Table B-7: Sediment Chemistry in Baker Creek Outlet

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Reach 0																			
Station ID					E1	E2	E3	E4	E5	E6	E7	E10	E11	E15	E01	E02	E03	E05	E06	E07	E10	E11	E15	E16
Sample type					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample depth					0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	surface	surface	surface	surface	surface	surface	surface	surface	surface	surface
Date		ISQG	PEL		14-Sep-04	14-Sep-04	14-Sep-04	14-Sep-04	14-Sep-04	14-Sep-04	14-Sep-04	14-Sep-04	14-Sep-04	14-Sep-04	7-Sep-06	7-Sep-06	7-Sep-06	7-Sep-06	7-Sep-06	7-Sep-06	7-Sep-06	7-Sep-06	7-Sep-06	7-Sep-06
Data Source					Golder 2005	Golder 2005	Golder 2005	Golder 2005	Golder 2005	Golder 2005	Golder 2005	Golder 2005	Golder 2005	Golder 2005	Golder 2008	Golder 2008	Golder 2008	Golder 2008	Golder 2008	Golder 2008	Golder 2008	Golder 2008	Golder 2008	Golder 2008
Physical Parameters																								
Moisture	%				38.3	78	58	41	51.2	32.5	40	28.5	74.7	48.2	50.9	50.7	36.9	37.6	32.4	45	24.4	62.1	35.6	32.7
Total Organic Carbon	%				1.78	3.62	5.16	2.49	1.75	0.738	0.832	0.506	1.65	0.862	1.1	3.2	2.2	1.9	0.5	2	1.4	1.7	0.9	1.2
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				<0.10	<0.10	3.1	2.4	4.5	2	6.7	5.8	6.4	1.3	<0.1	<0.1	<0.1	<0.1	4.4	<0.1	5.5	<0.1	<0.1	<0.1
% Sand	%				8.9	15.2	18.1	33.4	27.5	55.6	43.6	66.6	51	35.7	5	23.6	23.9	30.3	67	45.1	56.5	55.5	12.5	23.5
% Silt	%				40.7	53	53.8	18.4	42.4	37.1	28.9	10.4	27.2	44.6	15.4	36.6	20.8	45.2	18.1	27.6	25.3	29.1	57.9	54.6
% Clay	%				50.4	31.8	25	45.8	25.6	15.3	20.8	17.2	15.4	18.4	79.6	39.8	55.3	24.5	10.5	27.3	12.7	15.4	29.6	21.9
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																								
Aluminum	mg/kg				25500	45900	20000	22800	22200	17400	22400	18200	31200	16200	-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg				<20	191	51	22	98	65	42	45	31	<20	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	*5.9*	**17**	**150**	***310***	***1660***	***470***	***350***	***800***	***590***	***1390***	***270***	***220***	***59.3***	***49.1***	-	***224***	-	***157***	-	***68***	-	***14.4***	-
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				174	229	129	131	105	80.7	91.4	80.8	136	96.9	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg				1.01	1.6	0.85	0.91	0.77	0.62	0.72	0.71	1.17	0.61	-	-	-	-	-	-	-	-	-	-
Bismuth	mg/kg				<20	<40	<20	<20	<20	<20	<20	<20	<20	<20	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	*0.6*	**3.5**		*<2.0*	***<4.0***	*<2.0*	*<2.0*	*<2.0*	*<2.0*	*<2.0*	*<2.0*	*<2.0*	*<2.0*	-	-	-	-	-	-	-	-	-	-
Calcium	mg/kg				5520	15700	13700	5430	6500	4930	8290	3090	7240	4650	-	-	-	-	-	-	-	-	-	-
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		*47.8*	***98.7***	*42.2*	*45.6*	*48.8*	36.4	*48.4*	37	*65.8*	32.4	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg				16.5	102	26.7	19.8	52.5	25.8	22.9	11.1	21.7	9.9	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	*35.7*	**197**		*93.2*	***604***	*102*	*65.2*	***206***	***289***	*182*	*81.2*	*80.6*	27.6	-	-	-	-	-	-	-	-	-	-
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg				28200	59000	24300	27900	31000	23800	36400	29200	43700	17700	-	-	-	-	-	-	-	-	-	-
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	*35*	**91.3**		*<50*	***160***	*<50*	*<50*	*69*	*52*	*62*	*<50*	*<50*	*<50*	-	-	-	-	-	-	-	-	-	-
Lithium	mg/kg				41.2	65.5	28.5	32.8	33	24.5	35.3	27.9	43.1	22.8	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg				10100	19400	7430	9830	10900	6920	13900	8870	13100	5520	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg				391	779	420	273	359	246	502	262	617	211	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	*0.17*	**0.486**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Molybdenum	mg/kg				<4.0	<8.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg				41.1	197	47.7	42.8	77.3	58.4	56.9	29	47	21.7	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/kg				524	1130	554	459	569	490	531	444	895	603	-	-	-	-	-	-	-	-	-	-
Potassium	mg/kg				6260	9750	4450	5170	4620	3570	4180	4330	6480	3530	-	-	-	-	-	-	-	-	-	-
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg				<50	<100	<50	<50	<50	<50	<50	<50	<50	<50	-	-	-	-	-	-	-	-	-	-
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				<2.0	5.3	<2.0	<2.0	2.1	2.2	2	<2.0	<2.0	<2.0	-	-	-	-	-	-	-	-	-	-
Sodium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Strontium	mg/kg				71.2	129	90.4	53.7	49.4	36.9	34.9	26.7	52.4	35.4	-	-	-	-	-	-	-	-	-	-
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tellurium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				<50	<100	<50	<50	<50	<50	<50	<50	<50	<50	-	-	-	-	-	-	-	-	-	-
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg				<10	<20	<10	<10	<10	<10	<10	<10	<10	<10	-	-	-	-	-	-	-	-	-	-
Titanium	mg/kg				788	1490	790	639	746	590	497	508	1160	738	-	-	-	-	-	-	-	-	-	-
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg				59.7	129	56.4	60.7	65.5	49.3	65.2	51.1	88.7	44.7	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	*123*	**315**		104	***449***	111	109	*184*	*175*	*204*	*135*	*181*	54	-	-	-	-	-	-	-	-	-	-
Extractable Metals																								
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-7: Sediment Chemistry in Baker Creek Outlet

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Reach 0																			
Station ID					E1	E3	E4	E5	E7	E10	E11	E15	E16	BCS-03	BCS-03	BCS-03	BCW-04	BCW-04	BCW-04	BCW-04	BCSS-DEP01	BCSS-DEP02	BCSS-DEP03	BCSS-DEP01
Sample type					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample depth					surface	surface	surface	surface	surface	surface	surface	surface	surface	0-5 cm	5-10 cm	10-20 cm	0-5 cm	5-10 cm	10-20 cm	>20 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	5 -10 cm
Date		ISQG	PEL		3-Sep-10	3-Sep-10	3-Sep-10	4-Sep-10	4-Sep-10	4-Sep-10	4-Sep-10	4-Sep-10	4-Sep-10	1-Aug-03	1-Aug-03	1-Aug-03	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	5-Oct-11	5-Oct-11	5-Oct-11	5-Oct-11
Data Source					Golder 2010	Golder 2010	Golder 2010	Golder 2010	Golder 2010	Golder 2010	Golder 2010	Golder 2010	Golder 2010	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Golder 2013b	Golder 2013b	Golder 2013b	Golder 2013b
Physical Parameters																								
Moisture	%				30.0	67.9	53.2	39.2	34.5	43.3	33.5	35.4	37.7	-	-	-	-	-	-	-	38.2	58.2	59.5	22.8
Total Organic Carbon	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.37	3.44	4.28	0.46
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.32	7.26	7.35	7.23
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				0.30	4.3	2.3	1.7	1.0	1.7	1.0	0.8	1.0	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				<0.10	0.50	<0.10	<0.10	1.61	0.31	1.52	<0.10	1.32	-	-	-	-	-	-	-	6.21	0.50	1.10	4.98
% Sand	%				1.56	17.6	17.0	22.3	18.6	63.7	57.0	24.6	22.3	-	-	-	-	-	-	-	43.4	11.0	14.3	45.9
% Silt	%				20.1	57.8	52.6	60.3	53.2	28.2	32.6	59.5	62.0	-	-	-	-	-	-	-	33.6	77.6	72.7	21.9
% Clay	%				78.3	24.2	30.5	17.4	26.6	7.76	8.85	16.0	14.4	-	-	-	-	-	-	-	16.8	10.8	11.9	27.2
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.4	88.4	84.6	49.1
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																								
Aluminum	mg/kg				23700	18100	14100	12200	15200	9750	9220	10500	10500	14050	18030	13122	16150	18460	17713	14820	13500	11800	16100	15200
Antimony	mg/kg				<10	107	57	41	19	15	28	<10	<10	140	465	1.74	81.7	322	984	0.78	77.8	192	296	12.6
Arsenic	mg/kg	5.9	**17**	**150**	8.2	**899**	**555**	**336**	**162**	**100**	**145**	**62**	**54.1**	**1296**	**3612**	**161.4**	**2319**	**2341**	**6291**	**308**	**541**	**1520**	**1870**	**111**
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				228	94.1	88.1	82	121	44.2	47.4	77.9	77.5	91.5	72.0	130.2	95.5	71.4	86	136.4	90.20	46.8	74.3	107
Beryllium	mg/kg				1.1	0.56	<0.50	<0.50	0.59	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	0.51	0.30	0.40	0.62
Bismuth	mg/kg				<20	<20	<20	<20	<20	<20	<20	<20	<20	0.27	0.42	0.22	0.31	0.36	0.68	0.22	0.21	0.20	0.43	0.21
Boron	mg/kg				-	-	-	-	-	-	-	-	-	5.30	3.50	7.67	5.50	5.00	4.38	6.80	-	-	-	-
Cadmium	mg/kg	0.6	**3.5**		0.5	0.87	0.63	0.52	0.51	<0.50	<0.50	<0.50	<0.50	0.73	2.42	0.17	0.58	1.44	**4.31**	0.16	0.39	0.71	1.42	0.19
Calcium	mg/kg				6110	12100	8170	4840	3650	2260	2360	2840	3080	6540	21260	3544	5510	11840	13075	3540	6010	10300	15800	3450
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	37.3	**90**		44.5	44.4	34.4	31.7	35.7	24.5	23.3	26.7	27.1	36.6	51.1	32.8	49.9	58.6	61.3	39.9	37.9	35.1	48.0	35.1
Cobalt	mg/kg				12.7	31.7	21.1	20.7	11.4	8.1	6.8	9.4	7.7	31.6	29.4	11.0	30.4	26.7	31.5	9.82	14.7	33.5	59.4	10.6
Copper	mg/kg	35.7	**197**		28.0	**242**	114	87.6	52.3	44.6	47	28	26.8	**218**	**1318**	28.2	**213**	**829**	**480**	22.4	109	**264**	**508**	62.3
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	5.00	5.50	5.0	5.80	5.6	5.50	5.40	-	-	-	-
Gold	mg/kg				-	-	-	-	-	-	-	-	-	3.13	4.35	0.017	4.65	3.5	8.43	0.027	-	-	-	-
Iron	mg/kg				30500	29400	22200	18400	21300	17200	15500	15700	14300	27230	47370	20400	35340	45740	59900	23220	24900	24700	35400	25000
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	21.7	12.1	27.6	22.8	15.4	13.5	27.8	-	-	-	-
Lead	mg/kg	35	**91.3**		<30	56	34	<30	<30	<30	<30	<30	<30	**102**	**399**	8.9	83.5	**273**	**532**	8.96	40.0	85.80	**140**	12.5
Lithium	mg/kg				40.9	30.4	24.5	22.3	26.7	18.4	17.2	20.2	19.3	-	-	-	-	-	-	-	23.9	20.10	27.0	27.3
Magnesium	mg/kg				11800	11400	8230	7040	7830	6140	5250	5540	5300	8830	17720	6622	10970	16880	16088	7340	8450	8950	12000	7920
Manganese	mg/kg				425	341	321	274	264	186	175	249	202	567	655	244.3	782	573	634	352	309	274	405	277
Mercury	mg/kg	0.17	**0.486**		0.0	0.092	0.053	0.037	0.020	0.027	0.021	0.015	0.010	0.1	0.32	0.012	0.12	0.24	**0.54**	0.0125	0.05	0.12	0.17	0.017
Molybdenum	mg/kg				<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	0.8	1.02	0.46	1.0	0.80	1.93	0.58	0.86	2.45	3.23	0.75
Nickel	mg/kg				30.7	59.9	41.7	37.2	29.5	18.7	17.5	23.1	18	54.6	91.0	25.6	65.3	72.0	83.7	25.26	38.9	70.4	122	29.0
Phosphorus	mg/kg				577	554	441	482	524	390	426	501	542	461	372	292	639	538	670	618	437	429	559	428
Potassium	mg/kg				4900	2470	2200	1870	2560	1140	1150	1850	1810	1790	1170	2400	2350	1660	1750	2660	2340	1470	2080	2590
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	4.2	5.9	3.8	4.92	5.98	5.76	3.96	-	-	-	-
Selenium	mg/kg				<2.0	<2.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.9	1.5	<0.5	1.16	1.18	1.29	0.60	0.43	1.46	2.70	0.34
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	1.4	9.3	<0.1	3.13	7.62	7.48	0.12	0.87	3.01	4.49	0.23
Sodium	mg/kg				740	650	400	310	270	<200	<200	230	240	258	130	279	219	164	169	260	280	250	340	260
Strontium	mg/kg				71.3	60.7	38.7	25.4	27.3	12.7	13.7	18.7	18.9	32.3	25.4	27.8	28.2	22.8	28.4	27.0	33.6	35.4	55.5	32.7
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	1260	3300	511.0	1617	2020	5788	<500	-	-	-	-
Tellurium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.14	0.16	0.16	0.18	0.12	0.28	0.20	0.17	0.17	0.25	0.17
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	8.45	4.6	11.4	7.66	5.56	4.91	10.8	-	-	-	-
Tin	mg/kg				<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	-	-	-	-	-	-	-	2.00	2.00	2.20	2.00
Titanium	mg/kg				804	589	504	471	589	375	369	409	511	457	263	643	498	350	290	648	500	342	512	527
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	1.9	17.5	0.26	2.30	6.44	2.23	0.14	-	-	-	-
Uranium	mg/kg				3.1	2.69	2.1	2.84	2.68	1.9	1.94	2.44	2.63	2.0	0.9	2.73	2.66	1.46	1.28	3.92	1.87	1.39	1.90	2.07
Vanadium	mg/kg				49.7	53	39.9	35.4	40.6	31.8	27.2	30.7	29.9	43.4	60.6	38.1	51.5	62.4	58.5	39.0	46.5	41.80	59.3	45.50
Zinc	mg/kg	123	**315**		71.1	178	114	94.8	76.3	77.6	97.5	49	42.6	238	**691**	56.0	210	**416**	**1488**	62.4	117	197	**375**	66.20
Extractable Metals																								
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.58	0.48	0.68	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0050	<0.0050	<0.0050	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.55	0.45	0.55	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.093	0.19	0.26	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000050	<0.000050	<0.000050	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	0.74	0.94	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.84	2.15	3.33	-

