

OBED MOUNTAIN MINE
SOIL/SEDIMENT TABLE
TABLE 3 - BERM AREA

Monitoring Zone Location Date Depth (m) Lab Report Easting (NAD83 Zone 11N) Northing (NAD83 Zone 11N)			Berm							
			ENV600	ENV601	ENV619		ENV620	ENV621		
			08-Jan-14	08-Jan-14	08-Jan-14	08-Jan-14	08-Jan-14	08-Jan-14		
			0-0.2	0-0.2	0.2-0.4	0-0.2	0-0.2	0-0.2		
			L1412224	L1412224	L1412224	L1412224	L1412224	L1412224		
			470951	470847	470699	470699	470921	470880		
			5939040	5938689	5938496	5938496	5938940	5938798		
Parameter	Unit	MDL	AB Tier 1, Natural Area (Fine)	CSOG FW Sediment ISQG	CSOG FW Sediment PEI					
Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	mg/kg	20				<20	29	<20	<20	<20
Total Hydrocarbons (C6-C50)	mg/kg	20				<20	332	51	78	211
Chrom. to baseline at nC50	-					1	0	1	1	1
Gravimetric Heavy Hydrocarbons	mg/kg	500				<500	<500	<500	<500	<500
TEH: (C16-C34)	mg/kg	20				<20	230	51	56	160
TEH: (C34-C50)	mg/kg	20				<20	73	<20	22	51
TVH	mg/kg	10				<10	<10	<10	<10	<10
TVH: (C6-C10 / BTEX CORRECTED)	mg/kg	10				<10	<10	<10	<10	<10
Leachable Metals										
Barium	mg/kg	5	750			-	-	-	-	-
Barium, extractable	mg/kg	5				37.6	50.4	11.5	41.9	8.5
Boron (B), Hot Water Ext.	mg/kg	0.1				0.15	2.11	0.18	0.21	1.35
Metals										
Aluminum	mg/kg	50				8890	5550	11,200	10,700	8510
Antimony	mg/kg	0.1	20			0.64	0.24	0.7	0.6	0.36
Arsenic	mg/kg	0.1	17	5.9	17	7.15	5.38	6.83	6.87	10.9
Barium	mg/kg	0.5	750			216	495	282	242	752
Barium, fusion	mg/kg	100				-	-	-	1120	1200
Beryllium	mg/kg	0.2	5			0.73	0.82	0.75	0.65	0.79
Bismuth	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2
Cadmium	mg/kg	0.1	3.8	0.6	3.5	0.25	0.16	0.26	0.3	0.2
Calcium	mg/kg	100				12,400	8120	10,700	11,200	9390
Chromium (III+VI)	mg/kg	0.5	64	37.3	90	71.1	5.15	22.8	38.4	11.6
Cobalt	mg/kg	0.1	20			9.04	1.95	9.64	10.1	5.06
Copper	mg/kg	0.5	63	35.7	197	19.2	7.12	22.6	21.9	11.6
Iron	mg/kg	50				33,000	4560	21,100	21,200	10,800
Lead	mg/kg	0.5	70	35	91.3	8.87	10.3	10.8	10	10.9
Lithium	mg/kg	0.5				8.97	3.44	11.2	9.93	5.33
Magnesium	mg/kg	20				4410	2280	5010	4610	3110
Manganese	mg/kg	1				635	89.7	491	540	274
Mercury	mg/kg	0.005	12	0.17	0.486	0.0402	0.0464	0.0626	0.0477	0.0459
Molybdenum	mg/kg	0.1	4			2.47	1	1.38	1.63	1.07
Nickel	mg/kg	0.5	50			43.3	5.43	30.5	36.4	14.1
Phosphorus	mg/kg	50				588	110	643	637	336
Potassium	mg/kg	50				786	394	1020	953	1010
Selenium	mg/kg	0.2	1			0.31	0.4	0.53	0.33	0.33
Silver	mg/kg	0.2	20			<0.2	<0.2	<0.2	<0.2	<0.2
Sodium	mg/kg	100				<100	350	<100	<100	680
Strontium	mg/kg	1				42.6	157	41.2	38.3	148
Thallium	mg/kg	0.05	1			0.169	0.118	0.167	0.163	0.187
Tin	mg/kg	2	5			<2	<2	<2	<2	<2
Titanium	mg/kg	1				87.9	137	78.4	76.8	182
Uranium	mg/kg	0.05	33			1.04	2.22	1.26	1.25	2
Vanadium	mg/kg	0.2	130			32.9	9.67	32	30.9	18.5
Zinc	mg/kg	5	200	123	315	60.3	35.6	72.4	73.4	49.1
Organic / Inorganic Carbon										
Carbon	mg/kg	0.1				-	-	-	-	-
CaCO3 Equivalent	%	0.8				2.86	1.06	2.48	1.22	1.46
Inorganic Carbon	mg/kg	0.1				0.34	0.13	0.3	0.15	0.17
TOC	% dry weight	0.1				4.88 ^{#1}	16.8 ^{#1}	0.7 ^{#1}	3.18 ^{#1}	2.27 ^{#1}
Total Carbon by Combustion	%	0.1				5.2	17	1	3.3	2.4
Particle Size										
Soil Particle Size (>75 um)	% by weight	1				49.8	50.5	33	33.6	48.5
% clay by hydrometer	% by weight	1				-	-	-	-	-
Sand % Texture	% by weight	1				-	-	-	-	-
Silt % Texture	% by weight	1				-	-	-	-	-
Physical Tests										
CaCO3 Equivalent	%	0.7				-	-	-	-	-
Moisture	%	0.1				18.9	24	15.2	20.1	21.8
										21.6

