

	Guideline exceeded, one or more sites
	Value which exceeds a guideline
	Calculated value

HRM Beaches Sediment Chemistry – March 28, 2008

Parameter	Units	RDL AGAT	BRB	CR	HS	DS	Reference	CCME Marine Sediment ISQG (2002)	CCME Residential/Parkland Soil Quality Guidelines (2006)	Locations	
										BRB	CR
<b>Metals</b>											
Aluminum	mg/kg	10	7030	12000	3400	4180	1180				
Antimony	mg/kg	2.0	ND	ND	ND	ND	ND				
Arsenic	mg/kg	2.0	2	4	2	4	ND	7.24	12		
Barium	mg/kg	5.0	24	24	12	25	ND				
Beryllium	mg/kg	2.0	ND	ND	ND	ND	ND				
Boron	mg/kg	5.0	ND	ND	ND	ND	ND				
Cadmium	mg/kg	0.30	ND	ND	ND	ND	ND	0.7	0.7		
Chromium	mg/kg	2.0	9	15	5	6	ND	52.3	10		
Cobalt	mg/kg	1.0	4	4	2	3	ND		64.0		
Copper	mg/kg	2.0	7	16	5	46	2	18.7	64		
Iron	mg/kg	50	13000	19700	6760	11000	1960				
Lead	mg/kg	0.5	4.7	37.6	8.6	31.5	1.2	30.2	140		
Manganese	mg/kg	2.0	321	238	110	219	41				
Mercury	mg/kg	0.050	ND	ND	ND	ND	ND	13	6.6		
Molybdenum	mg/kg	2.0	ND	ND	ND	ND	ND				
Nickel	mg/kg	2.0	11	12	6	7	ND		0.6		
Selenium	mg/kg	2.0	ND	ND	ND	ND	ND		1		
Silver	mg/kg	5.0	ND	ND	ND	ND	ND				
Strontium	mg/kg	5.0	33.6	10	6	7	ND				
Thallium	mg/kg	0.10	ND	0.1	ND	ND	ND		1		
Tin	mg/kg	2.0	3	4	3	4	4				
Uranium	mg/kg	0.20	0.3	0.6	0.2	0.2	0.2				
Vanadium	mg/kg	2.0	9	15	7	9	2		130		
Zinc	mg/kg	5.0	44.8	69	36	43	6	124	200		
<b>TPH Compounds</b>											
Benzene	mg/kg	0.025	ND	ND	ND	ND	ND				
Toluene	mg/kg	0.025	ND	ND	ND	ND	ND				
Ethylbenzene	mg/kg	0.025	ND	ND	ND	ND	ND				
Xylenes	mg/kg	0.050	ND	ND	ND	ND	ND				
C <sub>6</sub> -C <sub>10</sub> (less BTEX)	mg/kg	2.500	ND	ND	ND	ND	ND				
>C <sub>10</sub> -C <sub>21</sub> Hydrocarbons	mg/kg	15.000	ND	ND	ND	ND	ND				
>C <sub>21</sub> -<C <sub>32</sub> Hydrocarbons	mg/kg	15.000	ND	ND	ND	ND	ND				
Modified TPH (Tier 1)	mg/kg	20.000	26.9	29.8	26.5	25.2	31.1				
<b>PCBs</b>											
PCBs	µg/kg	0.05	ND	ND	ND	ND	ND	21.5	1.3		
<b>Pesticides</b>											
DDT (o,p' + p,p')	µg/kg	0.005	ND	ND	ND	ND	ND				
DDT (Total)	µg/kg	0.01	ND	ND	ND	ND	ND		0.7		
Aldrin	µg/kg	0.005	ND	ND	ND	ND	ND				
Dieldrin	µg/kg	0.005	ND	ND	ND	ND	ND	0.00354			
Endrin	µg/kg	0.005	ND	ND	ND	ND	ND	0.00354			
Chlordane (Total)	µg/kg	0.01	ND	ND	ND	ND	ND	0.00142			
Heptachlor	µg/kg	0.005	ND	ND	ND	ND	ND	0.00142			
Hexachlorobenzene	µg/kg	0.005	ND	ND	ND	ND	ND	0.0019			
Mirex	µg/kg	0.005	ND	ND	ND	ND	ND	0.0019			
Toxaphene	µg/kg	1	ND	ND	ND	ND	ND	0.1			
<b>PAHs</b>											
2-Methylnaphthalene	mg/kg	0.004	ND	0.004	ND	ND	ND	0.0202			
Acenaphthene	mg/kg	0.004	ND	0.017	ND	ND	ND	0.00671			
Acenaphthylene	mg/kg	0.003	ND	ND	ND	ND	ND	0.00587			
Anthracene	mg/kg	0.003	ND	0.028	ND	0.01	ND	0.0469			
Benzo(a)anthracene	mg/kg	0.003	ND	0.037	0.01	0.016	ND	0.0748			
Benzo(a)pyrene	mg/kg	0.004	ND	0.029	0.009	0.012	ND	0.0888	0.7		
Benzo(b)fluoranthene	mg/kg	0.003	ND	0.036	0.013	0.018	ND	0.0888			
Benzo (g,h,i)perylene	mg/kg	0.005	ND	0.016	0.007	0.007	ND				
Benzo(k)fluoranthene	mg/kg	0.004	ND	0.015	0.004	0.073	ND				
Chrysene	mg/kg	0.004	ND	0.031	0.009	0.016	ND	0.108			
Dibenz(a,h)anthracene	mg/kg	0.004	ND	ND	ND	ND	ND	0.00622			
Fluoranthene	mg/kg	0.003	ND	0.102	0.019	0.04	ND	0.113			
Fluorene	mg/kg	0.004	ND	0.017	ND	ND	ND	0.0212			
Indeno(1,2,3-cd)pyrene	mg/kg	0.004	ND	0.019	0.007	0.008	ND		0.6		
Naphthalene	mg/kg	0.004	ND	0.006	ND	ND	ND	0.0346			
Phenanthrene	mg/kg	0.003	ND	0.113	0.009	0.043	ND	0.0867			
Pyrene	mg/kg	0.004	ND	0.075	0.016	0.03	ND	0.153			