Table B-7: Sediment Chemistry in Baker Creek Outlet

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Reach 0															Reach 0		
Station ID					BCSS-DEP01	BCSS-DEP02	BCSS-DEP02	BCSS-DEP03	BVEG-1	BVEG-2	BVEG-3	MC1-0-10	MC1-10-36	MC2-0-10	MC2-10-31	MC4-0-10	MC4-10-29	MC5-0-10	MC5-10-42	MC6-0-10	MC6-10-31	MC7-0-10	MC7-10-37
Sample type					-	-	-	-	Rep 1	Rep 2	Rep 3	-	-	-	-	-	-	-	-	-	-	-	-
Sample depth					10-15 cm	10-15 cm	25-26 cm	10-15 cm	0-15 cm	0-15 cm	0-15 cm	0 - 10 cm	10 - 36 cm	0 - 10 cm	10 - 31 cm	0 - 10 cm	10 - 29 cm	0 - 10 cm	10 - 42 cm	0 - 10 cm	10 - 31 cm	0 - 10 cm	10 - 37 cm
Date		ISQG	PEL		5-Oct-11	5-Oct-11	5-Oct-11	5-Oct-11				15-Feb-10	15-Feb-10	15-Feb-11	15-Feb-11	15-Feb-11	15-Feb-11	15-Feb-14	15-Feb-14	15-Feb-11	15-Feb-11	15-Feb-12	15-Feb-12
Data Source					Golder 2013b	Golder 2013b	Golder 2013b	Golder 2013b	Nash 2014	Nash 2014	Nash 2014	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015
Physical Parameters																							
Moisture	%				23.8	29.4	40.7	42.1	-	-	-	31	30	24	24	48	29	92	41	26	28	92	32
Total Organic Carbon	%				0.55	1.31	0.86	3.44	-	-	-	18000	19000	10000	12000	52000	27000	22000	16000	2400	2400	24000	16000
pH	pH				7.18	7.76	7.95	7.41	-	-	-	6.34	6.48	5.92	5.43	5.32	5.45	6.78	6.40	7.08	7.07	6.80	7.05
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	<0.50	0.53	16.4	4.14	51.0	28.3	-	188	5.3	0.68	-	671
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	<0.050	-	-	-	<0.050	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				3.42	<0.10	<0.10	<0.10	-	-	-	-	-	-	-	-	-	-	FINE	-	-	-	-
% Sand	%				39.8	11.6	3.19	12.4	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-
% Silt	%				21.7	66.3	87.0	70.9	-	-	-	-	-	-	-	-	-	-	82	-	-	-	-
% Clay	%				35.1	22.1	9.82	16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Fines (silt + clay)	%				56.8	88.4	96.8	87.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																							
Aluminum	mg/kg				16600	17600	18000	16300	12100	10900	12600	13000	15000	9800	8700	9800	12000	18000	18000	21000	22000	19000	22000
Antimony	mg/kg				12	222	2470	249	331	302	305	180	310	4.1	<1	3.1	<1	140	22	5.4	<1	190	120
Arsenic	mg/kg	*5.9*	**17**	**150**	***134***	***2360***	***14300***	***1760***	***2374***	***4347***	***2316***	***1200***	***1800***	***130***	***81***	***120***	***23***	***1000***	***240***	***170***	***31***	***1300***	***1300***
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	38	20	67	-	52	-	-	-	-	-	67	65
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	57	73	32	-	43	-	-	-	-	-	33	35
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	5.0	7	-	-	5	-	-	-	-	-	-	-
Barium	mg/kg				134	83.2	69.5	73.4	80.3	73.1	92.7	87	89	80	72	94	110	110	140	200	220	94	86
Beryllium	mg/kg				0.68	0.45	0.25	0.47	-	-	-	0.43	0.48	<0.4	<0.4	0.43	0.48	<0.80	0.65	0.77	0.95	0.5	0.46
Bismuth	mg/kg				0.23	0.30	0.69	0.43	0.38	0.44	0.35	-	-	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg				-	-	-	-	<20	<20	<20	8.1	4.5	4.3	4.2	5.2	5.2	7.9	8.7	7.9	9.3	9.7	6.4
Cadmium	mg/kg	*0.6*	**3.5**		0.25	*0.96*	***8.57***	*1.35*	*1.76*	*2.50*	*1.64*	0.57	*0.9*	0.11	0.12	0.29	0.2	*0.68*	0.26	0.16	0.16	*0.94*	*0.62*
Calcium	mg/kg				3990	10200	23900	14200	9300	8500	8100	4700	5900	3000	2400	5100	3400	7600	5200	6400	5500	14000	17000
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		*39.0*	*49.2*	*56.3*	*46.1*	35.6	33.9	36.6	35	*38*	27	22	25	31	*45*	*42*	*50*	*42*	*49*	*57*
Cobalt	mg/kg				11.4	33.1	28.0	45.1	24.1	31.3	21.7	16	18	7.3	5.6	9.4	9.2	27	18	14	12	55	36
Copper	mg/kg	*35.7*	**197**		*68.3*	***382***	***449***	***456***	***924***	***1108***	***826***	*150*	***260***	19	15	30	25	***200***	*75*	*54*	26	***360***	***280***
Gallium	mg/kg				-	-	-	-	4.20	3.80	4.50	-	-	-	-	-	-	-	-	-	-	-	-
Gold	mg/kg				-	-	-	-	5.81	5.49	4.14	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg				26800	32700	70000	31500	27300	24700	27000	25000	31000	14000	12000	16000	19000	31000	29000	31000	31000	36000	38000
Lanthanum	mg/kg				-	-	-	-	24.0	26.2	24.1	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	*35*	**91.3**		13.6	***117***	***546***	***126***	***173***	***138***	***162***	*55*	*91*	6.1	4.6	8	6.9	*71*	18	13	11	***97***	75
Lithium	mg/kg				28.7	29.7	24.4	26.7	-	-	-	23	24	18	16	16	21	31	32	38	37	28	33
Magnesium	mg/kg				8440	12500	17000	11000	8000	7100	7900	8600	10000	5300	4400	5300	6200	11000	10000	12000	11000	12000	16000
Manganese	mg/kg				341	379	674	365	271	229	264	270	330	170	130	210	240	380	360	400	430	450	540
Mercury	mg/kg	*0.17*	**0.486**		0.018	0.15	***0.60***	0.17	*0.18*	*0.21*	*0.20*	0.11	0.094	<0.05	<0.05	<0.05	<0.05	0.14	<0.050	<0.05	<0.05	0.14	0.099
Molybdenum	mg/kg				0.86	1.48	2.42	2.67	2.69	3.43	2.15	0.87	0.91	0.66	0.57	0.92	0.68	2.7	1.1	1.2	1.2	3.7	1.1
Nickel	mg/kg				31.8	80.1	76.4	100	77.1	102	70.9	40	49	20	15	20	23	58	38	36	31	98	85
Phosphorus	mg/kg				466	495	504	549	430	450	430	500	490	450	500	410	470	660	590	590	580	640	520
Potassium	mg/kg				3100	2390	1660	2250	1200	1000	1400	1900	1900	1800	1600	1800	2300	3100	3100	4700	4900	2500	2300
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				-	-	-	-	4.00	4.10	4.20	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg				0.42	1.36	1.11	2.32	1.10	1.20	1.20	0.62	0.65	<0.5	<0.5	0.74	<0.5	<1.0	0.65	<0.5	<0.5	1.6	0.88
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				0.25	5.12	7.13	4.60	4.83	4.69	4.82	1.20	2.2	<1	<1	<1	<1	<2.0	<1.0	<1	<1	2.7	1.9
Sodium	mg/kg				300	270	210	310	280	270	260	200	180	240	170	310	270	350	390	510	540	330	280
Strontium	mg/kg				37.5	29.1	68.4	48.8	37.5	37.6	34.5	22	24	24	17	43	25	46	39	46	51	55	31
Sulphur	mg/kg				-	-	-	-	520	670	510	1200	1600	520	390	2200	810	3000	1500	610	190	5600	3300
Tellurium	mg/kg				-	-	-	-	0.06	0.040	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				0.21	0.17	0.29	0.20	0.17	0.16	0.18	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.60	<0.30	<0.3	<0.3	<0.30	<0.30
Thorium	mg/kg				-	-	-	-	7.20	8.10	8.00	-	-	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg				2.00	2.00	2.00	2.80	-	-	-	<1	<1	<1	<1	<1	<1	<2.0	<1.0	<1	1.1	1.2	<1.0
Titanium	mg/kg				592	520	320	526	370	350	410	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten	mg/kg				-	-	-	-	14.8	11.6	12.9	-	-	-	-	-	-	-	-	-	-	-	-
Uranium	mg/kg				2.33	1.45	0.53	1.85	3.90	4.40	3.50	1.90	1.7	1.8	2.2	3.8	3.1	2.1	2.6	1.9	2.3	2.3	1.3
Vanadium	mg/kg				48.20	57.50	65.70	55.0	38.0	33.0	37.0	40	43	29	23	31	33	46	49	50	47	58	66
Zinc	mg/kg	*123*	**315**		71.30	*280.00*	***2570.00***	***363***	***498***	***670***	***482***	*230*	***320***	43	37	69	58	*220*	90	76	73	***590***	*240*
Extractable Metals																							
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-7: Sediment Chemistry in Baker Creek Outlet

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Reach 1											WL1			WL2	
Station ID					SD 1	SD 1	SD 2	SD 2	SD 2	BCSS-DEP04	BCSS-DEP05	BCSS-DEP04	BCSS-DEP04	BCSS-DEP05	BCSS-DEP05	WL1-0-10	WL1-10-16	WL1-22-56	WL2-0-10	WL2-10-43
Sample type					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample depth					0-5 cm	5-10 cm	0-5 cm	5-10 cm	10-15 cm	0 - 5 cm	0 - 5 cm	5-10 cm	15-20 cm	10-15 cm	20-25 cm	0 - 10 cm	10 - 16 cm	22 - 56 cm	0 - 10 cm	10 - 43 cm
Date		ISQG	PEL		23-Aug-05	23-Aug-05	23-Aug-05	23-Aug-05	23-Aug-05	23-Sep-11	23-Sep-11	23-Sep-11	23-Sep-11	23-Sep-11	23-Sep-11	15-Feb-13	15-Feb-13	15-Feb-13	15-Feb-13	15-Feb-13
Data Source					ies Whitford-AXYS	ies Whitford-AXYS	ies Whitford-AXYS	ies Whitford-AXYS	ies Whitford-AXYS	Golder 2013b	Golder 2013b	Golder 2013b	Golder 2013b	Golder 2013b	Golder 2013b	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015
Physical Parameters																				
Moisture	%				-	-	-	-	-	61.4	62.9	47.9	29.8	48.3	47.1	93	-	25	93	79
Total Organic Carbon	%				3.49	2.17	1.28	1.13	1.22	2.28	3.02	1.63	1.25	3.03	2.45	280000	-	16000	310000	140000
pH	pH				-	-	-	-	-	7.72	7.36	7.30	7.20	7.24	7.44	7.05	-	6.83	6.53	6.73
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	32	-	<0.50	14.8	5.7
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				-	-	-	-	-	0.14	<0.10	1.05	14.4	0.44	0.91	-	-	-	-	-
% Sand	%				-	-	-	-	-	8.68	7.34	6.55	19.4	14.2	15.5	-	-	-	-	-
% Silt	%				-	-	-	-	-	69.9	67.7	72.6	36.8	67.3	63.0	-	-	-	-	-
% Clay	%				-	-	-	-	-	21.2	25.0	19.8	29.5	18.1	20.5	-	-	-	-	-
% Fines (silt + clay)	%				-	-	-	-	-	91.1	92.7	92.4	66.3	85.4	83.5	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																				
Aluminum	mg/kg				21300	25200	22800	27400	25600	14500	15200	16600	20700	16800	18900	6600	15000	13000	7100	16000
Antimony	mg/kg				5.70	2.80	6.30	1.90	0.5	150	206	196	178	198	351	58	110	33	120	200
Arsenic	mg/kg	5.9	**17**	**150**	***1530***	***1100***	***2340***	***904***	***82.8***	***1190***	***1640***	***1590***	***657***	***1710***	***3750***	***1100***	***500***	***270***	***2200***	***1700***
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				83.0	49.0	80.0	157	250	85.5	81.8	93.4	123	91.5	59.4	79	70	76	63	62
Beryllium	mg/kg				0.50	0.40	0.50	0.80	1	0.40	0.44	0.49	0.67	0.53	0.39	<0.80	<0.80	0.47	<0.80	<0.40
Bismuth	mg/kg				<0.5	<0.5	<0.5	<0.5	<0.5	0.25	0.31	0.30	0.29	0.55	0.33	-	-	-	-	-
Boron	mg/kg				-	-	-	-	-	-	-	-	-	-	-	44	18	5.9	33	11
Cadmium	mg/kg	0.6	**3.5**		0.64	0.40	0.85	0.36	0.26	0.79	1.12	1.01	0.50	1.11	1.65	0.97	0.43	0.18	2.5	1.5
Calcium	mg/kg				8250	10200	9630	6690	6050	11300	10600	7070	7560	9020	15800	31000	17000	7600	25000	12000
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	37.3	**90**		57.7	71.5	56.7	65	55	41.3	44.6	45.8	51.7	45.6	52.7	17	45	33	20	49
Cobalt	mg/kg				74.6	56.1	73.8	35.1	19.5	34.2	30.7	38.4	42.0	41.9	64.4	23	11	9.8	48	33
Copper	mg/kg	35.7	**197**		147	171	***290***	184	70	174	***277***	182	162	***381***	***1770***	***1800***	***1800***	170	***820***	***3100***
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg				41600	48200	47100	43300	33300	30400	34200	33700	31700	33800	44400	25000	26000	22000	30000	31000
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	35	**91.3**		86.8	82.9	***145***	45.0	15.1	***107***	***161***	***141***	60.4	***147***	***260***	***130***	***130***	16	36	***120***
Lithium	mg/kg				-	-	-	-	-	24.5	26.0	28.8	36.10	28.5	29.6	<20	22	24	<20	28
Magnesium	mg/kg				13500	19000	16100	14300	11200	9960	11000	10700	12400	11200	16600	5400	11000	9000	6100	12000
Manganese	mg/kg				1800	555	1100	475	300	590	472	690	597	513	647	1000	360	240	400	310
Mercury	mg/kg	0.17	**0.486**		-	-	-	-	-	0.13	0.18	0.17	0.076	0.17	0.25	0.18	0.19	<0.050	0.14	0.24
Molybdenum	mg/kg				2.00	<1	1.00	1.00	1	1.58	1.71	1.03	1.40	1.22	1.34	2.1	2.5	0.71	4.7	5.1
Nickel	mg/kg				84.0	81.8	124	96.9	43.9	67.8	67.8	66.1	99.4	82.0	140	51	59	29	180	170
Phosphorus	mg/kg				440	320	340	350	320	504	566	543	499	573	477	1200	760	480	1200	690
Potassium	mg/kg				-	-	-	-	-	2120	2170	2560	3360	2640	1850	1800	1900	2600	1900	2200
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg				0.60	0.50	1.00	0.80	<0.3	0.78	0.88	0.64	1.94	1.03	2.44	2.7	2.1	<0.50	6.4	7.3
Silicon	mg/kg				190	170	180	160	180	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				1.60	1.60	3.10	1.80	0.7	2.37	3.57	2.91	1.69	4.00	10.5	2.8	24	<1.0	<2.0	15
Sodium	mg/kg				-	-	-	-	-	390	370	370	400	330	220	980	990	410	650	350
Strontium	mg/kg				67	43.0	41.0	60	70	46.9	40.5	30.9	44.3	38.5	31.5	70	36	14	81	50
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	-	-	7200	5900	580	9900	7600
Tellurium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				0.17	0.14	0.20	0.31	0.37	0.19	0.22	0.18	0.23	0.19	0.16	<0.60	<0.60	<0.30	<0.60	<0.30
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg				2.00	2.00	2.00	1.00	1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.1	<1.0	<2.0	1
Titanium	mg/kg				573	667	493	685	821	464	468	572	785	585	397	-	-	-	-	-
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium	mg/kg				-	-	-	-	-	2.06	1.75	1.85	2.11	2.06	1.10	3.6	2.2	1.2	8.5	4.4
Vanadium	mg/kg				71.6	92.3	71.1	80.2	60.3	45.2	47.3	51.1	62.9	52.4	62.7	22	44	34	28	54
Zinc	mg/kg	123	**315**		218	182	302	161	92	228	310	286	160	313	***606***	200	200	84	***320***	***380***
Extractable Metals																				
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	1.90	1.68	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	<0.0050	<0.010	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	0.97	1.94	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	0.27	0.52	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	<0.000050	<0.000050	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	0.69	0.72	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	2.34	3.66	-	-	-	-	-	-	-	-	-