OBED MOUNTAIN MINE
SOIL/SEDIMENT TABLE
TABLE 3 - BERM AREA

Monitoring Zone Location Date Depth (m) Lab Report Easting (NAD83 Zone 11N) Northing (NAD83 Zone 11N)			Berm							
			ENV600	ENV601	ENV619		ENV620	ENV621		
			08-Jan-14	08-Jan-14	08-Jan-14		08-Jan-14	08-Jan-14		
			0-0.2	0-0.2	0.2-0.4	0-0.2	0-0.2	0-0.2		
			L1412224	L1412224	L1412224	L1412224	L1412224	L1412224		
			470951	470847	470699	470699	470921	470880		
			5939040	5938689	5938496	5938496	5938940	5938798		
Parameter	Unit	MDL	AB Tier 1, Natural Area (Fine)	CSOG FW Sediment ISOG	CSOG FW Sediment PEI					
Polycyclic Aromatic Hydrocarbons										
Benz[b+]fluoranthene	mg/kg	0.005	6.2			<0.005	<0.005	<0.005	0.0285	<0.005
C4 Benzanthracenes/Chrysenes	mg/kg	0.04				<0.04	<0.04	<0.04	<0.04	<0.04
C4 Dibenzothiophenes	mg/kg	0.04				<0.04	0.119	<0.04	<0.04	<0.04
C4 Fluoranthenes/Pyrenes	mg/kg	0.04				<0.04	0.095	<0.04	<0.04	0.049
C4 Naphthalenes	mg/kg	0.04				0.281	3.12	<0.04	0.122	0.212
C4 Phenanthrenes/Anthracenes	mg/kg	0.04				2.38	28.5	<0.04	1.16	2.23
Biphenyl	mg/kg	0.01				<0.01	<0.01	<0.01	<0.01	<0.01
1-Methylnaphthalene	mg/kg	0.01				0.04	2.25	<0.01	0.02	0.048
2-methylnaphthalene	mg/kg	0.005		0.0202	0.201	0.0222	0.369	<0.005	0.0133	0.0316
Acenaphthene	mg/kg	0.005	0.32	0.00671	0.0899	<0.005	0.0223	<0.005	<0.005	<0.005
Acenaphthylene	mg/kg	0.005	5	0.00587	0.128	<0.005	<0.005	<0.005	<0.005	<0.005
Anthracene	mg/kg	0.004	0.0046	0.00469	0.245	<0.004	<0.004	<0.004	0.0151	<0.004
Benz(a)anthracene	mg/kg	0.005	0.07	0.0317	0.385	0.0113	<0.005	<0.005	0.0107	0.0119
Benz(a)pyrene	mg/kg	0.005	0.6	0.0319	0.782	<0.005	<0.005	<0.005	<0.005	<0.005
Acridine	mg/kg	0.005				<0.005	<0.005	<0.005	<0.005	<0.005
Benz(e)pyrene	mg/kg	0.01				<0.01	<0.01	<0.01	<0.01	<0.01
Benz(g,h,i)perylene	mg/kg	0.005				0.005	<0.005	<0.005	0.0102	0.0071
Benz(k)fluoranthene	mg/kg	0.005	6.2			<0.005	<0.005	<0.005	<0.005	<0.005
C1 Acenaphthenes	mg/kg	0.04				<0.04	0.067	<0.04	<0.04	0.04
C1 Benz(a)Anthracenes/Chrysenes	mg/kg	0.04				<0.04	0.084	<0.04	<0.04	0.054
C1 Benzofluoranthenes/Benzopyrenes	mg/kg	0.04				<0.04	0.116	<0.04	<0.04	<0.04
C1 Biphenyls	mg/kg	0.04				<0.04	<0.04	<0.04	<0.04	<0.04
C1 Dibenzothiophenes	mg/kg	0.04				<0.04	<0.04	<0.04	<0.04	0.082
Chrysene	mg/kg	0.005	6.2	0.0571	0.862	<0.005	<0.005	<0.005	<0.005	<0.005
C1 Fluoranthenes/Pyrenes	mg/kg	0.04				<0.04	0.174	<0.04	<0.04	0.083
C1 Fluorennes	mg/kg	0.04				<0.04	0.1	<0.04	<0.04	0.045
C1 Phenanthrenes/Anthracenes	mg/kg	0.04				0.057	0.701	<0.04	<0.04	0.053
Dibenzo(a,h)anthracene	mg/kg	0.005	7.4	0.00622	0.135	<0.005	<0.005	<0.005	<0.005	<0.005
Dibenzothiophene	mg/kg	0.01				<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	mg/kg	0.005	0.032	0.111	2.355	0.0196	<0.005	<0.005	0.0153	0.0166
