

Table A1: Effluent Quality Results from Tailings Containment Area (TCA) at stations LUP-10 and LUP-10a

Parameter	Unit	Water License Effluent Discharge Criteria		Sampling Sites											
				LUP-10	LUP-10	LUP-10	LUP-10	LUP-10	LUP-10	LUP-10	LUP-10	LUP-10	LUP-10	LUP-10A (102)	LUP-10A (LUP-102)
		Maximum Average Concentration	Maximum Concentration of any Grab Sample	2021-08-31	2021-09-01	2021-09-02	2021-09-03	2021-09-04	2021-09-05	2021-09-06	2021-09-07	2021-09-08	2021-09-09	2021-09-01	2021-07-14
Field Measured															
pH	-	6.5 - 9.0	6.5 - 9.0	6.9	7.0	6.9	7.1	7.6	7.5	7.4	7.5	7.5	7.4	7.1	7.7
Specific conductivity	µS/cm	-	-	313	315	310	310	305	309	312	304	301	287	315	319
Temperature	°C	-	-	11	11	11	11	10	11	11	11	9.4	7.9	11	13
Dissolved oxygen	mg/L	-	6.5	10	10	10	10	10	11	11	11	11	12	10	-
Conventional Parameters															
pH	-	6.5 - 9.0	6.5 - 9.0	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.1	7.1	7.3	7.4
Specific conductivity	µS/cm	-	-	425	427	428	429	425	430	427	426	428	425	431	410
Hardness, as CaCO ₃	mg/L	-	-	113	118	117	118	114	113	117	116	116	119	117	114
Total alkalinity, as CaCO ₃	mg/L	-	-	12	12	12	12	12	12	12	11	10	9.6	12	15
Total suspended solids	mg/L	15	30	<1.0	1.0	<1.0	1.3	<1.0	<1.0	1.5	1.5	<1.0	<1.0	1.4	<1.0
Major Ions															
Bromide	mg/L	-	-	-	0.21	0.19	0.18	0.18	0.18	0.19	0.18	0.21	0.19	-	0.22
Calcium	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloride	mg/L	-	-	-	16	16	16	16	16	16	16	16	16	-	17
Cyanide	mg/L	0.8	1.6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Fluoride	mg/L	-	-	-	0.11	0.10	0.11	0.11	0.10	0.11	0.11	0.11	0.11	-	0.081
Magnesium	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphate	mg/L	-	-	-	161	157	157	158	158	158	159	161	159	-	146
Nutrients															
Nitrate	mg-N/L	-	-	-	0.42	0.41	0.41	0.42	0.41	0.42	0.41	0.42	0.41	-	0.49
Nitrite	mg-N/L	-	-	-	0.0024	0.0024	0.0025	0.0022	0.0019	0.0021	0.0019	0.0022	0.0017	-	0.0029
Total ammonia	mg-N/L	-	-	-	0.15	-	-	-	-	0.14	-	0.18	-	0.15	0.062
Total phosphorus	mg-P/L	-	-	<0.05	<0.002	<0.05	<0.05	<0.05	<0.05	0.0053	<0.05	<0.05	<0.05	<0.05	<0.05
Dissolved phosphorus	mg-P/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthophosphate	mg-P/L	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-
Nitrogen, kjeldahl	mg-N/L	-	-	-	-	-	-	-	-	0.30	-	-	-	-	-
Total Metals															
Aluminum	mg/L	-	-	0.084	0.081	0.087	0.083	0.085	0.082	0.088	0.096	0.1	0.11	0.083	0.050
Antimony	mg/L	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.5	1	0.014	0.014	0.015	0.013	0.013	0.014	0.015	0.013	0.014	0.016	0.014	0.012
Barium	mg/L	-	-	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.011
Beryllium	mg/L	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bismuth	mg/L	-	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Boron	mg/L	-	-	0.034	0.034	0.034	0.034	0.034	0.033	0.035	0.033	0.035	0.034	0.034	0.036
Cadmium	mg/L	-	-	0.000086	0.000078	0.000078	0.000085	0.000071	0.000074	0.000080	0.000084	0.000088	0.000084	0.000081	0.000089
Calcium	mg/L	-	-	34	36	36	36	34	34	35	35	35	35	35	35
Cesium	mg/L	-	-	0.000048	0.000047	0.000052	0.000048	0.000051	0.000053	0.000050	0.000052	0.000051	0.000043	0.000049	0.000031