Table B-7: Sediment Chemistry in Baker Creek Outlet

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	WL3		WL5		WL6		WL7		WL8		WL9		WL10	
Station ID					WL3-0-10	WL3-10-34	WL5-0-10	WL5-10-42	WL6-0-10	WL6-10-54	WL7-0-10	WL7-10-41	WL8-0-10	WL8-10-46	WL9-0-10	WL9-10-44	WL10-0-10	WL10-10-50
Sample type					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample depth					0 - 10 cm	10 - 34 cm	0 - 10 cm	10 - 42 cm	0 - 10 cm	10 - 54 cm	0 - 10 cm	10 - 41 cm	0 - 10 cm	10 - 46 cm	0 - 10 cm	10 - 44 cm	0 - 10 cm	10 - 50 cm
Date		ISQG	PEL		13-Feb-15	13-Feb-15	15-Feb-12	15-Feb-12	15-Feb-13	15-Feb-13	15-Feb-14	15-Feb-14	15-Feb-12	15-Feb-12	15-Feb-12	15-Feb-12	15-Feb-11	15-Feb-11
Data Source					Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015	Stantec 2015
Physical Parameters																		
Moisture	%				59	59	82	26	80	39	99	57	85	46	74	38	27	37
Total Organic Carbon	%				36000	41000	210000	30000	110000	22000	87000	38000	190000	24000	110000	17000	18000	25000
pH	pH				6.36	6.12	6.23	6.34	5.70	5.94	7.14	6.41	5.96	5.81	4.83	6.80	5.74	6.34
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				180	83.9	3.0	<0.70	9.1	6.97	-	3660	9.5	2.94	2260	3580	4.3	379
Sulfide	mg/L				-	-	-	-	-	-	0.103	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				-	-	-	-	-	-	-	FINE	-	-	-	-	-	-
% Sand	%				-	-	-	-	-	-	-	7.7	-	-	-	-	-	-
% Silt	%				-	-	-	-	-	-	-	92	-	-	-	-	-	-
% Clay	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																		
Aluminum	mg/kg				17000	18000	13000	20000	15000	14000	8300	16000	9800	17000	16000	17000	14000	14000
Antimony	mg/kg				52	48	200	130	630	340	40	250	320	640	610	160	2.3	240
Arsenic	mg/kg	*5.9*	**17**	**150**	***670***	***730***	***800***	***410***	***2300***	***1700***	***1600***	***2000***	***1700***	***3100***	***2900***	***1400***	*17*	***1400***
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				110	110	72	190	83	58	160	67	59	68	68	82	140	89
Beryllium	mg/kg				0.54	0.56	<0.80	0.75	<1.6	0.41	<0.80	<0.40	<0.80	0.41	0.51	0.44	0.54	<0.4
Bismuth	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg				9.3	8.9	25	7.7	11	3.7	24	8	14	5.3	11	6.2	8.5	5.1
Cadmium	mg/kg	*0.6*	**3.5**		*1*	*1*	*0.86*	0.28	*0.65*	*1.1*	0.55	*0.92*	*0.88*	*1.9*	*0.98*	*0.75*	0.23	*0.85*
Calcium	mg/kg				6200	6300	18000	6100	9800	4700	19000	8300	18000	8400	9600	9200	3500	5900
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		*51*	*52*	*40*	*47*	*40*	34	*48*	*46*	*51*	*45*	*46*	*41*	36	35
Cobalt	mg/kg				17	22	21	14	21	22	52	65	22	38	55	22	10	22
Copper	mg/kg	*35.7*	**197**		***230***	***210***	***2400***	***680***	***580***	***440***	*90*	***590***	***270***	***630***	***540***	***450***	28	***740***
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg				26000	28000	28000	30000	25000	26000	32000	34000	38000	37000	31000	30000	19000	26000
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	*35*	**91.3**		*36*	*37*	***110***	*70*	*70*	***130***	11	***100***	*52*	***230***	***100***	*76*	8.6	***110***
Lithium	mg/kg				27	28	<20	34	<40	21	13	29	<20	25	26	26	25	20
Magnesium	mg/kg				9300	10000	8700	10000	8500	8800	5800	12000	6500	12000	11000	11000	7200	8700
Manganese	mg/kg				250	250	490	290	180	210	3800	320	210	320	220	320	240	280
Mercury	mg/kg	*0.17*	**0.486**		*0.29*	*0.26*	*0.2*	0.098	*0.27*	0.13	0.13	*0.21*	0.13	*0.24*	*0.2*	0.1	0.059	0.11
Molybdenum	mg/kg				1.4	1.2	2.4	1	24	3.8	10	4.9	21	4.4	19	1.5	1	2.4
Nickel	mg/kg				41	46	87	48	87	63	31	110	96	100	140	65	26	66
Phosphorus	mg/kg				610	620	1100	630	800	480	1200	620	1100	470	660	460	550	440
Potassium	mg/kg				3000	3000	2100	3800	2400	1300	5000	2400	2600	1700	1700	1700	2500	1700
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg				<0.50	<0.50	2.8	0.64	7.2	1.3	<1.0	3.1	4.9	2.1	8.6	0.94	0.5	1.4
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				1.6	1.4	5.8	3.1	<4.0	3.5	<2.0	11	<2.0	5.7	3.4	3.8	<1	4.2
Sodium	mg/kg				540	570	880	700	790	340	1400	630	650	440	350	320	280	230
Strontium	mg/kg				24	24	71	39	86	21	64	23	130	30	50	28	25	22
Sulphur	mg/kg				3400	2700	4000	1100	6800	3900	3600	8200	7600	7000	14000	4600	850	4100
Tellurium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				<0.30	<0.30	<0.60	<0.30	<1.2	<0.30	<0.60	<0.30	<0.60	<0.30	<0.30	<0.30	<0.3	<0.3
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg				2.7	2.4	<2.0	1.1	<4.0	<1.0	<2.0	<1.0	<2.0	<1.0	2.1	1.2	<1	<1
Titanium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium	mg/kg				2	2.2	2.9	1.9	6.2	1.5	<2.0	2.3	11	1.8	3.3	1.6	3.2	2.1
Vanadium	mg/kg				42	44	49	49	50	39	24	49	34	51	54	45	37	38
Zinc	mg/kg	*123*	**315**		*240*	*260*	*230*	*170*	*160*	***340***	***370***	*280*	*170*	***510***	*260*	*270*	73	*260*
Extractable Metals																		
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
Concentrations are in milligrams per kilogram dry weight (mg/kg dw), unless noted otherwise.
a) CCME (1998) Canadian sediment quality guidelines.
b) GNWT Remediation Objective for arsenic is based on average natural background concentrations in and around Yellowknife, and was developed for non-residential, publically-accessible areas (i.e., public boat launch) (GNWT 2003).
- = parameter not analyzed; ISQG = interim sediment quality guideline; PEL = probable effects limits; GNWT = Government of Northwest Territories.
Italicized values indicate concentration is above CCME Interim Sediment Quality Guidelines.
Bolded values indicate concentration is above CCME Probable Effects Limits.
Red values indicate concentration is above GNWT Remediation Objective for arsenic.

Table B-8: Sediment Chemistry in Yellowknife Bay

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Yellowknife Bay Near-Field5																			
Station ID					S2	S2	S2	S2	S2	S2	S3	S3	S3	S3	S3	S3	S11	S11	S11	S11	S11	S11	S11	S11
Sample type					Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 1	Rep 2	Rep 3
Sample depth					0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm
Date		ISQG	PEL		26-Oct-12	26-Oct-12	26-Oct-12	21-Jun-13	21-Jun-13	21-Jun-13	27-Oct-12	27-Oct-12	27-Oct-12	25-Jun-13	25-Jun-13	25-Jun-13	27-Oct-12	27-Oct-12	27-Oct-12	27-Oct-12	27-Oct-12	25-Jun-13	25-Jun-13	25-Jun-13
Data Source					Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014
Physical Parameters																								
Moisture	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				1.23	1.24	1.1	1.48	1.35	1.44	1.28	1.41	1.41	1.38	1.62	1.61	1.38	1.31	1.44	1.32	1.42	1.58	1.6	1.58
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				<0.10	0.11	0.1	<0.10	0.11	<0.10	0.15	<0.10	0.11	0.11	<0.10	<0.10	0.1	0.11	<0.10	0.12	<0.10	<0.10	<0.10	0.1
Total Carbon by Combustion	%				1.2	1.3	1.2	1.5	1.5	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.5	1.4	1.4	1.4	1.4	1.6	1.6	1.7
Total Nitrogen	mg/kg				0.192	0.212	0.205	-	-	-	0.233	0.259	0.228	-	-	-	0.229	0.226	0.231	0.234	0.225	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				<0.80	0.91	0.87	<0.80	0.93	<0.80	1.26	<0.80	0.96	0.92	0.82	<0.80	0.84	0.93	0.83	0.96	<0.80	0.81	<0.80	0.86
% Gravel	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand	%				12.2	12.2	10.2	0.79	0.43	0.59	41	45.4	44.2	0.29	1.59	0.15	48.2	44	43.8	47.4	46.4	<0.10	0.12	0.28
% Silt	%				46.8	50.8	49.2	64.3	84.6	62.2	44.6	41	42.2	56.9	70.5	53.3	39.2	42	41.8	40.4	41.6	63	54	71.8
% Clay	%				41	37	40.6	34.9	15	37.2	14.4	13.6	13.6	42.8	27.9	46.6	12.6	14	14.4	12.2	12	36.9	45.9	27.9
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				Silty clay	Silty clay loam	Silty clay	Silty clay loam	Silt loam	Silty clay loam	Loam	Loam	Loam	Silty clay	Silt loam / Silty clay loam	Silty clay	Loam	Loam	Loam	Loam	Loam	Silty clay loam	Silty clay	Silt loam / Silty clay loam
Metals																								
Aluminum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg				56.5	63.5	71.3	-	-	-	10.1	10.7	9.67	-	-	-	9.6	9.29	10.2	10.1	12.3	-	-	-
Arsenic	mg/kg	*5.9*	**17**	**150**	***729***	***881***	***872***	-	-	-	***677***	***667***	***645***	-	-	-	***667***	***564***	***564***	***724***	***616***	-	-	-
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				199	198	199	-	-	-	262	261	274	-	-	-	248	241	246	267	269	-	-	-
Beryllium	mg/kg				<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	-
Bismuth	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	*0.6*	**3.5**		*1*	*1*	*1*	-	-	-	<0.50	<0.50	<0.50	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-
Calcium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		*51*	*46*	*48*	-	-	-	*45*	*47*	*48*	-	-	-	*45*	*44*	*45*	*52*	*50*	-	-	-
Cobalt	mg/kg				19	19	20	-	-	-	16	16	16	-	-	-	15	15	15	17	17	-	-	-
Copper	mg/kg	*35.7*	**197**		*185*	***198***	***231***	-	-	-	*62*	*69*	*66*	-	-	-	*50*	*51*	*60*	*55*	*76*	-	-	-
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg				36700	35700	35700	-	-	-	35800	36100	37400	-	-	-	34500	32800	34100	40400	38300	-	-	-
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	*35*	**91.3**		***97***	***98***	***112***	-	-	-	25	25	24	-	-	-	23	24	24	25	27	-	-	-
Lithium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg				1120	2190	1560	-	-	-	2330	2050	2470	-	-	-	2280	2470	2050	2440	1960	-	-	-
Mercury	mg/kg	*0.17*	**0.486**		0	0	0	-	-	-	0	0	0	-	-	-	<0.050	0	0	0	0	-	-	-
Molybdenum	mg/kg				1	1	1	-	-	-	2	1	1	-	-	-	1	2	1	2	1	-	-	-
Nickel	mg/kg				43	43	45	-	-	-	37	38	40	-	-	-	36	36	36	41	43	-	-	-
Phosphorus	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg				1	1	1	-	-	-	1	1	1	-	-	-	1	1	1	1	1	-	-	-
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				2	3	3	-	-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	1	-	-	-
Sodium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Strontium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tellurium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				<0.50	<0.50	<0.50	-	-	-	<0.50	<0.50	<0.50	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg				<5.0	<5.0	<5.0	-	-	-	<5.0	<5.0	<5.0	-	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	-	-	-
Titanium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium	mg/kg				4	4	4	-	-	-	4	4	4	-	-	-	4	4	4	4	4	-	-	-
Vanadium	mg/kg				55	49	53	-	-	-	49	50	52	-	-	-	47	47	48	58	61	-	-	-
Zinc	mg/kg	*123*	**315**		*214*	*210*	*235*	-	-	-	116	120	*125*	-	-	-	109	105	112	118	123	-	-	-
Extractable Metals																								
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-8: Sediment Chemistry in Yellowknife Bay

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Yellowknife Bay Near-Field5																		
Station ID					S11	S11	S12	S12	S12	S12	S12	S12	S13	S13	S13	S13	S13	S13	S14	S14	S14	S14	S14
Sample type					Rep 4	Rep 5	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2
Sample depth					0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm
Date		ISQG	PEL		25-Jun-13	25-Jun-13	28-Oct-12	28-Oct-12	28-Oct-12	23-Jun-13	23-Jun-13	23-Jun-13	28-Oct-12	28-Oct-12	28-Oct-12	21-Jun-13	21-Jun-13	21-Jun-13	26-Oct-12	26-Oct-12	27-Oct-12	21-Jun-13	21-Jun-13
Data Source					Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014
Physical Parameters																							
Moisture	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				1.5	1.47	1.39	1.5	1.39	1.48	1.5	1.53	1.38	1.34	1.36	1.6	1.36	1.58	1.42	1.29	1.48	1.45	1.34
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				<0.10	<0.10	0.14	<0.10	0.13	<0.10	0.12	<0.10	0.11	0.13	0.11	<0.10	<0.10	<0.10	0.1	0.14	<0.10	0.1	0.14
Total Carbon by Combustion	%				1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.6	1.4	1.6	1.5	1.4	1.5	1.6	1.5
Total Nitrogen	mg/kg				-	-	0.219	0.232	0.226	-	-	-	0.208	0.201	0.244	-	-	-	0.246	0.278	0.226	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				<0.80	<0.80	1.13	<0.80	1.05	<0.80	0.98	<0.80	0.89	1.09	0.95	<0.80	0.82	<0.80	0.86	1.18	0.8	0.84	1.19
% Gravel	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand	%				0.18	0.11	16.2	18.2	14.2	0.37	0.51	0.16	11.2	14.2	15.2	0.27	0.82	0.3	19.2	8.2	43	0.29	0.3
% Silt	%				51.5	63.3	46.8	46.8	50	55.9	58.9	57.4	51.4	50.8	50	62.9	46.4	60.8	42.2	44.2	42.8	55.6	54.8
% Clay	%				48.3	36.6	37	35	35.8	43.8	40.6	42.5	37.4	35	34.8	36.8	52.8	38.9	38.6	47.6	14.2	44.1	44.9
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				Silty clay	Silty clay loam	Silty clay loam	Silty clay loam	Silty clay loam	Silty clay	Silt Clay loam / Silty clay	Silty clay	Silty clay loam	Silty clay loam	Silty clay loam	Silty clay loam	Silty clay	Silty clay loam	Silty clay loam	Silty clay	Loam	Silty clay	Silty clay
Metals																							
Aluminum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg				-	-	14.4	10.6	10.5	-	-	-	13.4	16	16.2	-	-	-	15.8	18.3	13.1	-	-
Arsenic	mg/kg	*5.9*	**17**	**150**	-	-	***607***	***768***	***802***	-	-	-	***571***	***365***	***343***	-	-	-	***862***	***681***	***764***	-	-
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				-	-	248	270	287	-	-	-	273	295	260	-	-	-	261	248	258	-	-
Beryllium	mg/kg				-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0	-	-
Bismuth	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	*0.6*	**3.5**		-	-	<0.50	<0.50	<0.50	-	-	-	<0.50	<0.50	<0.50	-	-	-	<0.50	<0.50	<0.50	-	-
Calcium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		-	-	*43*	*47*	*50*	-	-	-	*49*	*50*	*51*	-	-	-	*47*	*47*	*50*	-	-
Cobalt	mg/kg				-	-	15	16	17	-	-	-	17	18	18	-	-	-	17	17	17	-	-
Copper	mg/kg	*35.7*	**197**		-	-	*93*	*65*	*66*	-	-	-	*87*	*108*	*106*	-	-	-	*156*	*191*	*120*	-	-
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg				-	-	34800	37800	40100	-	-	-	37200	36000	35300	-	-	-	38900	35400	37300	-	-
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	*35*	**91.3**		-	-	29	25	25	-	-	-	28	31	31	-	-	-	29	30	26	-	-
Lithium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg				-	-	2750	3180	3130	-	-	-	3390	5530	3980	-	-	-	1990	1460	1840	-	-
Mercury	mg/kg	*0.17*	**0.486**		-	-	0	0	0	-	-	-	0	0	0	-	-	-	0	0	0	-	-
Molybdenum	mg/kg				-	-	2	2	2	-	-	-	2	2	2	-	-	-	1	1	1	-	-
Nickel	mg/kg				-	-	36	38	40	-	-	-	41	43	42	-	-	-	44	42	43	-	-
Phosphorus	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg				-	-	1	1	1	-	-	-	1	1	1	-	-	-	1	1	1	-	-
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				-	-	1	<1.0	<1.0	-	-	-	1	1	1	-	-	-	2	2	1	-	-
Sodium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Strontium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tellurium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				-	-	<0.50	<0.50	<0.50	-	-	-	<0.50	<0.50	<0.50	-	-	-	<0.50	<0.50	<0.50	-	-
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg				-	-	<5.0	<5.0	<5.0	-	-	-	<5.0	<5.0	<5.0	-	-	-	<5.0	<5.0	<5.0	-	-
Titanium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium	mg/kg				-	-	4	4	4	-	-	-	4	4	4	-	-	-	4	4	4	-	-
Vanadium	mg/kg				-	-	47	50	52	-	-	-	53	54	53	-	-	-	53	50	51	-	-
Zinc	mg/kg	*123*	**315**		-	-	119	118	119	-	-	-	*130*	*140*	*152*	-	-	-	*138*	*134*	*128*	-	-
Extractable Metals																							
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-8: Sediment Chemistry in Yellowknife Bay

