



Day 1 & 2 (Aug 14 & 15)
NECHALACHO, THOR LAKE
SSWQO's



Metal Concentrations

Parameter	***Day 5 Decant Metal Concentration (µg/L)	Drizzle Lake		Thor Lake		Proposed SSWQO [For Drizzle Lake] (µg/L)	CCME Guideline (µg/L)
		Background Mean (µg/L)	Modelled Maximum 20-yr Value (µg/L)	Background Mean (µg/L)	Modelled Maximum 20-yr Value (µg/L)		
Aluminum (Al)	620	8.30	148	3.3	60.1	100	100
Arsenic (As)	2.2	0.92	1.21	0.77	0.90	5	5.0
Cadmium (Cd)	0.067	0.01	0.02	0.02	0.02	Background	0.052
Chromium (Cr)	1.1	<0.5	0.44	<0.5	0.36	8.9	8.9
Copper (Cu)	2.3	0.25	0.72	0.36	0.54	3	2-4
Iron (Fe)	570	1091	972	69.5	116	Background (seasonal)	300
**Lead (Pb)	0.92	0.028	0.30	0.05	0.14	4	1-7
Mercury (Hg)	<0.10	<0.01	<0.027	<0.01	<0.018	0.026	0.026
Molybdenum (Mo)	47.1	1.27	11.7	2.1	6.24	73	73
Nickel (Ni)	7.0	<0.5	1.79	<0.5	0.87	110	25-150
Selenium (Se)	<1.0	<1.0	<0.60	<0.1	<0.50	1	1
Silver (Ag)	0.03	<0.01	0.02	<0.01	0.01	0.1	0.1
Thallium (Tl)	<0.2	<0.1	<0.08	<0.1	<0.06	0.8	0.8
Uranium (U)	10.0	0.08	2.1	0.36	1.1	15	15
Vanadium (V)	0.58	<1.0	0.5	<1.0	0.5	6	6*
**Zinc (Zn)	28.0	0.90	8.70	1.43	4.1	Background	30

*Ontario Water Quality guideline value; no CCME guideline published

**Values from May 10, 2012 IR response to MVEIRB, Table 1 representing pilot plant process water

***Values represent worst case as derived from the DAR



Rare Earth Element Concentrations

Parameter	Day 5 Decant Metal Concentration (µg/L)	Drizzle Lake		Thor Lake		Proposed SSWQO* [Drizzle L.] (µg/L)
		Background Mean (µg/L)	Modelled Maximum 20-yr Value (µg/L)	Background Mean (µg/L)	Modelled Maximum 20-yr Value (µg/L)	
Cerium (Ce)	139	<0.05	31.8	<0.05	12.8	3.2
Dysprosium (Dy)	2.52	<0.05	0.61	<0.05	0.28	16.2
Erbium (Er)	0.581	<0.05	0.171	<0.05	0.099	19.1
Europium (Eu)	1.09	<0.05	0.29	<0.05	0.15	11.2
Gadolinium (Gd)	9.37	<0.05	2.18	<0.05	0.91	15
Hafnium (Hf)	0.267	<0.1	0.138	<0.1	0.115	4.4
Holmium (Ho)	0.312	<0.05	0.110	<0.05	0.074	0.7
Lanthanum (La)	68.8	<0.05	16	<0.05	6.4	1.8
Lutetium (Lu)	0.033	<0.05	0.46	<0.05	0.048	2.9
Niobium (Nb)	2.57	<0.1	0.66	<0.1	0.33	2.6
Neodymium (Nd)	61.6	<0.05	14.1	<0.05	5.72	14.3
Praseodymium (Pr)	17.3	<0.05	3.99	<0.05	1.64	3.5
Samarium (Sm)	11.0	<0.05	2.55	<0.05	1.06	7.4
Scandium (Sc)	3.39	0.9	1.47	0.5	1.13	2.9
Tantalum (Ta)	0.230	<0.1	0.130	<0.1	0.112	0.2
Terbium (Tb)	0.819	<0.05	0.226	<0.05	0.121	8.4
Thulium (Tm)	0.046	<0.05	0.049	<0.05	0.050	6.9
Ytterbium (Yb)	0.324	<0.05	0.113	<0.05	0.075	6.9
Zirconium (Zr)	3.29	<0.1	0.83	<0.1	0.39	11.2

* Based on 10% of 7-day (Chronic) LC-50 Testing H.azteca (Borgmann et al., 2005)