Fluorene	mg/kg	0.005	0.29	0.0212	0.144	<0.005	<0.005	<0.005	<0.005	<0.005
Indeno(1,2,3-c,d)pyrene	mg/kg	0.005				<0.005	<0.005	<0.005	0.0124	0.0069
Naphthalene	mg/kg	0.005	0.016	0.0346	0.391	0.0121	0.186	<0.005	<0.005	<0.005
Perylene	mg/kg	0.01				0.053	0.266	<0.01	0.074	0.079
Phenanthrene	mg/kg	0.005	0.051	0.0419	0.515	0.0233	0.222	<0.005	0.0125	0.0201
Pyrene	mg/kg	0.005	0.034	0.053	0.875	0.0286	0.122	<0.005	0.0362	0.0288
Quinoline	mg/kg	0.005				<0.005	<0.005	<0.005	<0.005	<0.005
Retene	mg/kg	0.01				2.38	28.5	<0.01	1.17	2.23
C2 Benzofluoranthenes/Benzopyrenes	mg/kg	0.04				<0.04	0.046	<0.04	<0.04	<0.04
C2 Biphenyls	mg/kg	0.04				<0.04	0.063	<0.04	<0.04	<0.04
C2 Dibenzothiophenes	mg/kg	0.04				<0.04	0.102	<0.04	<0.04	0.059
C2 Fluoranthenes/Pyrenes	mg/kg	0.04				<0.04	0.291	<0.04	<0.04	0.14
C2 Naphthalenes	mg/kg	0.04				0.187	2.25	<0.04	0.083	0.194
C2 Phenanthrenes/Anthracenes	mg/kg	0.04				<0.04	0.122	<0.04	<0.04	<0.04
C2 Fluorennes	mg/kg	0.04				<0.04	0.113	<0.04	<0.04	<0.04
C2 subb B(a)Anthracenes/Chrysenes	mg/kg	0.04				<0.04	<0.04	<0.04	<0.04	0.046
C3 Benzanthracenes/Chrysenes	mg/kg	0.04				<0.04	<0.04	<0.04	<0.04	<0.04
C3 Dibenzothiophenes	mg/kg	0.04				<0.04	0.11	<0.04	<0.04	0.065
C3 Fluoranthenes/Pyrenes	mg/kg	0.04				<0.04	0.093	<0.04	<0.04	0.04
C3 Fluorennes	mg/kg	0.04				<0.04	0.203	<0.04	<0.04	0.184
C3 Naphthalenes	mg/kg	0.04				0.178	2.16	<0.04	0.073	0.152
C3 Phenanthrenes/Anthracenes	mg/kg	0.04				0.053	<0.04	<0.04	<0.04	0.071
Saturated Paste Extractables										
Sulfur (as SO ₄)	mg/kg	11				52 ^{#1}	102 ^{#1}	18 ^{#1}	26 ^{#1}	95 ^{#1}
Calcium	mg/kg	1.9				40.9 ^{#1}	90.7 ^{#1}	42.1 ^{#1}	67.8 ^{#1}	78.2 ^{#1}
Chloride	mg/kg	7.5				<8.7 ^{#1}	<14 ^{#1}	17 ^{#1}	49 ^{#1}	<12 ^{#1}
Saturation Percentage	%	1				43.4	68.8	54.3	53.9	61.9
Electrical Conductivity (lab)	dS/m	0.01				0.581	0.919	0.501	0.884	1.14
Magnesium	mg/kg	1.1				6.9 ^{#1}	22.5 ^{#1}	9 ^{#1}	13.1 ^{#1}	15.6 ^{#1}
pH (Lab)	pH	0.1	6-8.5			7.05	6.6	7.25	6.9	6.57
Potassium	mg/kg	0.75				1.95 ^{#1}	2.8 ^{#1}	3.3 ^{#1}	3.3 ^{#1}	5.2 ^{#1}
Sodium	mg/kg	0.75				4.47 ^{#1}	26.8 ^{#1}	6.4 ^{#1}	12.8 ^{#1}	74 ^{#1}
Sodium Adsorption Ratio	---	0.1				0.26 ^{#1}	0.79 ^{#1}	0.32 ^{#1}	0.51 ^{#1}	2.54 ^{#1}
Speciated Metals										
Chromium (hexavalent)	mg/kg	0.1	0.4			<0.1	<0.1	<0.1	<0.1	<0.1
Volatile Organic Compounds										
Benzene	mg/kg	0.005	0.046			<0.005	0.0265	<0.005	<0.005	0.0265
Toluene	mg/kg	0.05	0.52			<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	mg/kg	0.01	0.11			<0.015	0.057	<0.015	<0.015	0.015
Xylene (m & p)	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	0.099
Xylene (o)	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	0.07
Xylenes Total	mg/kg	0.1	15			<0.1 ^{#1}				
Styrene	mg/kg	0.05	0.68			<0.05	<0.05	<0.05	<0.05	<0.05