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Yellowknife Bay Near-Field5									Yellowknife Bay Near-Field5									
Station ID					S14	S15	S15	S15	S15	S15	S15	S16	S16	S16	S16	S16	S16	S17	S17	S17	S17	S17	S17
Sample type					Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Sample depth					0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm
Date		ISQG	PEL		21-Jun-13	21-Oct-12	21-Oct-12	26-Oct-12	20-Jun-13	20-Jun-13	20-Jun-13	28-Oct-12	28-Oct-12	28-Oct-12	23-Jun-13	23-Jun-13	23-Jun-13	28-Oct-12	28-Oct-12	28-Oct-12	23-Jun-13	23-Jun-13	23-Jun-13
Data Source					Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014
Physical Parameters																							
Moisture	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				1.62	1.6	1.28	0.88	1.47	1.2	1.16	1.33	1.45	1.26	1.42	1.59	1.38	2.41	1.23	1.39	1.4	1.39	1.37
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				<0.10	<0.10	0.15	0.13	0.12	0.11	0.12	0.11	<0.10	0.1	<0.10	<0.10	<0.10	<0.10	0.13	0.11	<0.10	<0.10	0.2
Total Carbon by Combustion	%				1.6	1.6	1.4	1	1.6	1.3	1.3	1.4	1.4	1.4	1.4	1.6	1.4	2.4	1.4	1.5	1.4	1.4	1.6
Total Nitrogen	mg/kg				-	0.146	0.142	0.111	-	-	-	0.226	0.227	0.178	-	-	-	0.367	0.229	0.216	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				<0.80	<0.80	1.24	1.08	1.01	0.88	0.97	0.93	<0.80	0.86	<0.80	<0.80	<0.80	<0.80	1.05	0.9	<0.80	<0.80	1.65
% Gravel	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand	%				0.25	15	9	8.2	1.38	1.06	2.05	14.2	19.2	12.2	0.34	0.45	0.27	18.2	18.2	20.2	0.29	0.36	0.33
% Silt	%				51.7	57.8	58	58.8	66.2	67.4	69	57.8	52.2	57.8	65.8	64.7	45.7	55.4	54.8	55.8	67.1	64	67.4
% Clay	%				48.1	27.2	33	33	32.4	31.6	28.9	28	28.6	30	33.9	34.9	54	26.4	27	24	32.6	35.6	32.3
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				Silty clay	Silt loam / Silty clay loam	Silty clay loam	Silty clay loam	Silty clay loam	Silty clay loam	Silty clay loam	Silty clay loam	Silty clay loam	Silty clay loam	Silty clay loam	Silty clay loam	Silty clay	Silt loam	Silt loam / Silty clay loam	Silt loam	Silty clay loam	Silty clay loam	Silty clay loam
Metals																							
Aluminum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg				-	59.5	106	61.4	-	-	-	15.1	17.4	17.9	-	-	-	15.8	19.3	13.3	-	-	-
Arsenic	mg/kg	*5.9*	**17**	**150**	-	***1980***	***1750***	***1470***	-	-	-	***1510***	***1690***	***1870***	-	-	-	***679***	***798***	***910***	-	-	-
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				-	164	151	133	-	-	-	233	242	251	-	-	-	194	186	192	-	-	-
Beryllium	mg/kg				-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0	-	-	-
Bismuth	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	*0.6*	**3.5**		-	<0.50	*1*	<0.50	-	-	-	<0.50	<0.50	<0.50	-	-	-	<0.50	<0.50	<0.50	-	-	-
Calcium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		-	*49*	*51*	*46*	-	-	-	*49*	*47*	*50*	-	-	-	*47*	*49*	*47*	-	-	-
Cobalt	mg/kg				-	23	23	22	-	-	-	17	17	17	-	-	-	15	15	16	-	-	-
Copper	mg/kg	*35.7*	**197**		-	*108*	***229***	*111*	-	-	-	*56*	*73*	*93*	-	-	-	*91*	*101*	*67*	-	-	-
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg				-	37300	37500	33900	-	-	-	37800	38400	38900	-	-	-	35100	34700	37500	-	-	-
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	*35*	**91.3**		-	*67*	***115***	*62*	-	-	-	30	32	33	-	-	-	31	34	29	-	-	-
Lithium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg				-	1160	695	720	-	-	-	2570	2600	3200	-	-	-	1140	1030	1370	-	-	-
Mercury	mg/kg	*0.17*	**0.486**		-	0	0	0	-	-	-	0	<0.050	0	-	-	-	0	0	0	-	-	-
Molybdenum	mg/kg				-	<1.0	<1.0	<1.0	-	-	-	1	1	1	-	-	-	<1.0	<1.0	<1.0	-	-	-
Nickel	mg/kg				-	54	58	49	-	-	-	41	40	41	-	-	-	39	39	38	-	-	-
Phosphorus	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg				-	1	1	1	-	-	-	1	1	1	-	-	-	1	1	1	-	-	-
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				-	2	2	2	-	-	-	<1.0	<1.0	1	-	-	-	1	1	<1.0	-	-	-
Sodium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Strontium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tellurium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				-	<0.50	<0.50	<0.50	-	-	-	<0.50	<0.50	<0.50	-	-	-	<0.50	<0.50	<0.50	-	-	-
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg				-	<5.0	<5.0	<5.0	-	-	-	<5.0	<5.0	<5.0	-	-	-	<5.0	<5.0	<5.0	-	-	-
Titanium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium	mg/kg				-	4	4	3	-	-	-	4	4	4	-	-	-	4	4	4	-	-	-
Vanadium	mg/kg				-	52	54	51	-	-	-	50	49	52	-	-	-	49	49	48	-	-	-
Zinc	mg/kg	*123*	**315**		-	*155*	*248*	*155*	-	-	-	120	*125*	*130*	-	-	-	*126*	*133*	118	-	-	-
Extractable Metals																							
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-8: Sediment Chemistry in Yellowknife Bay

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Historic Contamination5						Historic Contamination5													
Station ID					S20	S20	S20	S21	S21	S21	S21	S21	S21	S22	S22	S22	ND1A	ND1B	ND1C	ND2A	ND2B	ND2C	ND3A	ND3B
Sample type					Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2
Sample depth		ISQG	PEL		0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Date					28-Jun-13	28-Jun-13	28-Jun-13	28-Oct-12	28-Oct-12	28-Oct-12	29-Jun-13	29-Jun-13	29-Jun-13	28-Jun-13	28-Jun-13	28-Jun-13	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14
Data Source					Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015
Physical Parameters																								
Moisture	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				<0.10	0.46	0.41	1.28	0.77	0.82	0.48	0.74	0.52	0.4	0.3	0.73	0.7	0.3	0.4	0.2	1.1	0.9	0.7	0.3
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				3.31	3.09	2.92	0.55	0.32	0.3	1.22	1.45	2.33	2.41	2.84	2.53	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				3.4	3.6	3.3	1.8	1.1	1.1	1.7	2.2	2.9	2.8	3.1	3.3	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				<0.020	<0.020	<0.020	0.059	0.101	0.102	-	-	-	0.023	0.021	0.027	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				27.6	25.8	24.4	4.58	2.65	2.52	10.2	12.1	19.4	20.1	23.7	21.1	-	-	-	-	-	-	-	-
% Gravel	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand	%				97	74.1	56.3	60.2	58	52	53.1	36.8	42.6	95.7	93.8	90.5	-	-	-	-	-	-	-	-
% Silt	%				2.96	24.8	41.5	32.2	32	37	41.1	55.6	55.6	4.24	6.09	9.45	-	-	-	-	-	-	-	-
% Clay	%				<0.10	1.02	2.24	7.6	10	11	5.81	7.59	1.88	<0.10	<0.10	<0.10	-	-	-	-	-	-	-	-
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				Sand	Loamy sand	Sandy loam	Sandy loam	Sandy loam	Loam / Sandy loam	Sandy loam	Silt loam	Silt loam	Sand	Sand	Sand	-	-	-	-	-	-	-	-
Metals																								
Aluminum	mg/kg				9060	9850	9630	-	-	-	-	-	-	10100	9160	9010	10800	22300	20800	19800	19800	22200	11600	6310
Antimony	mg/kg				49.5	50.3	63.9	42.4	23	23.8	-	-	-	36.4	44.6	39.2	2.69	0.80	1.23	0.32	12.0	1.59	5.11	0.64
Arsenic	mg/kg	*5.9*	**17**	**150**	***953***	***1120***	***1040***	***969***	***530***	***545***	-	-	-	***964***	***989***	***1010***	***32***	***18***	***24***	*7*	***173***	*17*	***85***	*12*
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				3	5	9	30	39	38	-	-	-	11	7	8	85	220	195	187	269	293	118	44
Beryllium	mg/kg				<0.20	<0.20	<0.20	<1.0	<1.0	<1.0	-	-	-	<0.20	<0.20	<0.20	0	1	1	1	1	1	1	0
Bismuth	mg/kg				0	0	0	-	-	-	-	-	-	0	0	0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Boron	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	6	14	13	9	11	13	6	3
Cadmium	mg/kg	*0.6*	**3.5**		1	*1*	*1*	*1*	<0.50	1	-	-	-	0	1	0	0	0	0	0	0	0	0	0
Calcium	mg/kg				60400	67500	56600	-	-	-	-	-	-	43700	52900	48000	2920	4560	4050	4320	4540	5160	3130	1970
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		24	25	26	34	32	35	-	-	-	26	24	23	28	*42*	*40*	*55*	*46*	*47*	29	16
Cobalt	mg/kg				9	9	10	11	8	9	-	-	-	8	9	8	8	12	12	13	15	13	10	4
Copper	mg/kg	*35.7*	**197**		25	26	29	*48*	27	*37*	-	-	-	22	22	25	*40*	29	24	29	*83*	*36*	*42*	8
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg				31900	35400	34500	32800	25900	28500	-	-	-	31600	32000	31100	14600	27900	26300	28100	33300	37000	18000	9190
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	*35*	**91.3**		*47*	*54*	*90*	*55*	*36*	*39*	-	-	-	*38*	*44*	*39*	8	11	10	8	25	14	11	4
Lithium	mg/kg				21	21	20	-	-	-	-	-	-	21	20	21	21	39	38	42	34	36	22	13
Magnesium	mg/kg				28200	31500	27600	-	-	-	-	-	-	23100	26800	24900	5320	9760	9050	10800	8760	8660	5340	2920
Manganese	mg/kg				1170	1360	1210	838	425	535	-	-	-	1080	1190	1090	200	462	544	383	2370	1090	845	245
Mercury	mg/kg	*0.17*	**0.486**		0	0	0	0	0	0	-	-	-	0	0	0	-	-	-	-	-	-	-	-
Molybdenum	mg/kg				1	1	1	<1.0	<1.0	<1.0	-	-	-	0	0	0	0	0	0	0	1	1	1	1
Nickel	mg/kg				21	22	24	25	23	25	-	-	-	21	21	21	20	31	29	34	38	44	25	11
Phosphorus	mg/kg				247	267	236	-	-	-	-	-	-	224	237	227	-	-	-	-	-	-	-	-
Potassium	mg/kg				78	102	208	-	-	-	-	-	-	158	103	136	2040	4800	4330	4660	3820	4270	2070	1000
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	19	43	40	37	35	40	19	10
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg				<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	-	-	-	<0.20	<0.20	<0.20	< 0.5	< 0.5	< 0.5	< 0.5	1	1	< 0.5	< 0.5
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				2	3	3	2	2	2	-	-	-	3	3	3	< 0.1	< 0.1	< 0.1	< 0.1	0	< 0.1	< 0.1	< 0.1
Sodium	mg/kg				<100	<100	<100	-	-	-	-	-	-	<100	<100	<100	240	430	390	470	320	280	230	140
Strontium	mg/kg				28	30	26	-	-	-	-	-	-	20	25	23	18	56	49	25	43	53	23	10
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tellurium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Thallium	mg/kg				<0.050	<0.050	<0.050	<0.50	<0.50	<0.50	-	-	-	<0.050	<0.050	<0.050	0	0	0	0	0	0	0	< 0.1
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg				<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	-	-	-	<2.0	<2.0	<2.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Titanium	mg/kg				34	55	50	-	-	-	-	-	-	58	46	50	-	-	-	-	-	-	-	-
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium	mg/kg				<0.050	<0.050	0	<2.0	<2.0	<2.0	-	-	-	0	0	0	2	3	3	3	4	3	3	2
Vanadium	mg/kg				33	36	35	41	37	40	-	-	-	37	35	34	30	49	46	53	52	59	32	18
Zinc	mg/kg	*123*	**315**		103	110	*142*	*140*	108	*127*	-	-	-	100	104	99	47	68	62	63	110	95	59	23
Extractable Metals																								
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-8: Sediment Chemistry in Yellowknife Bay

