10-C16 Hydrocarbons)	F3-PAH	Total Hydrocarbons (C6-C50)	F2-Naphthalene	Chrom. to baseline at nC50	Gravimetric Heavy Hydrocarbons	TEH: (C16-C34)	TEH: (C34-C50)	TVH	TVH: (C6-C10 / BTEX CORRECTED)	Kjeldahl Nitrogen Total	Nitrogen (Organic)	Barium	Barium, extractable	Boron (B), Hot Water Ext.	Aluminium	Antimony	Arsenic	Barium	Beryllium	Bismuth	Cadmium	Calcium	Chromium (III+VI)	Cobalt	Copper	Iron	
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	20	20	20	20	500	20	20	10	10	0.02	0.02	5	5	0.1	50	0.1	0.1	0.5	0.2	0.2	0.1	100	0.5	0.1	0.5	50	

Location	Date	Depth (m)	<20	-	<20	-	1	-	<20	<20	<10	<10	0.085	0.082	-	32.1	0.12	11,500	0.31	6.16	130	0.41	<0.2	0.23	7790	15.4	6.66	11.1	16,900
SOIL006	08-Nov-13	0-0.09	<20	-	<20	-	1	-	<20	<20	<10	<10	0.051	0.05	-	44.4	0.38	8900	0.29	6.72	123	0.39	<0.2	0.37	5430	13.5	5.76	12.9	15,400
		-0.33-0	<112	-	310	-	1	-	161	152	<80	<80	1.55	-	-	67	0.61	1200	0.19	1.26	140	<0.2	<0.2	1	27,600	1.71	1.05	6.91	2270
		0-0.08	<20	-	47	-	1	-	25	22	<20	<20	0.239	0.238	-	40.1	0.65	10,800	0.26	7.71	164	0.45	<0.2	0.48	8460	16.4	5.31	12.3	18,300
SOIL007	08-Nov-13	-0.09-0	<42	-	111	-	1	-	59	52	<30	<30	0.761	0.754	-	48.5	<0.1	11,000	0.34	4.4	255	0.54	<0.2	0.42	25,000	11.9	4.5	12.8	13,800
		0-0.12	<20	-	<20	-	1	-	<20	<20	<10	<10	0.064	0.059	-	37.6	0.11	14,200	0.3	7.14	156	0.55	<0.2	0.13	3900	19.9	8.18	12	19,900
SOIL008	08-Nov-13	-0.03-0	<20	-	108	-	1	-	38	70	<10	<10	0.692	0.687	-	122	0.53	7500	0.17	2.15	261	<0.2	<0.2	0.96	5280	9.5	3.19	8.09	8640
		0.11-0.25	<20	-	<20	-	1	-	<20	<20	<10	<10	0.071	0.069	-	51.9	0.17	11,500	0.18	5.53	177	0.53	<0.2	<0.1	5470	17.5	7.77	10	17,300
		0-0.11	<20	-	64	-	1	-	27	37	<10	<10	0.234	0.232	-	71	0.65	14,900	0.19	4.81	225	0.55	<0.2	0.49	5290	20.6	9.04	9.91	18,700
SOIL009	08-Nov-13	-0.04-0	<29	-	166	-	1	-	88	78	<20	<20	0.381	0.377	-	30.1	0.24	10,700	0.23	3.28	144	0.36	<0.2	0.42	9710	12.3	4.4	7.58	11,800
		0-0.15	<20	-	<20	-	1	-	<20	<20	<10	<10	0.06	0.058	-	21.9	<0.1	12,000	0.25	6.61	79.7	0.37	<0.2	0.11	2960	15.6	5.22	7.13	17,300
SOIL010	08-Nov-13	0.11-0.26	<20	-	<20	-	1	-	<20	<20	<10	<10	0.225	0.222	-	40.8	0.25	9470	0.22	4.97	185	0.44	<0.2	0.31	7130	15.2	6.61	10.4	15,800
		0.26-1	<20	-	<20	-	1	-	<20	<20	<10	<10	0.111	0.109	-	54.1	0.3	10,700	0.23	5.03	170	0.5	<0.2	0.31	6370	16.2	7.59	11.7	16,300
		0-0.11	<20	-	43	-	1	-	22	21	<10	<10	0.309	0.306	-	36.6	0.4	9460	0.2	4.91	158	0.4	<0.2	0.53	7760	14.5	6.54	9.57	15,300