Comments

#1 CALC

OBED MOUNTAIN MINE
SOIL/SEDIMENT TABLE
TABLE 3 - BERM AREA

Monitoring Zone
Location
Date
Depth (m)
Lab Report
Easting (NAD83 Zone 11N)
Northing (NAD83 Zone 11N)

ENV622	ENV622S	ENV623	ENV644	ENV645	ENV648
08-Jan-14	08-Jan-14	08-Jan-14	08-Jan-14	08-Jan-14	10-Jan-14
0-0.3	-0.25	0.15-0.35	0-0.15	0-0.2	0-0.1
L1412224	L1412224	L1412224	L1412224	L1412224	L1412224
470730	470730	470810	470810	470869	470936
5938481	5938481	5938564	5938564	5938727	5938971
					5938510

Parameter	Unit	MDL	AB Tier 1, Natural Area (Fins)	CSOG FW Sediment ISQG	CSOG FW Sediment PEI							
Hydrocarbons												
F2 (C10-C16 Hydrocarbons)	mg/kg	20				<51	<20	62	32	360	<20	<20
Total Hydrocarbons (C6-C50)	mg/kg	20				<51	67	605	338	2780	64	<20
Chrom. to baseline at nC50	-					1	1	1	1	1	1	1
Gravimetric Heavy Hydrocarbons	mg/kg	500				<500	<500	<500	<500	1550	<500	<500
TEH: (C16-C34)	mg/kg	20				<51	67	433	248	1650	64	<20
TEH: (C34-C50)	mg/kg	20				<51	<20	110	58	774	<20	<20
TVH	mg/kg	10				<30	<10	<10	<10	<10	<10	<10
TVH: (C6-C10 / BTEX CORRECTED)	mg/kg	10				<30	<10	<10	<10	<10	<10	<10
Leachable Metals												
Barium	mg/kg	5	750			-	-	-	-	-	-	-
Barium, extractable	mg/kg	5				85.1	7	48.2	50.2	44.5	45.3	34.4
Boron (B), Hot Water Ext.	mg/kg	0.1				0.27	0.29	3.95	2.42	5.27	0.26	0.86
Metals												
Aluminum	mg/kg	50				10,800	7130	4310	4700	6000	9890	10,400
Antimony	mg/kg	0.1	20			0.21	0.39	0.2	0.26	0.25	0.49	0.53
Arsenic	mg/kg	0.1	17	5.9	17	3.82	7.2	2.89	3.99	7.55	7	6.84
Barium	mg/kg	0.5	750			455	188	534	461	538	225	306
Barium, fusion	mg/kg	100				-	-	-	-	-	-	-
Beryllium	mg/kg	0.2	5			0.56	0.5	0.57	0.72	0.84	0.66	0.58
Bismuth	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cadmium	mg/kg	0.1	3.8	0.6	3.5	0.62	0.19	0.13	0.17	0.16	0.23	0.25
Calcium	mg/kg	100				32,500	10,200	6410	6980	7550	15,200	22,100
Chromium (III+VI)	mg/kg	0.5	64	37.3	90	10.2	16.3	6.07	5.77	5.21	19.5	21
Cobalt	mg/kg	0.1	20			5.85	6.98	1.94	2.91	3.27	9.45	8.47
Copper	mg/kg	0.5	63	35.7	197	21.2	13.5	7.64	8.74	5.61	19.4	18.3
Iron	mg/kg	50				12,700	16,300	3270	3940	4090	19,800	17,700
Lead	mg/kg	0.5	70	35	91.3	6.65	7.65	8.05	7.56	10.1	9.54	10
Lithium	mg/kg	0.5				7.74	7.36	2.76	3.09	2.67	9.57	9.8
Magnesium	mg/kg	20				3270	3220	1480	1640	2160	4720	5290
Manganese	mg/kg	1				581	432	50.8	89.4	67.4	498	466
Mercury	mg/kg	0.005	12	0.17	0.486	0.0888	0.033	0.0326	0.0314	0.0526	0.0393	0.0361
Molybdenum	mg/kg	0.1	4			0.66	1.14	0.82	0.9	1.16	1.18	1.28
Nickel	mg/kg	0.5	50			20.3	19.2	5.73	8.23	7.41	28.4	26.6
Phosphorus	mg/kg	50				1100	539	88	147	105	590	737
Potassium	mg/kg	50				389	595	257	318	372	835	1000
Selenium	mg/kg	0.2	1			1.59	0.24	0.4	0.42	0.36	0.32	0.41
Silver	mg/kg	0.2	20			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sodium	mg/kg	100				420	180	270	180	290	<100	160
Strontium	mg/kg	1				87.9	44.6	137	140	133	42.2	70.4
Thallium	mg/kg	0.05	1			0.081	0.112	0.107	0.115	0.232	0.085	0.093
Tin	mg/kg	2	5			<2	<2	<2	<2	<2	<2	<2
Titanium	mg/kg	1				33.6	49.3	233	197	288	65.2	73.1
Uranium	mg/kg	0.05	33			4.69	0.807	1.81	1.94	2.65	1.18	1.33
Vanadium	mg/kg	0.2	130			13.7	20	11.4	11.9	11.9	27.5	26.6
Zinc	mg/kg	5	200	123	315	39.1	42.5	22.6	28.8	37.8	68.3	63.8
Organic / Inorganic Carbon												
Carbon	mg/kg	0.1				-	-	-	-	-	-	-
CaCO3 Equivalent	%	0.8				1.41	2.38	0.99	1.56	0.84	2.01	4.09
Inorganic Carbon	mg/kg	0.1				0.17	0.29	0.12	0.19	0.1	0.24	0.49
TOC	% dry weight	0.1				29 ^{#1}	1.78 ^{#1}	17 ^{#1}	21.2 ^{#1}	29.2 ^{#1}	5.99 ^{#1}	1.99 ^{#1}
Total Carbon by Combustion	%	0.1				29.2	2.1	17.1	21.4	29.3	6.2	2.5
Particle Size												
Soil Particle Size (>75 um)	% by weight	1				16.3	54.6	57.7	52.6	62.2	43.2	34.6
% clay by hydrometer	% by weight	1				-	-	-	-	-	-	-
Sand % Texture	% by weight	1				-	-	-	-	-	-	-
Silt % Texture	% by weight	1				-	-	-	-	-	-	-
Physical Tests												
CaCO3 Equivalent	%	0.7				-	-	-	-	-	-	-
Moisture	%	0.1				69.4	15.3	25.9	8.42	13.3	7.32	19.3