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Yellowknife Bay																			
Station ID					ND3C	ND4A	ND4B	ND4C	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4
Sample type					Rep 3	Rep 1	Rep 2	Rep 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample depth		ISQG	PEL		0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0.0-0.5	1.0-1.5	2.0-2.5	3.0-3.5	4.0-4.5	5.0-5.5	6.0-6.5	7.0-7.5	8.0-8.5	9.0-9.5	10-11	11-12	12-13	13-14	14-15	15-16
Date					8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14
Data Source					Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015
Physical Parameters																								
Moisture	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				0.7	1.3	1.2	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Silt	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Clay	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																								
Aluminum	mg/kg				9410	19800	20300	20700	19800	22000	22800	22600	23300	22900	22900	22300	21800	22500	23800	24100	23800	23000	24200	24300
Antimony	mg/kg				2.21	16.3	17.8	17.1	3.24	4.07	4.39	4.77	4.88	5.06	6.74	7.68	10.5	10.3	12.6	16.0	20.5	35.4	60.1	70.3
Arsenic	mg/kg	*5.9*	**17**	**150**	***29***	***277***	***284***	***251***	***188***	***239***	***741***	***506***	***68***	***58***	***55***	***61***	***71***	***84***	***127***	***160***	***169***	***172***	***225***	***253***
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				72	241	253	246	237	270	292	290	279	272	284	267	263	262	277	284	269	256	280	277
Beryllium	mg/kg				0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bismuth	mg/kg				< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Boron	mg/kg				5	11	12	13	13	14	16	16	16	15	14	14	13	15	17	17	17	16	17	17
Cadmium	mg/kg	*0.6*	**3.5**		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	*1*
Calcium	mg/kg				2510	4360	4450	4510	4880	5490	5560	4950	4570	4460	4480	4400	4280	4310	4420	4420	4360	4240	4360	4410
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		25	*47*	*47*	*49*	*43*	*49*	*50*	*50*	*52*	*51*	*51*	*50*	*50*	*51*	*51*	*52*	*52*	*51*	*52*	*51*
Cobalt	mg/kg				6	16	16	17	13	15	16	15	15	16	16	16	16	17	17	18	18	15	19	21
Copper	mg/kg	*35.7*	**197**		20	*112*	*121*	*124*	34	*39*	*40*	*40*	*43*	*45*	*54*	*61*	*76*	*93*	*182*	***247***	***253***	***242***	***281***	***304***
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg				12000	33000	33600	34100	29800	33900	39000	39600	33000	35100	32800	34500	32200	33800	34400	34400	36200	34400	34400	36400
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	*35*	**91.3**		7	32	33	33	16	19	20	20	21	22	24	24	26	27	31	35	*39*	*46*	*57*	*58*
Lithium	mg/kg				18	35	35	36	33	37	39	38	40	39	39	38	37	38	39	39	39	38	39	39
Magnesium	mg/kg				4460	8980	9100	9240	8390	9480	9670	9510	9740	9570	9610	9520	9440	9580	9790	9800	9700	9480	9760	9700
Manganese	mg/kg				167	1110	1480	1100	2030	3700	3680	972	717	827	696	755	648	676	673	664	750	808	633	772
Mercury	mg/kg	*0.17*	**0.486**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Molybdenum	mg/kg				0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
Nickel	mg/kg				17	42	42	43	35	40	40	39	41	42	43	44	42	44	48	50	49	44	54	55
Phosphorus	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/kg				1620	3770	3880	4040	4010	4360	4590	4470	4620	4460	4430	4320	4200	4520	4820	4760	4660	4480	4690	4720
Rubidium	mg/kg				15	35	36	37	35	39	41	40	41	40	39	38	37	38	40	40	39	38	39	40
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg				< 0.5	1	1	1	1	1	1	1	1	< 0.5	1	1	< 0.5	< 0.5	1	< 0.5	1	< 0.5	1	1
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				< 0.1	0	0	1	< 0.1	< 0.1	< 0.1	0	0	0	0	0	1	0	1	1	1	2	2	1
Sodium	mg/kg				190	340	340	350	390	410	410	400	400	400	390	380	370	400	410	410	410	400	400	420
Strontium	mg/kg				15	40	42	43	49	54	57	52	48	47	46	44	42	43	46	47	46	43	46	47
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tellurium	mg/kg				< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Thallium	mg/kg				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg				< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Titanium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium	mg/kg				2	4	4	4	3	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4
Vanadium	mg/kg				26	53	53	55	50	55	58	58	59	58	58	56	55	57	60	61	61	59	62	62
Zinc	mg/kg	*123*	**315**		42	*136*	*132*	*131*	90	101	101	103	109	111	117	115	116	123	*142*	*157*	*166*	*172*	*230*	*279*
Extractable Metals																								
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-8: Sediment Chemistry in Yellowknife Bay

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]																			
Station ID					ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	ND4	YKBAY-1	YKBAY-2	YKBAY-3	YKBS-03	YKBS-03	YKBS-03
Sample type					-	-	-	-	-	-	-	-	-	-	-	-	-	-	Rep 1	Rep 2	Rep 3	-	-	-
Sample depth		ISQG	PEL		16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29	29-30	0-15 cm	0-15 cm	0-15 cm	0.25	0.75	1.25
Date					8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	8-Sep-14	-	-	-	1-Aug-03	1-Aug-03	1-Aug-03
Data Source					Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Nash 2014	Nash 2014	Nash 2014	Andrade 2006	Andrade 2006	Andrade 2006
Physical Parameters																								
Moisture	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Silt	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Clay	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																								
Aluminum	mg/kg				23600	23300	22900	24000	22700	23600	23100	22600	22000	23100	23300	22700	22400	23400	19200	19100	18900	16200	16500	17700
Antimony	mg/kg				76.7	27.9	13.9	7.79	2.20	1.17	1.08	0.85	0.81	0.75	0.67	0.64	0.63	0.73	0.56	0.85	0.76	6	9.8	13
Arsenic	mg/kg	*5.9*	**17**	**150**	***272***	***286***	***291***	***174***	***85***	***45***	***43***	***34***	***31***	***29***	***27***	***28***	***23***	***25***	***39.0***	***46.6***	***41.9***	***601.7***	***656.9***	***114***
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				273	265	248	270	264	283	280	267	254	265	271	266	267	283	219	230	223	181	205	183
Beryllium	mg/kg				1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-
Bismuth	mg/kg				< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.26	0.26	0.24	0.3	0.4	0.4
Boron	mg/kg				16	15	14	16	15	17	16	15	14	15	15	14	14	15	<20	<20	<20	8	8	11
Cadmium	mg/kg	*0.6*	**3.5**		*1*	1	0	0	0	0	0	0	0	0	0	0	0	0	0.10	0.13	0.12	0.3	0.3	0.4
Calcium	mg/kg				4310	4250	4100	4300	4220	4290	4330	4290	4240	4330	4370	4320	4260	4420	5100	5000	4900	4500	4600	4200
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		*51*	*52*	*52*	*53*	*50*	*49*	*49*	*49*	*48*	*49*	*50*	*49*	*48*	*50*	*42.9*	*43.5*	*43.7*	*44.2*	*46.2*	*49*
Cobalt	mg/kg				21	19	17	15	14	13	14	13	13	13	13	14	12	14	13.1	13.3	13.7	17.4	15.5	16.4
Copper	mg/kg	*35.7*	**197**		***218***	*113*	*82*	*52*	35	34	34	31	30	31	32	32	33	34	26.3	27.4	26.7	*44.1*	*49.1*	*62*
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5	7.5	7.6	7	7	7
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.041	0.41	0.018	0.6225	1.2667	2.3437
Iron	mg/kg				33800	34000	35100	32200	32300	32200	32100	31500	31400	31700	31200	31700	29800	31600	28400	30000	29600	38400	42000	32000
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	39.7	42.0	40.7	29	30	30
Lead	mg/kg	*35*	**91.3**		*71*	*42*	*35*	23	14	14	13	12	11	12	12	12	13	14	10.6	10.9	10.8	22.2	23.5	27.3
Lithium	mg/kg				38	39	38	39	38	38	38	37	37	38	38	38	37	38	-	-	-	-	-	-
Magnesium	mg/kg				9760	9880	9750	9880	9190	9150	9060	9200	9060	9220	9300	9260	8960	9210	9800	9800	9700	8800	8800	9500
Manganese	mg/kg				584	560	669	539	612	552	534	512	503	506	498	495	485	513	452	464	467	1083	517	341
Mercury	mg/kg	*0.17*	**0.486**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.048	0.035	0.033	0.06	0.06	0.06
Molybdenum	mg/kg				1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.20	0.30	0.26	1	0.7	0.6
Nickel	mg/kg				53	46	41	39	40	39	40	37	38	37	38	40	37	42	30.4	32.2	32.9	36.1	35.3	42.3
Phosphorus	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	630	640	650	1290	1870	760
Potassium	mg/kg				4550	4530	4320	4680	4490	4720	4540	4420	4300	4550	4560	4400	4340	4520	4400	4400	4400	3200	3300	3500
Rubidium	mg/kg				38	38	37	40	39	41	39	39	37	40	40	38	37	39	-	-	-	-	-	-
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	5.6	5.6	4.4	4.9	5.1
Selenium	mg/kg				1	< 0.5	< 0.5	1	1	1	1	1	< 0.5	< 0.5	1	1	< 0.5	1	<0.1	<0.1	<0.1	0.9	0.7	1
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				1	0	< 0.1	0	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.11	0.21	0.09	0.5	0.5	0.6
Sodium	mg/kg				410	410	400	410	390	390	380	380	370	370	370	360	350	350	430	400	390	320	310	330
Strontium	mg/kg				44	42	41	45	44	48	47	44	42	45	45	43	44	47	38.9	38.5	37.1	39	43	38
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	<200	<200	<200	<500	<500	<500
Tellurium	mg/kg				< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.02	<0.02	0.030	-	-	-
Thallium	mg/kg				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.29	0.27	0.27	0.2	0.2	0.2
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.4	15.1	15.0	9.4	10	10.9
Tin	mg/kg				< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-	-	-	-	-	-
Titanium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	1070	1070	1060	550	540	570
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.20	0.60	0.40	0.5	0.7	0.3
Uranium	mg/kg				4	4	4	4	4	4	5	5	4	5	5	4	4	5	2.3	2.3	2.3	4	3.6	3.7
Vanadium	mg/kg				60	59	59	61	57	60	58	57	55	59	59	57	56	59	45.0	45.0	45.0	49	50	53
Zinc	mg/kg	*123*	**315**		***343***	*217*	*179*	*130*	100	99	100	93	90	91	96	98	98	107	63.5	65.4	67.9	97	101	111
Extractable Metals																								
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-8: Sediment Chemistry in Yellowknife Bay

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]																			
Station ID					YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBS-03
Sample type					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample depth					1.75	2.25	2.75	3.25	3.75	4.25	4.75	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5	13.5	14.5	16	18	20
Date		ISQG	PEL		1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03
Data Source					Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006
Physical Parameters																								
Moisture	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Silt	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Clay	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																								
Aluminum	mg/kg				17800	17400	17100	17800	17100	17000	17300	17200	17400	17300	17300	17300	18600	18100	18100	18200	17500	17100	17600	17800
Antimony	mg/kg				15.3	14.2	13.7	13.9	14.9	15.3	16.1	16.6	21.8	56.9	182.7	251.8	324.4	22.5	1.6	0.6	0.6	0.5	0.4	0.4
Arsenic	mg/kg	*5.9*	**17**	**150**	***70.2***	***62.6***	***70.7***	***97.1***	***118.1***	***142.8***	***369.8***	***584***	***987.3***	***1017.4***	***1309.9***	***937.7***	***911***	***958.9***	***657***	***538.1***	***435.4***	***312.6***	***152.7***	***66.9***
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				175	167	156	170	159	149	159	166	160	155	139	144	167	175	184	194	191	178	185	187
Beryllium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bismuth	mg/kg				0.4	0.3	0.3	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.5	0.6	0.6	0.5	0.3	0.3	0.3	0.3	0.3	0.3
Boron	mg/kg				9	8	8	10	8	8	8	11	9	9	9	9	10	8	8	9	8	8	6	8
Cadmium	mg/kg	*0.6*	**3.5**		0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.6	*1.2*	*2.5*	*2.3*	*1*	0.2	0.3	0.3	0.2	0.3	0.3
Calcium	mg/kg				3900	3700	3600	3800	3700	3700	3800	4400	4300	4100	4000	3500	3900	5000	4100	4100	4100	3800	3900	4100
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		*48.9*	*48.3*	*48.7*	*52*	*48.3*	*48.5*	*49.6*	*48.1*	*48.8*	*50.3*	*52.4*	*51.3*	*54.8*	*54.1*	*49.9*	*48.5*	*45.7*	*48*	*49.1*	*46.6*
Cobalt	mg/kg				18.8	16.8	16.6	16.5	17.9	19.7	18.6	20	21	20.5	20.5	18.5	19.4	26.5	13.6	13	11.2	11.4	10.6	12.6
Copper	mg/kg	*35.7*	**197**		*62.3*	*53.4*	*61.9*	*94.7*	*112.3*	*98.3*	***209.3***	***760.8***	***952.1***	***1114***	***929.2***	***817.3***	***646.4***	*152.4*	33	29.8	29.3	27.8	26.4	27.7
Gallium	mg/kg				7	7	8	7	7	7	7	7	7	7	7	7	8	8	8	8	8	7	8	7
Gold	mg/kg				2.3637	1.403	0.8929	0.9365	0.8401	0.9437	2.1348	2.4154	1.7825	2.4255	3.0532	2.3886	4.5991	1.6267	0.4269	0.3256	0.2109	0.101	0.0118	0.0082
Iron	mg/kg				30600	30900	29900	30400	29600	31100	30400	30500	32000	33200	38900	39700	32200	36100	32200	30100	28900	27300	27300	27700
Lanthanum	mg/kg				31	30	29	30	29	28	28	29	27	27	25	25	26	29	31	32	30	30	31	31
Lead	mg/kg	*35*	**91.3**		26.8	25.8	25	30.6	27.7	31.2	29.4	31.5	*41.9*	*76.4*	***145.3***	***264***	***116.9***	*47*	11.5	10.9	11.8	10.6	10.5	10.9
Lithium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg				9600	9500	9600	9900	9500	9500	9500	9500	9800	9900	10300	10000	11000	10700	9700	9300	8800	8900	9200	9100
Manganese	mg/kg				344	368	319	333	318	315	321	324	335	343	381	369	294	332	325	316	297	295	304	307
Mercury	mg/kg	*0.17*	**0.486**		0.06	0.07	0.06	0.06	0.07	0.07	0.08	0.08	0.1	0.14	*0.23*	*0.3*	*0.21*	0.1	0.03	0.03	0.03	0.02	0.01	0.02
Molybdenum	mg/kg				0.5	0.5	0.6	0.5	0.6	0.7	0.6	1	0.9	0.7	0.9	0.8	1.5	2.4	1.4	1	0.9	0.7	0.8	0.7
Nickel	mg/kg				46.7	39.8	40.6	40.7	44.1	49	49.1	66.1	66.4	61.5	68.2	67.4	68.4	67	36.6	33.4	31.7	29.9	28.5	30.7
Phosphorus	mg/kg				690	860	560	580	550	560	560	590	620	760	1420	1390	550	540	530	550	570	600	600	610
Potassium	mg/kg				3600	3700	3500	3500	3300	3100	3500	3500	3300	3100	3000	2900	3200	3400	3700	3700	3600	3500	3600	3600
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				4.9	4.6	5	5	4.6	4.7	5	4.9	5.2	4.8	5.1	5.1	5.7	5.3	4.9	5	4.9	4.8	4.8	4.9
Selenium	mg/kg				1.1	0.8	<.5	0.8	0.5	0.5	0.7	0.9	1	1.4	0.8	1	0.9	0.7	0.5	0.8	0.6	<.5	0.6	0.6
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				0.7	0.6	0.9	1.7	2.5	1.7	2.8	5.5	5.9	7.3	6.4	6.6	3.3	0.7	0.1	0.1	0.1	0.1	0.1	0.1
Sodium	mg/kg				360	350	320	330	300	290	310	340	320	300	270	280	270	300	320	330	330	330	340	300
Strontium	mg/kg				37	34	31	34	34	32	35	37	38	34	31	30	32	36	38	41	43	37	38	39
Sulphur	mg/kg				<500	<500	<500	<500	600	1100	1300	2200	1700	1400	2000	2100	2200	4900	2500	2300	2700	1500	700	600
Tellurium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2
Thorium	mg/kg				10.6	11.3	10.7	11.6	10.7	10.4	10.9	10.8	10.1	9.6	9.3	9.3	10	11.2	12	11.9	11.7	12.4	12.8	12.5
Tin	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Titanium	mg/kg				630	650	690	680	630	650	640	590	530	510	490	520	580	640	740	680	620	720	730	670
Tungsten	mg/kg				0.3	0.3	0.4	0.3	0.3	0.6	0.3	0.4	0.6	1.9	0.8	0.8	0.9	0.6	0.3	0.2	0.2	0.2	0.2	0.2
Uranium	mg/kg				3.5	3.1	3.4	3.8	3.3	2.8	3.8	3.2	3.5	3.8	3.2	3	3.5	3.9	3.7	4	4.6	4.8	4.9	4.6
Vanadium	mg/kg				52	50	52	53	50	52	51	50	53	54	56	54	59	58	52	53	51	51	52	53
Zinc	mg/kg	*123*	**315**		110	102	102	105	112	113	120	*149*	*168*	*268*	***524***	***1060***	***960***	*196*	83	81	86	77	80	83
Extractable Metals																								
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-8: Sediment Chemistry in Yellowknife Bay