BRB	Black Rock Beach
CR	Chain Rock
HS	Horseshoe Island
DS	Dingle South
Reference	Fox Point Beach, St.Margarets Bay

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<b>Dibenzodioxins</b>											
2,3,7,8-Tetra CDD*	ppt	0.1	ND	ND	ND	ND	ND				
1,2,3,7,8-Penta CDD	ppt	0.1	ND	ND	ND	ND	ND				
1,2,3,4,7,8-Hexa CDD	ppt	0.1	ND	ND	ND	ND	ND				
1,2,3,6,7,8-Hexa CDD	ppt	0.1	ND	ND	ND	ND	ND				
1,2,3,7,8,9-Hexa CDD	ppt	0.1	ND	ND	ND	ND	ND				
1,2,3,4,6,7,8-Hepta CDD	ppt	0.1	ND	ND	ND	ND	ND				
Octa CDD	ppt	0.5	7.33	139	199.5	14.6	ND				
CDD TEQ's	TEQ		0.00733	0.139	0.1995	0.0146	0	0.85	4		
Total Tetra CDD	ppt	0.1	0.7	3.5	2.5	1.1	ND				
Total Penta CDD	ppt	0.1	0.7	5.5	4	1.1	ND				
Total Hexa CDD	ppt	0.1	2.6	4	2.5	ND	ND				
Total Hepta CDD	ppt	0.1	ND	7.5	15.5	ND	ND				
<b>Dibenzofurans</b>											
2,3,7,8-Tetra CDF**	ppt	0.1	ND	ND	ND	ND	ND				
1,2,3,7,8-Penta CDF	ppt	0.1	ND	ND	ND	ND	ND				
1,2,3,4,7,8-Hexa CDF	ppt	0.1	ND	ND	ND	ND	ND				
1,2,3,6,7,8-Hexa CDF	ppt	0.1	ND	ND	ND	ND	ND				
2,3,4,7,8-Penta CDF	ppt	0.1	ND	ND	ND	ND	ND				
2,3,4,6,7,8-Hexa CDF	ppt	0.1	ND	ND	BDL	BDL	ND				
1,2,3,7,8,9-Hexa CDF	ppt	0.1	ND	ND	ND	ND	ND				
1,2,3,4,6,7,8-Hepta CDF	ppt	0.1	BDL	BDL	3.11	BDL	ND				
1,2,3,4,7,8,9-Hepta CDF	ppt	0.1	ND	ND	ND	ND	ND				
Octa CDF	ppt	0.5	ND	ND	ND	ND	ND				
CDF TEQ's	TEQ		0	0	0.0311	0	0	0.85	4		
Total Tetra CDF	ppt	0.1	403	575	ND	437	ND				
Total Penta CDF	ppt	0.1	24	43.5	ND	26	ND				
Total Hexa CDF	ppt	0.1	1	3.5	ND	ND	ND				
Total Hepta CDF	ppt	0.1	19	2.5	ND	8.3	ND				

**Notes:**

- ND = Below Reportable Detection Limit (RDL)
- PAH = Polycyclic Aromatic Hydrocarbons
- PCB = Polychlorinated Biphenyls
- ISQG = Interim Sediment Quality Guideline
- TEQ = Toxic Equivalents
- TPH = Total Petroleum Hydrocarbons

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