OBED MOUNTAIN MINE
SOIL/SEDIMENT TABLE
TABLE 3 - BERM AREA

Monitoring Zone Location Date Depth (m) Lab Report Easting (NAD83 Zone 11N) Northing (NAD83 Zone 11N)			ENV622	ENV622S	ENV623	ENV644	ENV645	ENV648
			08-Jan-14	08-Jan-14	08-Jan-14	08-Jan-14	08-Jan-14	10-Jan-14
			0-0.3	-0.25	0.15-0.35	0-0.15	0-0.2	0-0.1
			L1412224	L1412224	L1412224	L1412224	L1412224	L1412224
			470730	470730	470810	470810	470869	470936
			5938481	5938481	5938564	5938564	5938727	5938971
Parameter	Unit	MDL	AB Tier 1, Natural Area (Fine)	CSOG FW Sediment ISOG	CSOG FW Sediment PEI			
Polycyclic Aromatic Hydrocarbons								
Benz[b+]fluoranthene	mg/kg	0.005	6.2		<0.005	0.0176	<0.005	<0.005
C4 Benzoanthenes/Chrysenes	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04
C4 Dibenzothiophenes	mg/kg	0.04			<0.04	<0.04	0.098	0.11
C4 Fluoranthenes/Pyrenes	mg/kg	0.04			<0.04	<0.04	0.08	0.071
C4 Naphthalenes	mg/kg	0.04			<0.04	0.162	3.17	3.4
C4 Phenanthrenes/Anthracenes	mg/kg	0.04			0.191	1.32	28.8	27.3
Biphenyl	mg/kg	0.01			<0.01	<0.01	<0.01	0.024
1-Methylnaphthalene	mg/kg	0.01			<0.01	0.028	0.6	0.57
2-methylnaphthalene	mg/kg	0.005		0.0202	0.201	0.0104	0.0193	0.394
Acenaphthene	mg/kg	0.005	0.32	0.00671	0.0899	<0.005	0.0181	0.0165
Acenaphthylene	mg/kg	0.005	5	0.00587	0.128	<0.005	<0.005	0.0177
Anthracene	mg/kg	0.004	0.0046	0.00469	0.245	<0.004	<0.004	<0.004
Benz(a)anthracene	mg/kg	0.005	0.07	0.0317	0.385	<0.005	<0.005	<0.005
Benz(a)pyrene	mg/kg	0.005	0.6	0.0319	0.782	<0.005	<0.005	<0.005
Acridine	mg/kg	0.005			<0.005	<0.005	<0.005	<0.005
Benz(e)pyrene	mg/kg	0.01			<0.01	<0.01	<0.01	<0.01
Benz(g,h,i)perylene	mg/kg	0.005			<0.005	0.0052	<0.005	0.0145
Benz(k)fluoranthene	mg/kg	0.005	6.2		<0.005	<0.005	<0.005	<0.005
C1 Aacenaphthenes	mg/kg	0.04			<0.04	<0.04	0.056	0.058
C1 Benz(a)Anthracenes/Chrysenes	mg/kg	0.04			<0.04	<0.04	0.087	0.084
C1 Benzofluoranthenes/Benzopyrenes	mg/kg	0.04			<0.04	<0.04	0.121	0.109
C1 Biphenyls	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04
C1 Dibenzothiophenes	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04
Chrysene	mg/kg	0.005	6.2	0.0571	0.862	<0.005	<0.005	0.0542
C1 Fluoranthenes/Pyrenes	mg/kg	0.04			<0.04	<0.04	0.15	0.13
C1 Fluorennes	mg/kg	0.04			<0.04	<0.04	0.074	0.075
C1 Phenanthrenes/Anthracenes	mg/kg	0.04			<0.04	0.043	0.44	0.501
Dibenzo(a,h)anthracene	mg/kg	0.005	7.4	0.00622	0.135	<0.005	<0.005	<0.005
Dibenzothiophene	mg/kg	0.01			<0.01	<0.01	<0.01	<0.01
Fluoranthene	mg/kg	0.005	0.032	0.111	2.355	<0.005	0.013	0.128
Fluorene	mg/kg	0.005	0.29	0.0212	0.144	<0.005	<0.005	0.005
Indeno(1,2,3-c,d)pyrene	mg/kg	0.005			<0.005	0.0059	<0.005	0.0279
Naphthalene	mg/kg	0.005	0.016	0.0346	0.391	0.007	<0.005	0.005
Perylene	mg/kg	0.01			<0.01	0.048	0.176	0.192
Phenanthrene	mg/kg	0.005	0.051	0.0419	0.515	0.01	0.0132	0.178
Pyrene	mg/kg	0.005	0.034	0.053	0.875	<0.005	0.0202	0.178
Quinoline	mg/kg	0.005			<0.005	<0.005	<0.005	<0.005
Retene	mg/kg	0.01			<0.01	0.192	1.32	28.8
C2 Benzofluoranthenes/Benzopyrenes	mg/kg	0.04			<0.04	<0.04	0.049	0.042
C2 Biphenyls	mg/kg	0.04			<0.04	<0.04	0.045	0.058
C2 Dibenzothiophenes	mg/kg	0.04			<0.04	<0.04	0.046	0.05
C2 Fluoranthenes/Pyrenes	mg/kg	0.04			<0.04	<0.04	0.217	0.219
C2 Naphthalenes	mg/kg	0.04			0.043	0.131	2.49	2.28
C2 Phenanthrenes/Anthracenes	mg/kg	0.04			<0.04	<0.04	0.096	0.127
C2 Fluorennes	mg/kg	0.04			<0.04	<0.04	0.095	0.113
C2 subd B(a)Anthracenes/Chrysenes	mg/kg	0.04			<0.04	<0.04	0.071	0.048
C3 Benzoanthenes/Chrysenes	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04
C3 Dibenzothiophenes	mg/kg	0.04			<0.04	<0.04	0.072	0.088
C3 Fluoranthenes/Pyrenes	mg/kg	0.04			<0.04	<0.04	0.066	0.06
C3 Fluorennes	mg/kg	0.04			<0.04	<0.04	0.156	0.163
C3 Naphthalenes	mg/kg	0.04			<0.04	0.112	2.17	2.07
C3 Phenanthrenes/Anthracenes	mg/kg	0.04			<0.04	<0.04	0.124	0.548
Saturated Paste Extractables								
Sulfur (as SO ₄)	mg/kg	11			218 ^{#1}	87 ^{#1}	127 ^{#1}	51 ^{#1}
Calcium	mg/kg	1.9			106 ^{#1}	34.6 ^{#1}	48.6 ^{#1}	62.3 ^{#1}
Chloride	mg/kg	7.5			<29 ^{#1}	13.4 ^{#1}	<9.5 ^{#1}	<11 ^{#1}
Saturation Percentage	%	1			146	37.4	47.4	53.7
Electrical Conductivity (lab)	dS/m	0.01			0.677	0.994	0.855	0.729
Magnesium	mg/kg	1.1			19.4 ^{#1}	6.8 ^{#1}	10.1 ^{#1}	12.5 ^{#1}
pH (Lab)	pH	0.1	6-8.5		6.62	7.11	5.9	6.11
Potassium	mg/kg	0.75			5.2 ^{#1}	1.48 ^{#1}	1.89 ^{#1}	1.9 ^{#1}
Sodium	mg/kg	0.75			87.1 ^{#1}	43 ^{#1}	27.7 ^{#1}	13 ^{#1}
Sodium Adsorption Ratio	---	0.1			1.69 ^{#1}	2.86 ^{#1}	1.37 ^{#1}	0.54 ^{#1}
Speciated Metals								
Chromium (hexavalent)	mg/kg	0.1	0.4		<1.5	<0.1	<0.1	<0.1
Volatile Organic Compounds								
Benzene	mg/kg	0.005	0.046		<0.015	<0.005	0.0271	<0.005
Toluene	mg/kg	0.05	0.52		<0.15	<0.05	<0.05	<0.05
Ethylbenzene	mg/kg	0.01	0.11		<0.045	<0.015	0.054	<0.015
Xylene (m & p)	mg/kg	0.05			<0.15	<0.05	0.097	<0.05
Xylene (o)	mg/kg	0.05			<0.15	<0.05	0.058	<0.05
Xylenes Total	mg/kg	0.1	15		<0.3 ^{#1}	<0.1 ^{#1}	0.16 ^{#1}	<0.1 ^{#1}
Styrene	mg/kg	0.05	0.68		<0.15	<0.05	<0.05	<0.05