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Yellowknife Bay																			
Station ID					YKBS-03	YKBS-03	YKBS-03	YKBS-03	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04
Sample type					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample depth					22	24	27.5	32.5	0.25	0.75	1.25	1.75	2.25	2.75	3.25	3.75	4.25	4.75	5.5	6.5	7.5	8.5	9.5	11
Date		ISQG	PEL		1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04
Data Source					Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006
Physical Parameters																								
Moisture	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Silt	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Clay	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																								
Aluminum	mg/kg				18000	18000	18400	18600	16300	17300	17500	18000	18300	18500	18500	18600	18500	18100	18100	18400	18000	18900	18400	18700
Antimony	mg/kg				0.3	0.2	0.2	0.3	8.2	9.1	10.7	12.8	12.1	10.7	11.4	10.4	11.5	13.5	18.6	36.3	58.9	137.6	295.4	173
Arsenic	mg/kg	5.9	17	150	41.8	36	21.3	15.7	1083.6	530.1	196	150.4	112.9	97.2	107.6	113.3	114.6	151.3	443.1	952.6	1232.3	1043.8	671.6	661.1
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				189	209	196	200	203	200	183	196	189	182	182	176	176	173	183	186	169	171	168	171
Beryllium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bismuth	mg/kg				0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5
Boron	mg/kg				8	8	8	8	8	8	10	10	8	9	8	6	9	7	9	8	8	8	7	7
Cadmium	mg/kg	0.6	3.5		0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.4	0.3	0.3	0.3	0.2	0.1	0.3	0.4	0.4	0.5	0.9	2.2	1.6
Calcium	mg/kg				4100	4200	4100	4100	4600	4400	4000	4000	4100	3900	3900	3900	3900	3900	4200	4400	4300	4300	3700	4000
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	37.3	90		47.7	49.4	49.5	49.1	44	49.9	50.5	51.7	53.2	55.2	53.6	52.7	54.1	50.6	51.4	52.6	51.3	57.2	56.6	57.1
Cobalt	mg/kg				11	11.8	11.7	12.3	15.8	15.1	15.9	16.9	17.8	17.2	17.1	17.3	18.6	17.9	19.6	19.9	18.8	18.5	20.8	21.7
Copper	mg/kg	35.7	197		26.5	30.1	28.7	27.9	44.6	54.6	58.4	57.5	57.2	54.3	69	88.1	121.8	217.2	589.9	865	863.7	1167.4	760.3	532.7
Gallium	mg/kg				7	7	7	8	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7
Gold	mg/kg				0.0022	0.0044	0.0046	0.0048	0.6268	1.0376	1.5573	1.4851	1.1427	0.7844	0.8616	0.7041	0.6699	1.1136	2.3046	2.4246	2.2019	2.0276	3.7676	3.1262
Iron	mg/kg				28000	28100	28700	29000	44400	36900	31800	32100	32400	32800	32800	33000	34100	33900	32900	34100	33700	41200	39000	35900
Lanthanum	mg/kg				31	31	33	32	29	30	30	31	31	31	31	29	30	30	30	29	27	28	27	27
Lead	mg/kg	35	91.3		11.3	12.4	10.9	10.8	23.5	26.3	25.9	27.8	27.1	28.2	28.2	27	28.9	29.5	31.7	49	64.7	119.6	190.2	90.4
Lithium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg				9300	9200	9500	9500	8800	9200	9200	9500	9900	10200	10300	10200	10000	9900	9900	10200	10100	11000	10500	10800
Manganese	mg/kg				310	308	324	320	898	498	404	388	372	369	364	354	376	377	353	350	339	404	385	336
Mercury	mg/kg	0.17	0.486		0.02	0.02	0.01	0.01	0.05	0.05	0.07	0.08	0.05	0.05	0.06	0.05	0.08	0.06	0.09	0.1	0.12	0.19	0.29	0.19
Molybdenum	mg/kg				0.8	1	0.8	0.9	1	0.7	0.7	0.6	0.6	0.6	0.5	0.6	0.7	0.6	0.9	1.1	1	1.1	1.2	1.3
Nickel	mg/kg				29.8	33.2	32.2	31.3	31.6	35.9	39.3	41.3	43.3	39.7	42.9	42.1	48.1	50.6	63.6	69.9	61.5	70.6	76.9	72.6
Phosphorus	mg/kg				590	590	620	590	1980	1450	830	780	730	730	670	610	860	1000	790	750	720	1430	1440	810
Potassium	mg/kg				3700	3800	3600	3800	3400	3500	3600	3900	3900	3700	3800	3700	3800	3600	3600	3700	3400	3300	3300	3400
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				5	5.3	5.3	5.1	4.6	4.8	5	5	5.3	5.1	5.3	5	5.2	5	5.1	5.2	5.3	5.5	5.6	5.6
Selenium	mg/kg				0.6	0.7	0.5	0.6	0.9	0.9	1	0.9	0.8	0.6	0.5	0.5	0.5	0.6	1.2	1.3	1.9	0.9	1.6	1.1
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				0.1	0.1	0.1	0.1	0.6	0.5	0.6	0.7	0.7	0.7	1.3	1.7	2.6	3.1	5.1	8.4	10.1	7.9	6.1	3.1
Sodium	mg/kg				320	320	330	330	350	330	340	350	370	350	340	320	330	330	360	350	310	320	300	280
Strontium	mg/kg				40	42	40	37	44	42	38	41	37	36	35	35	37	35	37	39	36	36	34	33
Sulphur	mg/kg				700	1300	700	1100	<500	<500	<500	<500	900	<500	<500	<500	700	600	1200	2100	1900	2100	2100	2300
Tellurium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2
Thorium	mg/kg				12.8	12.6	12.5	13.5	10.1	10.1	9.9	10.9	11.1	11.5	11.3	11	10.8	11.1	10.8	10.6	9.6	10.3	9.7	10
Tin	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Titanium	mg/kg				720	630	690	750	560	580	600	650	680	720	720	670	690	640	630	570	520	510	570	600
Tungsten	mg/kg				0.1	0.1	0.1	0.2	0.7	0.6	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	1.1	1.5	0.8	0.7	0.7
Uranium	mg/kg				5	4.2	4.4	4.7	3.8	3.9	3.7	3.7	3.7	4.1	3.7	3.9	3.3	3.4	3.4	3.8	3.9	3.2	3.5	3.5
Vanadium	mg/kg				51	55	53	54	47	51	52	54	52	53	54	51	54	51	52	54	54	55	58	59
Zinc	mg/kg	123	315		82	90	85	82	99	101	103	106	110	106	107	112	114	121	141	182	228	528	1129	709
Extractable Metals																								
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-8: Sediment Chemistry in Yellowknife Bay

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]											
Station ID					YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04	YKBW-04
Sample type					-	-	-	-	-	-	-	-	-	-	-
Sample depth					13	15	17	19	21	23	25	27	29	32.5	37.5
Date		ISQG	PEL		1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04	1-Apr-04
Data Source					Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006
Physical Parameters															
Moisture	%				-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				-	-	-	-	-	-	-	-	-	-	-
pH	pH				-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				-	-	-	-	-	-	-	-	-	-	-
% Sand	%				-	-	-	-	-	-	-	-	-	-	-
% Silt	%				-	-	-	-	-	-	-	-	-	-	-
% Clay	%				-	-	-	-	-	-	-	-	-	-	-
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-
Metals															
Aluminum	mg/kg				18500	18200	18400	18000	18500	18800	18300	18400	18600	18700	18100
Antimony	mg/kg				3.1	0.3	0.7	0.2	0.5	0.3	0.2	0.2	0.2	0.2	0.2
Arsenic	mg/kg	*5.9*	**17**	**150**	***378.7***	***248***	***293***	***118.7***	***89***	***37.6***	***41.6***	***24.7***	***19.3***	*17*	*13.4*
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				201	195	206	210	201	209	208	201	205	200	209
Beryllium	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Bismuth	mg/kg				0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Boron	mg/kg				9	10	7	8	9	8	7	9	8	9	8
Cadmium	mg/kg	*0.6*	**3.5**		0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3
Calcium	mg/kg				4300	4000	4200	4000	4100	4100	4100	4000	4000	4000	3900
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		*53.6*	*50*	*51.2*	*51.3*	*50*	*50.2*	*47.9*	*48.4*	*47.6*	*51.6*	*46.7*
Cobalt	mg/kg				15.4	11.2	12.8	11.8	14.1	11.3	12.2	11.2	11.7	11.8	11.6
Copper	mg/kg	*35.7*	**197**		*44.9*	26.1	30.4	28	29.2	29.8	29.9	26.5	26.3	26	28.5
Gallium	mg/kg				7	7	7	7	7	7	7	7	7	7	7
Gold	mg/kg				0.3708	0.0207	0.1855	0.0029	0.0108	0.005	0.0015	<.5	0.0007	0.0016	<.5
Iron	mg/kg				36000	29400	32800	29800	31000	30000	30100	29900	30900	30500	29600
Lanthanum	mg/kg				32	32	32	33	32	32	32	32	32	33	31
Lead	mg/kg	*35*	**91.3**		14.3	10.6	11.5	10.4	10.9	11.2	11.1	10.5	10.4	9.9	10.4
Lithium	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg				9800	9300	9400	9200	9400	9500	9200	9300	9500	9600	9000
Manganese	mg/kg				335	307	329	311	325	318	319	322	347	329	317
Mercury	mg/kg	*0.17*	**0.486**		0.04	0.02	0.03	0.03	0.02	0.02	0.03	0.02	0.02	0.02	0.03
Molybdenum	mg/kg				1.6	0.7	0.8	0.8	0.8	0.8	1.1	0.6	0.6	0.7	0.8
Nickel	mg/kg				43.4	32.4	34.6	33.5	34.2	32.5	35.1	32.8	33.5	33.3	35.2
Phosphorus	mg/kg				650	620	700	610	700	590	660	700	840	660	630
Potassium	mg/kg				4000	3900	3800	3800	3700	3700	3700	3700	3600	3900	3500
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				5	5.2	5.2	5.1	5.2	5.3	5.2	5	5	5.2	4.9
Selenium	mg/kg				0.7	0.8	0.9	0.8	0.7	0.8	0.9	0.5	0.7	0.6	0.9
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Sodium	mg/kg				360	340	340	320	320	310	310	320	320	320	310
Strontium	mg/kg				40	39	42	40	41	40	42	39	40	38	38
Sulphur	mg/kg				4400	1100	2800	800	1400	900	1300	800	<500	1300	1100
Tellurium	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Thorium	mg/kg				11.7	12.2	11.9	11.5	11.6	11.7	11.4	11.8	12	11.9	11.2
Tin	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Titanium	mg/kg				750	730	700	700	670	650	610	670	690	760	590
Tungsten	mg/kg				0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Uranium	mg/kg				3.9	5.2	4.8	4.8	5	4.5	4.5	4.6	4.4	4.8	4.5
Vanadium	mg/kg				54	51	52	52	51	52	54	51	52	53	50
Zinc	mg/kg	*123*	**315**		94	77	85	80	84	86	89	83	84	80	85
Extractable Metals															
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-

Notes:
a) CCME (1998) Canadian sediment quality guidelines.
b) GNWT Remediation Objective for arsenic is based on average natural background concentrations in and around Yellowknife, and was developed for non-residential, publically-accessible areas (i.e., public boat launch) (GNWT 2003).
Concentrations are in milligrams per kilogram dry weight (mg/kg dw), unless noted otherwise.
- = parameter not analyzed; ISQG = interim sediment quality guideline; PEL = probable effects limits; GNWT = Government of Northwest Territories.
Italicized values indicate concentration is above CCME Interim Sediment Quality Guidelines.
Bolded values indicate concentration is above CCME Probable Effects Limits.
Red values indicate concentration is above GNWT Remediation Objective for arsenic.