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Metals																			Organic / Inorganic Carbon							
Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Phosphorus	Potassium	Selenium	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Uranium	Vanadium	Zinc	CaCO3 Equivalent	Inorganic Carbon	TOC	Total Carbon by Combustion	Soil Particle Size (>75 um)	% Sand (2.0mm - 0.05mm)	% Clay (<2um)	
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	% dry weight	%	% by weight	%	%	
MDL	0.5	0.5	20	1	0.005	0.1	0.5	50	50	0.2	0.2	100	1	0.05	2	1	0.05	0.2	5	0.8	0.1	0.1	0.1	1	0.1	0.1

Location	Date	Depth (m)	Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Phosphorus	Potassium	Selenium	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Uranium	Vanadium	Zinc	CaCO3 Equivalent	Inorganic Carbon	TOC	Total Carbon by Combustion	Soil Particle Size (>75 um)	% Sand (2.0mm - 0.05mm)	% Clay (<2um)
		0-0.09	9.59	6.97	3490	353	0.0289	0.61	16.2	468	806	<0.2	<0.2	<100	21.5	0.138	<2	49.8	0.911	25.3	49.2	<0.8	<0.1	4.11	4.1	-	-	-
SOIL006	08-Nov-13	0.08-0.3	7.74	6.06	2930	266	0.0369	0.55	19.5	492	616	<0.2	<0.2	<100	64	0.131	<2	46.8	0.888	21.5	42.3	<0.8	<0.1	2.01	2	-	-	-
		-0.33-0	3.43	0.69	2890	171	0.0534	1.45	4.84	646	403	<0.2	<0.2	110	215	<0.05	<2	11	2.13	3.77	18.8	0.92	0.11	34.7	34.8	-	5.35	10.6
		0-0.08	7.83	8.22	3600	614	0.0476	0.57	19.7	589	727	0.21	<0.2	<100	84.2	0.148	<2	41.6	1.01	22.4	50	<0.8	<0.1	5.18	5.2	-	-	-
SOIL007	08-Nov-13	-0.09-0	7.47	9.44	2970	366	0.0587	0.67	15.5	693	581	0.66	0.2	<100	46.7	0.12	<2	27.7	1.85	20.7	35.6	<0.8	<0.1	22	22	-	-	-
		0-0.12	9.38	12.3	3540	245	0.0209	0.56	21.1	378	700	<0.2	<0.2	<100	14	0.114	<2	55.8	0.514	30.4	42.1	<0.8	<0.1	0.92	0.9	-	-	-
SOIL008	08-Nov-13	-0.03-0	6.61	5.37	1910	82	0.0643	1.43	8.28	497	536	0.32	<0.2	270	60.1	0.078	<2	23.8	1.43	17.1	39.6	0.92	0.11	25.3	25.4	-	6.59	18.9
		0.11-0.25	9.01	13.3	3550	443	0.0324	0.78	17.2	506	526	0.4	<0.2	<100	38.6	0.096	<2	47.3	1.23	26.1	44.9	<0.8	<0.1	1.72	1.7	-	-	-
		0-0.11	9.53	13.3	3570	541	0.0325	0.99	17.4	672	520	0.38	<0.2	<100	46.8	0.136	<2	40.7	2.24	32.2	53.3	<0.8	<0.1	4.84	4.8	-	-	-
SOIL009	08-Nov-13	-0.04-0	8.82	9.02	2600	293	0.0405	0.91	11.6	481	727	<0.2	<0.2	100	34.1	0.13	<2	28.1	0.549	24	39.4	<0.8	<0.1	7.64	7.6	-	-	-
		0-0.15	8.1	15	3300	129	0.0107	0.56	17.6	449	523	<0.2	<0.2	<100	12.7	0.111	<2	41.6	0.444	27.2	44.8	<0.8	<0.1	0.98	1	-	-	-
SOIL010	08-Nov-13	0.11-0.26	7.77	10.5	3410	429	0.0417	0.55	17.3	541	511	0.53	<0.2	<100	34.8	0.107	<2	46.6	1.11	22.1	45.3	<0.8	<0.1	3.87	3.9	-	-	-
		0.26-1	8.3	10.7	3360	537	0.0386	0.61	19	571	518	0.5	<0.2	<100	27.6	0.116	<2	43.4	1.25	23.8	46.5	<0.8	<0.1	3.49	3.5	-	-	-
		0-0.11	7.5	10.2	3280	514	0.041	0.52	16.1	607	498	0.52	<0.2	110	34	0.099	<2	39.5	1.24	21.2	45	<0.8	<0.1	5.98	6	-	-	-