Comments

#1 CALC

OBED MOUNTAIN MINE
SOIL/SEDIMENT TABLE
TABLE 3 - BERM AREA

Monitoring Zone Location Date Depth (m) Lab Report Easting (NAD83 Zone 11N) Northing (NAD83 Zone 11N)										
			ENV649	ENV658	SOIL001			SOIL002		
			10-Jan-14	10-Jan-14	08-Nov-13			08-Nov-13		
			0-0.1	0-0.2	0.07-0.3	0-0.07		0.1-0.25	0-0.1	
			L1412224	L1412224	L1390249	L1390249	L1390249	L1390249	L1390249	
			470744	470534	470872	470872	470620	470620		
			5938981	5938439	5938720	5938720	5938419	5938419		
Parameter	Unit	MDL	AB Tier 1, Natural Area (Fine)	CSOG FW Sediment ISQG	CSOG FW Sediment PEI					
Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	mg/kg	20				101	24	<20	<20	<20
Total Hydrocarbons (C6-C50)	mg/kg	20				947	212	95	52	<20
Chrom. to baseline at nC50	-					0	1	1	1	1
Gravimetric Heavy Hydrocarbons	mg/kg	500				1040	<500	-	-	-
TEH: (C16-C34)	mg/kg	20				663	148	74	52	<20
TEH: (C34-C50)	mg/kg	20				183	40	21	<20	21
TVH	mg/kg	10				<20	<10	<10	<10	<10
TVH: (C6-C10 / BTEX CORRECTED)	mg/kg	10				<20	<10	<10	<10	<10
Leachable Metals										
Barium	mg/kg	5	750			-	-	38.5	53.3	64.2
Barium, extractable	mg/kg	5				46.2	68	-	-	-
Boron (B), Hot Water Ext.	mg/kg	0.1				1.09	2.08	0.53	0.36	<0.1
Metals										
Aluminum	mg/kg	50				8500	5660	8640	9920	12,400
Antimony	mg/kg	0.1	20			0.32	0.3	0.4	0.57	0.74
Arsenic	mg/kg	0.1	17	5.9	17	5.99	6.63	7.48	7.94	8.29
Barium	mg/kg	0.5	750			557	621	222	233	327
Barium, fusion	mg/kg	100				-	-	-	-	-
Beryllium	mg/kg	0.2	5			0.54	0.72	0.59	0.65	0.77
Bismuth	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	0.24
Cadmium	mg/kg	0.1	3.8	0.6	3.5	0.24	0.2	0.21	0.29	0.33
Calcium	mg/kg	100				15,500	10,600	6610	8150	7820
Chromium (III+VI)	mg/kg	0.5	64	37.3	90	22.9	7.22	15.2	17.8	26.1
Cobalt	mg/kg	0.1	20			5.2	3.77	7.43	9.71	13.2
Copper	mg/kg	0.5	63	35.7	197	12.9	8.96	17.7	20.8	31.5
Iron	mg/kg	50				10,200	6800	16,200	19,200	29,300
Lead	mg/kg	0.5	70	35	91.3	10.9	9.6	10.7	11.5	13.7
Lithium	mg/kg	0.5				7.11	4.07	9.21	10.3	12
Magnesium	mg/kg	20				4040	2150	3730	4190	5490
Manganese	mg/kg	1				292	152	328	499	901
Mercury	mg/kg	0.005	12	0.17	0.486	0.0533	0.0648	0.0528	0.0495	0.0817
Molybdenum	mg/kg	0.1	4			1.39	1.29	1.01	1.06	1.69
Nickel	mg/kg	0.5	50			18.6	9.84	23.3	27.6	40.4
Phosphorus	mg/kg	50				448	287	517	573	795
Potassium	mg/kg	50				794	443	879	816	1070
Selenium	mg/kg	0.2	1			0.41	0.45	0.29	0.4	0.52
Silver	mg/kg	0.2	20			<0.2	<0.2	<0.2	<0.2	<0.2
Sodium	mg/kg	100				480	320	<100	<100	<100
Strontium	mg/kg	1				150	128	53.2	53.9	39.3
Thallium	mg/kg	0.05	1			0.121	0.194	0.213	0.179	0.222
Tin	mg/kg	2	5			<2	<2	<2	<2	<2
Titanium	mg/kg	1				108	223	83.2	76.8	65
Uranium	mg/kg	0.05	33			1.95	2.25	1.57	1.53	1.52
Vanadium	mg/kg	0.2	130			15.9	15.4	21.3	26.4	38.1
Zinc	mg/kg	5	200	123	315	51.1	40.7	59.8	68.1	94.3
Organic / Inorganic Carbon										
Carbon	mg/kg	0.1				-	-	7.05 ^{#1}	7.51 ^{#1}	1.06 ^{#1}
CaCO ₃ Equivalent	%	0.8				1.99	<0.8	<0.8	0.98	1.2
Inorganic Carbon	mg/kg	0.1				0.24	<0.1	<0.1	0.12	0.14
TOC	% dry weight	0.1				14.4 ^{#1}	32 ^{#1}	-	-	-
Total Carbon by Combustion	%	0.1				14.6	32	7.1	7.6	1.2
Particle Size										
Soil Particle Size (>75 um)	% by weight	1				23.3	54.6	-	-	-
% clay by hydrometer	% by weight	1				-	-	19.1	20.9	24.2
Sand % Texture	% by weight	1				-	-	54	53.2	37.6
Silt % Texture	% by weight	1				-	-	26.9	25.9	33.4
Physical Tests										
CaCO ₃ Equivalent	%	0.7				-	-	0.77	1.3	1.26
Moisture	%	0.1				58.6	20.6	18.4	19.1	17.6
										1.06