Table B-9: Sediment Chemistry in Reference Areas

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Yellowknife River Reference																					
Station ID					BCSS-DEP28	BCSS-DEP29	BCSS-DEP30	BCSS-DEP28	BCSS-DEP29	BCSS-DEP29	BCSS-DEP30	BCSS-DEP30	R01	R02	R03	R04	R05	R06	R06	R06	R07	R07	R07	R08	R08	R09
Sample type					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample depth		ISQG	PEL		0 - 5 cm	0 - 5 cm	0 - 5 cm	5-10 cm	5-10 cm	10-15 cm	5-10 cm	10-15 cm	surface	surface	surface	surface	surface	surface	surface	surface	surface	surface	surface	surface	surface	surface
Date					4-Oct-11	4-Oct-11	4-Oct-11	4-Oct-11	4-Oct-11	4-Oct-11	4-Oct-11	4-Oct-11	2004	2004	2004	2004	2004	2004	2006	2010	2004	2006	2010	2004	2006	2004
Data Source					Golder 2013b	Golder 2013b	Golder 2013b	Golder 2013b	Golder 2013b	Golder 2013b	Golder 2013b	Golder 2013b	Golder 2005	Golder 2005	Golder 2005	Golder 2005	Golder 2005	Golder 2005	Golder 2006	Golder 2010	Golder 2004	Golder 2006	Golder 2010	Golder 2004	Golder 2006	Golder 2004
Physical Parameters																										
Moisture	%				35.6	48.4	37.7	25.6	32.3	29.5	22.3	19.5	50	-	57.1	-	51.7	-	27.9	33.7	-	31	43.2	51.7	20.2	-
Total Organic Carbon	%				0.94	1.60	1.23	0.63	0.99	0.77	0.17	0.13	0.563	1.14	1.68	1.38	1.44	0.94	0.31	-	0.545	0.45	-	1.34	0.47	3.12
pH	pH				6.74	6.31	6.55	5.60	5.34	5.10	5.70	5.57	-	-	-	-	-	-	-	6.9	-	-	6.96	-	-	-
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	0.5	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				0.10	<0.10	0.66	<0.10	<0.10	0.14	<0.10	<0.10	1.2	<0.10	15.5	0.9	1.1	0.5	<0.10	<0.10	0.9	<0.10	1.61	1	<0.10	<0.10
% Sand	%				22.8	5.82	14.2	28.2	2.60	2.36	6.70	14.4	30.3	10.1	10.6	14.1	8.1	25.4	46.6	58.36	7.8	5.7	12.89	32.4	47.1	1.2
% Silt	%				69.3	77.1	60.6	61.3	59.6	51.3	53.0	58.6	27.2	59.3	40.3	57.8	64.4	58.3	47.6	38.1	58.7	61.3	70	52.8	45.1	48.2
% Clay	%				7.86	17.1	24.5	10.5	37.8	46.2	40.3	27.0	41.3	30.6	33.6	27.2	26.4	15.8	5.8	3.54	32.6	33	15.5	13.8	7.8	50.6
% Fines (silt + clay)	%				77.2	94.2	85.1	71.8	97.4	97.5	93.3	85.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																										
Aluminum	mg/kg				5710	6200	12300	6830	16600	19100	16500	13400	27700	21300	18900	20600	17000	10900	-	4910	16300	-	10900	11800	-	24100
Antimony	mg/kg				0.11	0.12	0.23	0.99	0.81	1.02	0.39	0.45	<20	<20	<20	<20	<20	<20	-	5	<20	-	5	<20	-	23
Arsenic	mg/kg	*5.9*	**17**	**150**	5.39	2.52	5.43	*10.1*	*8.28*	*9.84*	*6.58*	*6.69*	*8.5*	*6.4*	*6*	*6.5*	5.6	*8.8*	-	*8.5*	5.1	2.5	2.5	***37***	5.8	***91.3***
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				39.7	50.1	108	51.6	160	196	165	124	187	127	126	121	98.4	60.9	-	26.1	100	-	72.2	62.7	-	143
Beryllium	mg/kg				0.24	0.27	0.53	0.32	0.69	0.85	0.86	0.61	1.11	0.88	0.78	0.85	0.7	<0.50	-	0.25	0.67	-	0.25	<0.50	-	0.97
Bismuth	mg/kg				<0.20	<0.20	<0.20	<0.20	0.28	0.30	0.31	0.23	<20	<20	<20	<20	<20	<20	-	10	<20	-	10	<20	-	<20
Boron	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	*0.6*	**3.5**		<0.050	0.076	0.096	00.056	0.19	0.21	0.20	0.16	*<2.0*	*<2.0*	*<2.0*	*<2.0*	*<2.0*	*<2.0*	-	0.25	*<2.0*	-	0.25	*<2.0*	-	*<2.0*
Calcium	mg/kg				1810	1680	2870	1920	3390	3570	3480	3080	5250	4740	3810	5110	3920	3050	-	1630	4040	-	2980	3740	-	4610
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		15.8	16.1	30.7	19.9	*41.2*	*44.9*	*40.5*	32.4	*54.2*	*43.4*	36.8	*42.2*	35.3	24.9	-	13.2	35.9	-	27.9	28.6	-	*50.8*
Cobalt	mg/kg				4.23	3.92	7.63	5.50	9.66	11.2	10.3	8.29	11.8	8.7	8.4	8.5	7.1	5.2	-	3.3	8.4	-	6.6	6.1	-	10.9
Copper	mg/kg	*35.7*	**197**		7.67	9.27	18.4	10.2	22.4	25.2	21.9	17.2	24.2	16.5	16.9	17.1	13.3	8.9	-	4.5	14.5	-	10.6	22.2	-	*100*
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg				8910	9170	17900	10300	21900	24400	22600	17400	28900	21400	18800	20800	18200	12600	-	7320	19300	-	14500	15200	-	27100
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	*35*	**91.3**		4.00	3.79	9.35	05.1	8.96	9.69	10.9	7.91	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	-	15	*<50*	-	15	*<50*	-	*<50*
Lithium	mg/kg				11.1	11.5	23.2	13.4	29.6	34.5	28.4	23.2	42.1	30.7	26.4	32.1	25.6	19.6	-	11.4	27.7	-	21.2	20.5	-	38.6
Magnesium	mg/kg				2830	3100	5840	3360	7630	8670	7460	5810	11300	7000	6460	7850	6560	4560	-	2470	6670	-	5150	5080	-	9760
Manganese	mg/kg				121	108	204	137	249	295	247	205	296	240	226	253	233	197	-	153	292	-	252	274	-	474
Mercury	mg/kg	*0.17*	**0.486**		0.006	0.007	0.012	00.007	0.014	0.014	0.014	0.012	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Molybdenum	mg/kg				<0.50	<0.50	0.53	<0.50	0.70	0.83	0.97	0.59	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	-	2	<4.0	-	2	<4.0	-	<4.0
Nickel	mg/kg				10.0	10.9	21.2	12.2	27.3	31.3	27.9	21.6	32.4	22	20.8	21.8	18	12.4	-	7.2	19.5	-	14.8	15	-	29.4
Phosphorus	mg/kg				337	245	448	411	495	519	572	499	648	588	482	570	540	459	-	368	419	-	488	541	-	636
Potassium	mg/kg				900	1190	2380	1060	3090	3820	3390	2670	7740	5200	5050	5520	4190	2450	-	690	3900	-	1930	2380	-	5720
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg				<0.20	<0.20	<0.20	<0.20	0.36	0.45	0.25	0.23	<50	<50	<50	<50	<50	<50	-	1	<50	-	1	<50	-	<50
Silicon	mg/kg				-	-	-	-	-	-	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	1	<2.0	-	1	<2.0	-	<2.0
Silver	mg/kg				<0.10	<0.10	<0.10	<0.10	<0.10	0.12	0.14	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	mg/kg				120	120	240	150	340	400	310	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Strontium	mg/kg				11.0	13.7	27.0	11.6	33.0	38.4	42.4	32.8	58.1	44	43.1	41.9	35.2	21.4	-	7.62	31.7	-	18.1	23.8	-	46.5
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tellurium	mg/kg				-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	-	0.5	<50	-	0.5	<50	-	<50
Thallium	mg/kg				0.072	0.09	0.17	00.1	0.25	0.29	0.24	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg				<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<10	<10	<10	<10	-	2.5	<10	-	2.5	<10	-	<10
Titanium	mg/kg				345	328	669	362	759	849	845	695	935	1000	877	1220	1090	707	-	270	805	-	566	886	-	1150
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium	mg/kg				2.01	1.75	3.13	02.5	3.00	2.51	4.35	3.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg				17.2	18.2	34.5	21.0	45.2	50.5	45.1	36.7	64.6	52.7	46.4	52.8	43.7	29.4	-	12.9	43.3	-	27.7	33.2	-	59.3
Zinc	mg/kg	*123*	**315**		19.4	23.8	42.6	24.0	59.0	65.1	56.4	44.2	65.1	49.2	45.5	50.9	43.7	29.6	-	16.4	44.6	-	33.7	48.1	-	*146*
Extractable Metals																										
Arsenic (As)-Extractable	mg/kg				0.053	<0.030	0.038	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				<0.0050	<0.0050	<0.0050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				0.113	0.209	0.192	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				<0.020	0.031	0.039	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				<0.000050	<0.000050	<0.000050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				<0.050	0.097	0.085	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				0.091	0.211	0.167	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-9: Sediment Chemistry in Reference Areas

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Yellowknife River Reference									Horseshoe Island Bay Reference												
Station ID					R09	R10	R10	R15	R16	R17	R17	R18	R19	S24	S24	S24	S24	S24	S24	S24	S24	DE1A	DE1B	DE1C	DE2A	DE2B
Sample type					-	-	-	-	-	-	-	-	-	Rep 3	Rep 4	Rep 5	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2
Sample depth					surface	surface	surface	surface	surface	surface	surface	surface	surface	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 5 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Date		ISQG	PEL		2006	2004	2006	2004	2006	2006	2010	2010	2010	27-Oct-12	27-Oct-12	27-Oct-12	22-Jun-13	22-Jun-13	27-Jun-13	27-Jun-13	27-Jun-13	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14
Data Source					Golder 2006	Golder 2004	Golder 2006	Golder 2004	Golder 2006	Golder 2006	Golder 2010	Golder 2010	Golder 2010	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Stantec 2014	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015
Physical Parameters																										
Moisture	%				63.2	53.6	59.9	-	75.6	52.8	41.9	36.9	52.9	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				1.92	1.68	1.08	1.78	3.67	0.976	-	-	-	2.71	2.67	2.45	2.45	2.11	2.88	1.84	2.72	0.3	0.2	0.2	0.3	0.4
pH	pH				-	-	-	-	-	-	6.89	6.8	6.58	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	<0.10	<0.10	0.1	0.13	0.11	<0.10	<0.10	<0.10	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	0.7	0.7	1.1	2.7	2.7	2.5	2.6	2.2	2.9	1.8	2.7	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	0.43	0.43	0.40	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	<0.80	<0.80	0.84	1.08	0.88	<0.80	<0.80	<0.80	-	-	-	-	-
% Gravel	%				<0.10	<0.10	<0.10	10.8	<0.10	22.8	<0.10	<0.10	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand	%				1.4	13.8	10	55.5	2.2	29.7	14.6	11.4	17.71	62.2	54	61.8	6.68	18.6	2.71	33.8	4.97	-	-	-	-	-
% Silt	%				44.7	66.7	73.8	20.2	59.6	20.8	71.5	72	77.8	25.6	33	26	33.5	32.9	58.3	32.6	48.2	-	-	-	-	-
% Clay	%				53.9	19.5	16.2	13.5	38.2	26.7	13.9	16.6	4.49	12.2	13	12.2	59.8	48.6	39.0	33.6	46.8	-	-	-	-	-
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	Sandy loam	Sandy loam	Sandy loam	Clay	Clay	Silty clay loam	Clay loam	Silty clay	-	-	-	-	-
Metals																										
Aluminum	mg/kg				-	15100	-	11600	-	-	10400	13000	9510	-	-	-	-	-	-	-	-	23700	24400	27000	26600	22700
Antimony	mg/kg				-	<20	-	<20	-	-	5	5	5	0.95	0.95	1.03	-	-	-	-	-	0.45	0.29	0.27	0.30	0.32
Arsenic	mg/kg	*5.9*	**17**	**150**	***59.1***	***38.3***	*7*	5.4	***23.1***	***29.3***	*7.7*	***18.4***	*14.1*	***24.5***	***27.3***	***19.5***	-	-	-	-	-	*6*	*6*	*7*	4	5
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				-	81.8	-	68.8	-	-	71.1	94.8	61.7	296	280	301	-	-	-	-	-	246	255	280	276	248
Beryllium	mg/kg				-	0.64	-	0.54	-	-	0.25	0.51	0.25	1.0	1.0	1.0	-	-	-	-	-	1	1	1	1	1
Bismuth	mg/kg				-	<20	-	<20	-	-	10	10	10	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 1	< 1
Boron	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	13	13	20	17
Cadmium	mg/kg	*0.6*	**3.5**		-	*<2.0*	-	*<2.0*	-	-	0.25	0.25	0.25	0.52	0.53	0.54	-	-	-	-	-	0	0	0	0	0
Calcium	mg/kg				-	3940	-	3340	-	-	2710	2950	2640	-	-	-	-	-	-	-	-	4930	5580	5480	5320	4740
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		-	33.3	-	25	-	-	27.9	32.3	26.5	*48.0*	*46.7*	*48.9*	-	-	-	-	-	*42*	*62*	*71*	*49*	*42*
Cobalt	mg/kg				-	7	-	6.1	-	-	6.7	9.1	6.7	14.2	13.9	14.1	-	-	-	-	-	12	15	17	14	11
Copper	mg/kg	*35.7*	**197**		-	11.9	-	18.4	-	-	11	13.9	11.1	*39.2*	*38.4*	*39.5*	-	-	-	-	-	25	34	*40*	28	24
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg				-	17900	-	13800	-	-	15400	18400	14500	34800	33200	34900	-	-	-	-	-	29000	33700	36700	32400	27700
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	*35*	**91.3**		-	*<50*	-	*<50*	-	-	15	15	15	15.0	14.5	15.3	-	-	-	-	-	12	11	11	13	11
Lithium	mg/kg				-	25	-	19.6	-	-	20.5	24.4	19.8	-	-	-	-	-	-	-	-	39	49	53	46	37
Magnesium	mg/kg				-	6070	-	4790	-	-	5010	6090	4990	-	-	-	-	-	-	-	-	9770	13100	14200	11700	9460
Manganese	mg/kg				-	274	-	192	-	-	244	551	340	523	627	460	-	-	-	-	-	450	467	491	372	348
Mercury	mg/kg	*0.17*	**0.486**		-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	-	-	-	-	-	-	-	-	-	-
Molybdenum	mg/kg				-	<4.0	-	<4.0	-	-	2	2	2	<1.0	<1.0	<1.0	-	-	-	-	-	0	0	0	0	0
Nickel	mg/kg				-	16.2	-	14.7	-	-	15.5	20.2	15	42.5	41.7	43.4	-	-	-	-	-	32	41	47	35	30
Phosphorus	mg/kg				-	568	-	415	-	-	495	520	547	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/kg				-	3400	-	2870	-	-	1740	2180	1590	-	-	-	-	-	-	-	-	4730	5840	6310	5920	4660
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	48	51	53	41
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg				-	<50	-	<50	-	-	1	1	1	1.38	1.32	1.35	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Silicon	mg/kg				-	<2.0	-	<2.0	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				-	-	-	-	-	-	-	-	-	<1.0	<1.0	<1.0	-	-	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Sodium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	430	580	600	560	420
Strontium	mg/kg				-	29.7	-	25.7	-	-	16.8	21.8	15.2	-	-	-	-	-	-	-	-	71	42	38	73	65
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tellurium	mg/kg				-	<50	-	<50	-	-	0.5	0.5	0.5	-	-	-	-	-	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Thallium	mg/kg				-	-	-	-	-	-	-	-	-	<0.50	<0.50	<0.50	-	-	-	-	-	0	0	0	0	0
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg				-	<10	-	<10	-	-	2.5	2.5	2.5	<5.0	<5.0	<5.0	-	-	-	-	-	< 1	< 1	< 1	< 1	< 1
Titanium	mg/kg				-	1040	-	697	-	-	520	579	457	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium	mg/kg				-	-	-	-	-	-	-	-	-	2.8	2.8	2.9	-	-	-	-	-	2	2	2	3	2
Vanadium	mg/kg				-	39.1	-	31.1	-	-	27.7	33.3	25.8	60.4	58.4	63.2	-	-	-	-	-	50	65	70	58	49
Zinc	mg/kg	*123*	**315**		-	39.8	-	28.3	-	-	34.1	43.2	33.2	*129*	121	*158*	-	-	-	-	-	70	76	101	76	67
Extractable Metals																										
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-9: Sediment Chemistry in Reference Areas