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	Particle Size					Physical Tests		Plant Available Nutrients																
	% Silt (0.05mm - 2um)	Clay % Texture	Sand % Texture	Silt % Texture	Texture	CaCO3 Equivalent	Moisture	Ammonia as N	Benzo[b]jfluoranthene	C4 Benzanthracenes/Chrysenes	C4 Dibenzothiophenes	C4 Fluorathenes/Pyrenes	C4 Naphthalenes	C4 Phenanthrenes/Anthracenes	Biphenyl	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Acridine	Benzo(e)pyrene
MDL	0.1	1	1	1	-	0.7	0.1	1	0.005	0.04	0.04	0.04	0.04	0.04	0.01	0.01	0.005	0.005	0.005	0.004	0.005	0.005	0.005	0.01

Location	Date	Depth (m)																								
SOIL006	08-Nov-13	0-0.09	-	20.9	46	33.1	-	1.06	28.8	22	<0.005	<0.04	<0.04	<0.04	<0.04	<0.01	<0.01	<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01	
		0.08-0.3	-	15.7	64	20.3	-	0.89	30.2	2.9	<0.005	<0.04	<0.04	<0.04	<0.04	0.06	<0.01	<0.01	<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01
		-0.33-0	84	-	-	-	-	3.18	86.3	-	<0.01	<0.08	<0.08	<0.08	<0.08	0.442	<0.02	<0.02	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02
SOIL007	08-Nov-13	0-0.08	-	20.9	45	34.1	-	1.16	44.8	7	<0.005	<0.04	<0.04	<0.04	<0.04	<0.01	<0.01	<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01	
		-0.09-0	-	12.2	41	46.8	-	2.29	64.9	63	<0.005	<0.04	<0.04	<0.04	<0.04	0.067	<0.01	<0.01	0.013	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01
		0-0.12	-	21.8	52	26.3	-	<0.7	16.8	43.8	<0.005	<0.04	<0.04	<0.04	<0.04	<0.01	<0.01	<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01	
SOIL008	08-Nov-13	-0.03-0	74.5	-	-	-	<0.7	31.8	53.3	<0.005	<0.04	<0.04	<0.04	<0.04	0.127	<0.01	<0.01	0.0069	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01	
		0.11-0.25	-	20.4	48.4	31.2	-	<0.7	22.8	16.8	<0.005	<0.04	<0.04	<0.04	<0.04	<0.01	<0.01	<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01	
		0-0.11	-	19.1	45	35.9	-	0.7	30.8	21.5	<0.005	<0.04	<0.04	<0.04	<0.04	0.108	<0.01	<0.01	<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01
SOIL009	08-Nov-13	-0.04-0	-	20.4	43.8	35.8	-	1.46	55.9	37.2	<0.005	<0.04	<0.04	<0.04	0.057	0.282	<0.01	<0.01	0.0143	0.0202	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01
		0-0.15	-	20	55.6	24.4	-	<0.7	18.9	23.9	<0.005	<0.04	<0.04	<0.04	<0.04	0.24	<0.01	<0.01	0.0056	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01
SOIL010	08-Nov-13	0.11-0.26	-	14.4	55.6	30	-	1.06	28.8	35	<0.005	<0.04	<0.04	<0.04	<0.04	0.072	<0.01	<0.01	<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01
		0.26-1	-	18.4	46.8	34.8	-	0.84	25.5	19.9	<0.005	<0.04	<0.04	<0.04	0.542	<0.04	0.086	1.02	1.89	0.0879	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01
		0-0.11	-	14.4	57.4	28.2	-	1.16	35.4	26.2	<0.005	<0.04	<0.04	<0.04	0.043	0.382	<0.01	<0.01	0.0075	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.01

Polycyclic Aromatic Hydrocarbons

	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	C1 Acenaphthenes	C1 Benz(a)Anthracenes/Chrysenes	C1 Benzofluoranthenes/Benzopyrenes	C1 Biphenyls	C1 Dibenzothiophenes	Chrysene	C1 Fluoranthenes/Pyrenes	C1 Fluorenes	C1 Phenanthrenes/Anthracenes	Dibenz(a,h)anthracene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene	C2 Benzofluoranthenes/Benzopyrenes	C2 Biphenyls	C2 Dibenzothiophenes	C2 Fluoranthenes/Pyrenes
MDL	0.005	0.005	0.04	0.04	0.04	0.04	0.04	0.005	0.04	0.04	0.04	0.005	0.01	0.005	0.005	0.005	0.005	0.01	0.005	0.005	0.005	0.01	0.04	0.04	0.04	0.04