OBED MOUNTAIN MINE
SOIL/SEDIMENT TABLE
TABLE 3 - BERM AREA

Monitoring Zone Location Date Depth (m) Lab Report Easting (NAD83 Zone 11N) Northing (NAD83 Zone 11N)									
		ENV649	ENV658	SOIL001		SOIL002			
		10-Jan-14	10-Jan-14	08-Nov-13		08-Nov-13			
		0-0.1	0-0.2	0.07-0.3	0-0.07	0.1-0.25	0-0.1		
		L1412224	L1412224	L1390249	L1390249	L1390249	L1390249		
		470744	470534	470872	470872	470620	470620		
		5938981	5938439	5938720	5938720	5938419	5938419		
Parameter	Unit	MDL	AB Tier 1, Natural Area (Fine)	CSOG FW Sediment ISOG	CSOG FW Sediment PEI				
Polycyclic Aromatic Hydrocarbons									
Benz[b+]fluoranthene	mg/kg	0.005	6.2		<0.005	<0.005	0.0162	0.0158	0.0189
C4 Benzoanthenes/Chrysenes	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04	<0.04
C4 Dibenzothiophenes	mg/kg	0.04			0.068	<0.04	<0.04	0.04	<0.04
C4 Fluoranthenes/Pyrenes	mg/kg	0.04			0.071	<0.04	<0.04	<0.04	<0.04
C4 Naphthalenes	mg/kg	0.04			1.1	0.658	0.398	0.382	0.062
C4 Phenanthrenes/Anthracenes	mg/kg	0.04			9.5	6	<0.4	<0.4	0.343
Biphenyl	mg/kg	0.01			0.014	<0.01	<0.01	<0.01	<0.01
1-Methylnaphthalene	mg/kg	0.01			0.199	0.117	0.067	0.058	0.019
2-methylnaphthalene	mg/kg	0.005		0.0202	0.201	0.13	0.0675	0.045	0.0358
Acenaphthene	mg/kg	0.005	0.32	0.00671	0.0899	0.0178	<0.005	<0.005	<0.005
Acenaphthylene	mg/kg	0.005	5	0.00587	0.128	<0.005	<0.005	<0.005	<0.005
Anthracene	mg/kg	0.004	0.0046	0.00469	0.245	<0.004	0.0085	<0.004	<0.004
Benz(a)anthracene	mg/kg	0.005	0.07	0.0317	0.385	<0.005	<0.005	<0.005	<0.005
Benz(a)pyrene	mg/kg	0.005	0.6	0.0319	0.782	<0.005	<0.005	<0.005	<0.005
Acridine	mg/kg	0.005			<0.005	<0.005	<0.005	<0.005	<0.005
Benz(e)pyrene	mg/kg	0.01			<0.01	<0.01	<0.01	<0.01	<0.01
Benz(g,h,i)perylene	mg/kg	0.005			0.0559	<0.005	0.0082	0.0088	0.0082
Benz(k)fluoranthene	mg/kg	0.005	6.2		<0.005	<0.005	<0.005	<0.005	<0.005
C1 Acenaphthenes	mg/kg	0.04			0.053	<0.04	<0.04	<0.04	<0.04
C1 Benz(a)Anthracenes/Chrysenes	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04	<0.04
C1 Benzoanthranthenes/Benzopyrenes	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04	<0.04
C1 Biphenyls	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04	<0.04
C1 Dibenzothiophenes	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04	<0.04
Chrysene	mg/kg	0.005	6.2	0.0571	0.862	<0.005	<0.005	0.0067	0.008
C1 Fluoranthenes/Pyrenes	mg/kg	0.04			0.081	<0.04	0.06	0.065	<0.04
C1 Fluorennes	mg/kg	0.04			0.096	<0.04	<0.04	<0.04	<0.04
C1 Phenanthrenes/Anthracenes	mg/kg	0.04			0.276	0.141	0.071	0.091	<0.04
Dibenzo(a,h)anthracene	mg/kg	0.005	7.4	0.00622	0.135	<0.005	<0.005	<0.005	<0.005
Dibenzothiophene	mg/kg	0.01			<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	mg/kg	0.005	0.032	0.111	2.355	0.0717	0.039	0.0277	0.0323