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Horseshoe Island Bay Reference																					
Station ID					DE2C	DE3A	DE3B	DE3C	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3
Sample type					Rep 3	Rep 1	Rep 2	Rep 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample depth		ISQG	PEL		0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0.0-0.5	1.0-1.5	2.0-2.5	3.0-3.5	4.0-4.5	5.0-5.5	6.0-6.5	7.0-7.5	8.0-8.5	9.0-9.5	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
Date					9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14
Data Source					Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015
Physical Parameters																										
Moisture	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				0.2	0.4	1.4	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Silt	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Clay	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																										
Aluminum	mg/kg				26400	22600	17900	19400	16500	16800	16400	16300	18700	16600	11200	18600	15200	13400	15900	15900	14000	14100	17600	15800	15200	17400
Antimony	mg/kg				0.25	0.43	0.70	0.63	0.81	1.00	1.01	1.68	2.01	1.39	1.94	1.52	0.78	0.51	0.77	0.88	0.57	0.63	0.74	0.56	0.58	0.67
Arsenic	mg/kg	*5.9*	**17**	**150**	*6*	*7*	*7*	*10*	*14*	*11*	*13*	*15*	***21***	***20***	***29***	***25***	***21***	*15*	*11*	*10*	*6*	5	*7*	5	*4*	*8*
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				270	254	204	247	229	217	203	194	217	196	126	228	175	148	179	175	151	154	204	181	172	201
Beryllium	mg/kg				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bismuth	mg/kg				< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Boron	mg/kg				17	16	14	14	23	19	14	15	16	13	8	14	12	11	13	14	12	12	15	13	12	14
Cadmium	mg/kg	*0.6*	**3.5**		0	0	0	0	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*2*	*1*	*2*	*2*	*1*	*1*	*1*	*1*	*1*	*1*
Calcium	mg/kg				5270	4850	4090	4600	8560	5650	4540	4600	4760	4300	3320	4740	4080	3760	4170	4220	3690	3740	4410	4020	3830	4240
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		*59*	*46*	*38*	*40*	35	36	36	36	*40*	36	25	*40*	34	30	34	34	30	30	37	33	33	37
Cobalt	mg/kg				14	13	10	13	10	10	10	11	12	10	8	11	11	8	9	10	8	9	10	9	9	11
Copper	mg/kg	*35.7*	**197**		31	27	32	35	*44*	*42*	*42*	*58*	*62*	*71*	*46*	*68*	*65*	*52*	*74*	*70*	*48*	*51*	*57*	*42*	*46*	*55*
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg				33600	30100	23000	27200	24300	21500	21200	20500	23800	21000	14000	22100	19800	17700	18300	17900	15600	15700	19500	17400	17200	20600
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	*35*	**91.3**		12	11	10	13	11	11	11	12	14	13	9	15	11	9	12	11	9	9	12	11	10	12
Lithium	mg/kg				48	40	30	32	27	28	27	27	31	28	19	30	25	22	25	25	22	23	28	25	24	28
Magnesium	mg/kg				12400	10500	7930	8080	7180	7140	7150	6970	7900	7110	4910	7530	6470	5560	6180	6070	5420	5480	6590	6060	6100	6890
Manganese	mg/kg				486	527	251	348	520	230	237	233	260	232	165	242	207	176	195	192	179	182	209	189	190	217
Mercury	mg/kg	*0.17*	**0.486**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Molybdenum	mg/kg				0	1	1	1	1	1	1	1	2	1	1	2	2	1	1	2	1	1	1	1	1	1
Nickel	mg/kg				38	34	32	40	33	36	33	39	40	36	27	43	42	34	40	42	33	34	38	34	33	39
Phosphorus	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/kg				6010	5120	4040	4120	5700	4540	3780	3840	3910	3360	2080	3670	2960	2610	3140	3150	2730	2740	3480	3080	2950	3470
Rubidium	mg/kg				50	42	34	34	35	33	31	31	34	30	20	33	27	23	27	27	24	24	29	26	26	30
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg				< 0.5	< 0.5	< 0.5	< 0.5	1	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1	1	1
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0	< 0.1	< 0.1	< 0.1	< 0.1	0	0	0	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Sodium	mg/kg				580	460	310	280	390	330	300	290	310	280	210	290	270	240	260	270	240	240	270	250	250	270
Strontium	mg/kg				58	51	40	46	55	45	39	39	43	38	25	45	35	30	37	37	32	32	42	37	34	39
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tellurium	mg/kg				< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Thallium	mg/kg				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg				< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Titanium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium	mg/kg				3	2	2	2	2	2	2	3	3	2	2	3	2	2	3	3	2	2	3	2	2	3
Vanadium	mg/kg				61	53	43	50	44	46	43	45	50	44	31	53	44	38	47	48	40	41	50	45	43	50
Zinc	mg/kg	*123*	**315**		78	75	72	87	74	73	72	76	85	80	62	93	70	59	76	77	63	64	83	71	66	78
Extractable Metals																										
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-9: Sediment Chemistry in Reference Areas

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Horseshoe Island Bay Reference																					
Station ID					DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	DE3	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03
Sample type					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample depth		ISQG	PEL		18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29	29-30	0.25	0.75	1.25	1.75	2.25	2.75	3.25	3.75	4.25	4.75
Date					9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	9-Sep-14	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03
Data Source					Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Chetelat 2015	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006
Physical Parameters																										
Moisture	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Silt	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Clay	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																										
Aluminum	mg/kg				17500	17600	15500	14600	14600	14000	13300	14600	15500	16700	12400	11000	18000	17100	17300	18700	18700	19600	19600	19700	19700	18700
Antimony	mg/kg				0.60	0.59	0.49	0.65	0.58	0.51	0.47	0.57	0.65	0.62	0.48	0.47	0.50	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8
Arsenic	mg/kg	*5.9*	**17**	**150**	*9*	*8*	5	*6*	*6*	*7*	*6*	*8*	*11*	*12*	*7*	5	***47.0***	***72.3***	***44.5***	*15.0*	***25.6***	*12.3*	*11.7*	*12.1*	*13.0*	*12.3*
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				202	202	173	162	164	155	149	167	177	192	135	117	255	271	278	286	288	297	284	286	283	278
Beryllium	mg/kg				1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-
Bismuth	mg/kg				< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.3	0.3
Boron	mg/kg				13	14	12	12	12	11	10	11	12	13	10	9	12	9	12	12	12	13	11	13	14	10
Cadmium	mg/kg	*0.6*	**3.5**		*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*2*	*1*	*1*	0.4	0.3	0.4	0.5	0.4	0.4	0.5	0.4	0.4	0.4
Calcium	mg/kg				4230	4210	3820	3670	3740	3560	3410	3700	3850	4040	3310	3000	6000	6200	5200	5200	5500	5200	5100	5100	5000	4900
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		*38*	*38*	34	32	32	31	29	32	33	35	28	25	*43.9*	*42.1*	*40.9*	*45.2*	*45.1*	*49.5*	*45.8*	*46.6*	*47*	*44.9*
Cobalt	mg/kg				11	11	9	9	10	11	9	10	12	12	9	8	14.00	13.10	12.40	12.90	13.30	13.6	12.9	13.50	13.1	12.6
Copper	mg/kg	*35.7*	**197**		*48*	*51*	*47*	*52*	*50*	*45*	*39*	*47*	*55*	*59*	*39*	35	35.50	33.00	34.9	*42.7*	*39.0*	*42.4*	*41.5*	*42.2*	*40.9*	*40.3*
Gallium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	7.00	7.00	7.00	08.0	8.00	8.00	8.00	8.00	8	8
Gold	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	0.07	0.06	0.07	00.1	0.08	0.10	0.10	0.11	0.0938	0.088
Iron	mg/kg				21700	21000	17700	17200	17900	18100	17600	19300	22200	24200	17300	14800	37700	43500	38400	32600	35700	32900	32300	32500	32800	32000
Lanthanum	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	30	29	29	32	32	35	33	34	32	32
Lead	mg/kg	*35*	**91.3**		11	11	10	9	9	9	8	10	11	11	8	7	15.1	14.5	14.3	16.9	16.8	16.2	15.5	16.4	16.2	16.3
Lithium	mg/kg				29	28	25	24	24	23	22	24	25	26	20	18	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg				7110	7050	6360	6030	6100	5850	5610	6030	6160	6450	5010	4570	9000	8500	8600	9100	9200	9700	9800	9900	9900	9400
Manganese	mg/kg				225	221	196	190	191	183	187	187	192	201	161	145	644	434	344	304	318	311	314	317	318	302
Mercury	mg/kg	*0.17*	**0.486**		-	-	-	-	-	-	-	-	-	-	-	-	0.03	0.04	0.03	0.04	0.04	0.04	0.03	0.04	0.03	0.04
Molybdenum	mg/kg				1	1	1	1	1	1	1	1	2	2	1	1	1.1	1	0.9	0.8	0.9	0.8	0.7	0.8	0.8	0.8
Nickel	mg/kg				38	38	35	35	35	35	31	34	40	42	32	28	36.8	34.2	34.4	36.9	37.3	39.1	37.9	39.9	37.7	36.9
Phosphorus	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	1210	1690	1410	880	1090	780	730	670	710	670
Potassium	mg/kg				3470	3490	3030	2880	2900	2730	2600	2910	3050	3340	2270	2000	3900	3600	3700	3900	3900	4200	3800	4000	4000	3900
Rubidium	mg/kg				29	30	26	25	25	24	23	25	26	27	20	18	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	5.20	4.70	4.90	05.4	5.50	6.00	5.50	5.50	5.7	5.6
Selenium	mg/kg				1	1	1	1	1	1	1	1	1	1	1	1	1	1.4	1.2	1.3	1.1	1.2	1.2	1.1	0.9	1
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				< 0.1	< 0.1	< 0.1	0	0	0	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sodium	mg/kg				280	280	260	260	250	240	230	240	250	260	200	180	360	340	350	350	360	350	360	350	360	330
Strontium	mg/kg				37	38	34	32	32	30	28	31	33	36	26	23	56.0	56.0	54.0	57.0	55.0	56.0	53.0	52.0	52	49
Sulphur	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	<500	<500	<500	<500	<500	<500	<500	600	1100	<500
Tellurium	mg/kg				< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				0	0	0	0	0	0	0	0	0	0	0	0	0.300	0.20	0.20	00.3	0.20	0.30	0.20	0.30	0.3	0.2
Thorium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	10.90	10.70	10.60	12.4	11.70	12.20	12.70	12.7	12.6	12.3
Tin	mg/kg				< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-	-	-	-	-	-	-	-	-	-
Titanium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	440	400	420	380	410	450	480	500	490	470
Tungsten	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	0.10	0.20	0.10	00.1	0.10	0.10	0.10	0.10	0.1	0.1
Uranium	mg/kg				2	2	2	2	2	2	2	2	2	3	2	2	2.20	2.00	2.10	02.6	2.50	2.40	2.40	2.6	2.6	2.3
Vanadium	mg/kg				49	49	43	41	42	39	37	41	43	47	36	32	54.0	55.0	51.0	54.0	56.0	60.0	57.0	56	54	54
Zinc	mg/kg	*123*	**315**		77	77	72	67	67	61	57	67	73	81	60	55	98	94	94	109	103	113	105	107	107	106
Extractable Metals																										
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-9: Sediment Chemistry in Reference Areas

Location	Units	CCME Sediment Quality Guidelines for Aquatic Life[a]		GNWT Remediation Objective[b]	Horseshoe Island Bay Reference														
Station ID					AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03	AOBS-03
Sample type					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample depth					5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5	13.5	14.5	16	18	20	23.5	28.5
Date		ISQG	PEL		1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03	1-Aug-03
Data Source					Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006	Andrade 2006
Physical Parameters																			
Moisture	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Carbon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CaCO3	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Gravel	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Silt	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Clay	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Fines (silt + clay)	%				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																			
Aluminum	mg/kg				19000	19500	19800	19300	19100	19400	18800	18700	18500	18300	18900	19400	19500	19000	18600
Antimony	mg/kg				0.9	0.7	0.7	0.8	1	1.4	2	2.6	2.6	3.2	1.9	1	0.4	0.3	0.3
Arsenic	mg/kg	*5.9*	**17**	150	*12.4*	*13.6*	*15.5*	***18.2***	***20.6***	***24.2***	***26.9***	***30.5***	***28.3***	***33.8***	***40.7***	***66***	***21***	*10.5*	*9.4*
Arsenic 1-	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 3+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic 5+	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg				287	283	298	296	305	293	278	286	287	273	278	274	284	285	268
Beryllium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bismuth	mg/kg				0.3	0.3	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.4
Boron	mg/kg				14	13	13	13	11	10	14	12	12	9	11	14	12	12	13
Cadmium	mg/kg	*0.6*	**3.5**		0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.3	0.5	0.4
Calcium	mg/kg				5000	5000	5100	5000	5000	5000	4800	4900	4900	4700	4700	4700	4800	4700	4700
Cesium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	*37.3*	**90**		*44.9*	*48.3*	*46.8*	*46.7*	*46*	*46.7*	*44.2*	*46.6*	*43.9*	*47.7*	*46.5*	*49*	*47.7*	*45.3*	*46.2*
Cobalt	mg/kg				12.7	13.4	13.5	13.9	13.1	13.2	13.6	14.1	13.6	13.1	13.3	13.4	13.1	13	12.9
Copper	mg/kg	*35.7*	**197**		*40.9*	*44.6*	*47.4*	*53.7*	*58.9*	*62.3*	*62*	*67.3*	*64*	*56.5*	*45.6*	*39.7*	*38.4*	*38.6*	*39.6*
Gallium	mg/kg				8	8	9	8	8	8	7	8	7	8	8	8	8	8	8
Gold	mg/kg				0.081	0.0844	0.1125	0.124	0.1258	0.1492	0.165	0.1683	0.1164	0.1111	0.0619	0.0192	0.007	0.0027	0.0019
Iron	mg/kg				32300	33500	34000	33500	31600	32400	31900	31900	30600	30100	31700	32500	32800	31900	32500
Lanthanum	mg/kg				33	33	33	33	33	32	31	31	31	32	34	34	34	33	33
Lead	mg/kg	*35*	**91.3**		15.5	17.2	17	18	19.4	18.4	20.5	20.9	20.4	19.3	18.4	15.8	15.4	15.1	15.8
Lithium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg				9600	9900	10100	9600	9300	9500	9300	9200	9000	9300	9800	10300	10100	9600	9300
Manganese	mg/kg				299	311	312	312	294	299	305	300	292	298	322	330	333	320	322
Mercury	mg/kg	*0.17*	**0.486**		0.04	0.03	0.03	0.03	0.05	0.03	0.04	0.05	0.05	0.04	0.05	0.04	0.04	0.02	0.04
Molybdenum	mg/kg				0.9	0.9	0.9	0.8	0.8	0.9	0.9	1.2	0.8	0.8	0.9	0.9	0.8	0.8	0.9
Nickel	mg/kg				36.5	38.1	40	38.8	37.2	38.6	38	41	36.8	36	36.6	37.8	37.1	37.8	36.6
Phosphorus	mg/kg				650	680	680	750	710	700	720	710	690	620	690	640	660	630	650
Potassium	mg/kg				4000	4000	4100	4000	3900	3900	3800	3700	3700	3800	3800	4200	4000	3900	3700
Rubidium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scandium	mg/kg				5.4	5.8	5.9	6	6.1	5.9	5.8	5.9	5.8	5.7	5.7	5.8	5.8	5.9	5.6
Selenium	mg/kg				1.3	1	1.1	1.3	1	1.2	1.1	1.4	1.3	1.2	1.4	1.3	1.2	1.1	1.3
Silicon	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg				0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.2	0.20	0.1	0.1	0.1
Sodium	mg/kg				340	360	370	360	320	340	340	340	320	340	360	380	370	330	320
Strontium	mg/kg				49	50	52	53	54	51	49	50	52	47	47	46	49	50	46
Sulphur	mg/kg				1300	1500	1600	1400	800	1000	1000	1600	900	<500	1000	1200	800	800	1200
Tellurium	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg				0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3
Thorium	mg/kg				12.2	13.5	13.1	13.3	12.7	12.2	12.5	12.8	12.2	12.4	13.3	13.8	13.8	13.3	12.9
Tin	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Titanium	mg/kg				480	530	510	480	410	410	440	440	380	500	580	680	580	510	470
Tungsten	mg/kg				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Uranium	mg/kg				2.4	2.6	2.4	2.5	2.5	2.3	2.4	2.4	2.5	2.5	2.5	2.4	2.5	2.6	2.6
Vanadium	mg/kg				54	60	56	57	55	57	54	56	54	55	55	55	55	54	55
Zinc	mg/kg	*123*	**315**		105	104	109	115	120	*128*	*128*	*134*	*142*	*137*	121	100	101	107	104
Extractable Metals																			
Arsenic (As)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Hg)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Extractable	mg/kg				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
a) CCME (1998) Canadian sediment quality guidelines.
b) GNWT Remediation Objective for arsenic is based on average natural background concentrations in and around Yellowknife, and was developed for non-residential, publically-accessible areas (i.e., public boat launch) (GNWT 2003).
Concentrations are in milligrams per kilogram dry weight (mg/kg dw), unless noted otherwise.
- = parameter not analyzed; ISQG = interim sediment quality guideline; PEL = probable effects limits; GNWT = Government of Northwest Territories.
Italicized values indicate concentration is above CCME Interim Sediment Quality Guidelines.
Bolded values indicate concentration is above CCME Probable Effects Limits.
Red values indicate concentration is above GNWT Remediation Objective for arsenic.