Location	Date	Depth (m)	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	C1 Acenaphthenes	C1 Benz(a)Anthracenes/Chrysenes	C1 Benzofluoranthenes/Benzopyrenes	C1 Biphenyls	C1 Dibenzothiophenes	Chrysene	C1 Fluoranthenes/Pyrenes	C1 Fluorenes	C1 Phenanthrenes/Anthracenes	Dibenz(a,h)anthracene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene	C2 Benzofluoranthenes/Benzopyrenes	C2 Biphenyls	C2 Dibenzothiophenes	C2 Fluoranthenes/Pyrenes
		0-0.09	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	0.03	<0.04	<0.04	<0.04	<0.04
SOIL006	08-Nov-13	0.08-0.3	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	0.056	<0.04	<0.04	<0.04	<0.04
		-0.33-0	<0.01	<0.01	<0.08	<0.08	<0.08	<0.08	<0.08	<0.01	<0.08	<0.08	<0.08	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	0.012	<0.01	<0.01	0.422	<0.08	<0.08	<0.08	<0.08
		0-0.08	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	0.036	<0.04	<0.04	<0.04	<0.04
SOIL007	08-Nov-13	-0.09-0	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	0.0082	<0.01	0.0146	<0.005	<0.005	0.067	<0.04	<0.04	<0.04	<0.04
		0-0.12	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.01	<0.04	<0.04	<0.04	<0.04
SOIL008	08-Nov-13	-0.03-0	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	0.0068	<0.005	<0.005	0.127	<0.04	<0.04	<0.04	<0.04
		0.11-0.25	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.01	<0.04	<0.04	<0.04	<0.04
		0-0.11	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	0.108	<0.04	<0.04	<0.04	<0.04
SOIL009	08-Nov-13	-0.04-0	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	0.0079	<0.01	0.0103	<0.005	<0.005	0.282	<0.04	<0.04	<0.04	<0.04
		0-0.15	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	0.0054	<0.005	<0.005	0.24	<0.04	<0.04	<0.04	<0.04
SOIL010	08-Nov-13	0.11-0.26	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	0.014	<0.005	<0.005	<0.005	0.072	<0.04	<0.04	<0.04	<0.04
		0.26-1	<0.005	<0.005	0.383	<0.04	<0.04	0.168	0.049	<0.005	<0.04	0.178	0.153	<0.005	0.063	<0.005	0.137	<0.005	0.0289	<0.01	0.168	<0.005	<0.005	0.023	<0.04	0.088	<0.04	<0.04
		0-0.11	<0.005	<0.005	<0.04	<0.04	<0.04	<0.04	<0.04	<0.005	<0.04	<0.04	<0.04	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	0.03	0.0076	<0.005	<0.005	0.382	<0.04	<0.04	<0.04	<0.04

Obed Mountain Mine
Soil and Sediment Quality
November 2013

											Speciated Metals		Volatile Organic Compounds							Waste Characterizations
	C2 Naphthalenes	C2 Phenanthrenes/Anthracenes	C2 Fluorenes	C2 subd B(a)Anthracenes/Chrysenes	C3 Benzanthracenes/Chrysenes	C3 Dibenzothiophenes	C3 Fluoranthenes/Pyrenes	C3 Fluorenes	C3 Naphthalenes	C3 Phenanthrenes/Anthracenes	Chromium (hexavalent)	Methyl mercury	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylenes Total	Styrene	pH (Lab)
MDL	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.1	0.00005	0.005	0.01	0.01	0.01	0.01	0.02	0.05	0.1

Location	Date	Depth (m)	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.1	0.000272	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
SOIL006	08-Nov-13	0-0.09	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.1	0.000272	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
		0.08-0.3	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.11	<0.00005	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
		-0.33-0	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.096	<0.08	<0.3	0.0067	<0.04	<0.4	<0.12	<0.4	<0.4	<0.8	-	-
SOIL007	08-Nov-13	0-0.08	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.1	0.00036	<0.01	<0.1	<0.03	<0.1	<0.1	<0.2	-	-
		-0.09-0	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<1.5	0.000607	<0.015	<0.15	<0.045	<0.15	<0.15	<0.3	-	-
		0-0.12	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.3	<0.00005	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
SOIL008	08-Nov-13	-0.03-0	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<1	0.000444	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
		0.11-0.25	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.1	0.000099	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
		0-0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.1	0.000141	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
SOIL009	08-Nov-13	-0.04-0	0.044	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.057	<0.04	<0.1	0.00148	<0.01	<0.1	<0.03	<0.1	<0.1	<0.2	-	-
		0-0.15	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.1	0.000093	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
SOIL010	08-Nov-13	0.11-0.26	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.1	0.000133	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
		0.26-1	6.19	<0.04	0.106	<0.04	<0.04	<0.04	<0.04	<0.04	2.01	<0.04	<0.1	0.000058	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-
		0-0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.041	<0.04	<0.1	0.000428	<0.005	<0.05	<0.015	<0.05	<0.05	<0.1	-	-