Fluorene	mg/kg	0.005	0.29	0.0212	0.144	0.0507	<0.005	<0.005	0.0135
Indeno(1,2,3-c,d)pyrene	mg/kg	0.005			<0.005	<0.005	0.0083	0.0089	0.0072
Naphthalene	mg/kg	0.005	0.016	0.0346	0.391	0.0761	0.0299	0.0278	0.0176
Perylene	mg/kg	0.01			0.087	0.039	0.063	0.059	0.07
Phenanthrene	mg/kg	0.005	0.051	0.0419	0.515	0.0883	0.0459	0.0286	0.0321
Pyrene	mg/kg	0.005	0.034	0.053	0.875	0.0708	0.0358	0.0356	0.0402
Quinoline	mg/kg	0.005			<0.005	<0.005	<0.005	<0.005	<0.005
Retene	mg/kg	0.01			9.5	6	0.29	0.37	0.332
C2 Benzoanthranthenes/Benzopyrenes	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04	<0.04
C2 Biphenyls	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04	<0.04
C2 Dibenzothiophenes	mg/kg	0.04			0.076	<0.04	<0.04	<0.04	<0.04
C2 Fluoranthenes/Pyrenes	mg/kg	0.04			0.094	0.055	0.047	<0.04	<0.04
C2 Naphthalenes	mg/kg	0.04			0.862	0.505	0.276	0.263	0.076
C2 Phenanthrenes/Anthracenes	mg/kg	0.04			0.054	<0.04	0.1	0.12	<0.04
C2 Fluorennes	mg/kg	0.04			0.052	<0.04	<0.04	<0.04	<0.04
C2 subB(a)Anthracenes/Chrysenes	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04	<0.04
C3 Benzoanthranthenes/Chrysenes	mg/kg	0.04			<0.04	<0.04	<0.04	<0.04	<0.04
C3 Dibenzothiophenes	mg/kg	0.04			0.094	<0.04	<0.04	<0.04	<0.04
C3 Fluoranthenes/Pyrenes	mg/kg	0.04			0.042	<0.04	<0.04	<0.04	<0.04
C3 Fluorennes	mg/kg	0.04			0.091	0.043	<0.04	0.045	<0.04
C3 Naphthalenes	mg/kg	0.04			0.762	0.455	0.411	0.399	0.078
C3 Phenanthrenes/Anthracenes	mg/kg	0.04			0.151	0.131	0.061	0.093	<0.04
Saturated Paste Extractables									
Sulfur (as SO4)	mg/kg	11			151 ^{#1}	88 ^{#1}	-	-	-
Calcium	mg/kg	1.9			168 ^{#1}	103 ^{#1}	-	-	-
Chloride	mg/kg	7.5			<18 ^{#1}	<16 ^{#1}	-	-	-
Saturation Percentage	%	1			91.8	79.8	55.3	51.1	44.6
Electrical Conductivity (lab)	dS/m	0.01			1.55	0.586	0.435	0.54	0.399
Magnesium	mg/kg	1.1			41.1 ^{#1}	19 ^{#1}	-	-	-
pH (Lab)	pH	0.1	6-8.5		7.18	6.45	6.98	7.02	7.42
Potassium	mg/kg	0.75			19.7 ^{#1}	11.7 ^{#1}	-	-	-
Sodium	mg/kg	0.75			124 ^{#1}	42.6 ^{#1}	-	-	-
Sodium Adsorption Ratio	---	0.1			2.32 ^{#1}	1.13 ^{#1}	0.3 ^{#1}	0.27 ^{#1}	0.29 ^{#1}
Speciated Metals									
Chromium (hexavalent)	mg/kg	0.1	0.4		<0.1	<0.1	<0.1	<0.1	<0.1
Volatile Organic Compounds									
Benzene	mg/kg	0.005	0.046		<0.01	<0.005	<0.005	<0.005	<0.005
Toluene	mg/kg	0.05	0.52		<0.1	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	mg/kg	0.01	0.11		<0.03	<0.015	<0.015	<0.015	<0.015
Xylene (m & p)	mg/kg	0.05			<0.1	<0.05	<0.05	<0.05	<0.05
Xylene (o)	mg/kg	0.05			<0.1	<0.05	<0.05	<0.05	<0.05
Xylenes Total	mg/kg	0.1	15		<0.2 ^{#1}	<0.1 ^{#1}	<0.1 ^{#1}	<0.1 ^{#1}	<0.1 ^{#1}
Styrene	mg/kg	0.05	0.68		<0.1	<0.05	-	-	-

Comments
#1 CALC