Chromium	mg/L	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cobalt	mg/L	-	-	0.022	0.022	0.022	0.022	0.022	0.021	0.021	0.022	0.021	0.022	0.022	0.024
Copper	mg/L	0.15	0.30	0.004	0.0039	0.0038	0.0036	0.0036	0.0036	0.0038	0.0043	0.0046	0.0051	0.004	0.0023
Iron	mg/L	-	-	0.25	0.24	0.26	0.24	0.24	0.25	0.26	0.25	0.26	0.33	0.24	0.19
Lead	mg/L	0.1	0.2	0.00035	0.00033	0.00035	0.00033	0.00032	0.00035	0.00035	0.00042	0.00042	0.00043	0.00033	0.00021
Lithium	mg/L	-	-	0.023	0.025	0.023	0.022	0.022	0.022	0.023	0.022	0.023	0.024	0.024	0.018
Magnesium	mg/L	-	-	6.9	6.9	7.0	7.1	7.1	7.0	7.0	7.0	7.0	7.4	7.0	6.9
Manganese	mg/L	-	-	0.54	0.53	0.51	0.51	0.51	0.50	0.50	0.50	0.50	0.53	0.55	0.63
Mercury	mg/L	-	-	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005
Molybdenum	mg/L	-	-	0.00041	0.00039	0.00040	0.00040	0.00040	0.00040	0.00041	0.00039	0.00042	0.00038	0.00042	0.00027
Nickel	mg/L	0.2	0.4	0.053	0.052	0.053	0.053	0.053	0.052	0.052	0.054	0.055	0.056	0.054	0.049
Potassium	mg/L	-	-	3.1	3.2	3.1	3.2	3.2	3.1	3.1	3.1	3.2	3.3	3.3	3.0
Rubidium	mg/L	-	-	0.0019	0.0023	0.0021	0.0020	0.0021	0.0021	0.0020	0.0021	0.0021	0.0021	0.0021	0.0016
Selenium	mg/L	-	-	<0.00005	<0.00005	0.000052	<0.00005	0.000076	<0.00005	0.000075	0.000066	<0.00005	0.000061	<0.00005	0.000058
Silicon	mg/L	-	-	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.0	1.8
Silver	mg/L	-	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Sodium	mg/L	-	-	30	31	32	32	32	31	31	31	31	31	31	30
Strontium	mg/L	-	-	0.20	0.20	0.19	0.20	0.19	0.19	0.19	0.19	0.20	0.18	0.20	0.17
Sulphur	mg/L	-	-	53	53	55	54	55	55	53	56	55	55	53	51
Tellurium	mg/L	-	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Thallium	mg/L	-	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Thorium	mg/L	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Tin	mg/L	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Titanium	mg/L	-	-	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Tungsten	mg/L	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Uranium	mg/L	-	-	0.000052	0.000048	0.000053	0.000054	0.000052	0.000054	0.000051	0.000056	0.000064	0.000058	0.000046	0.000031
Vanadium	mg/L	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Zinc	mg/L	0.4	0.8	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.13	0.11	0.13
Zirconium	mg/L	-	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Radionuclides															
Radium-226	Bq/l	-	-	-	0.0094	-	-	-	-	0.0072	-	0.0090	-	<0.0075	-

Bolded concentrations are higher than water quality guidelines.

Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision *after* comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Concentrations equal to the guideline values were not identified as exceedances.

- = no guideline or no data.

Table A2: Effluent Quality Results from Sewage Lake at station LUP-14

Parameter	Unit	Water License Sewage Lake Effluent Criteria	Sampling Sites			
			LUP-14 PRE- DECANT	LUP-14	LUP-14	LUP-14
			2021-06-25	2021-07-28	2021-08-18	2021-09-08
Field Measured						
pH	-	6.5 - 9.0	6.5	7.6	-	7.6
Specific conductivity	µS/cm	-	183	151	-	138
Temperature	°C	-	1.8	12	-	7.0
Dissolved oxygen	mg/L	-	-	10	-	12
Conventional Parameters						
pH	-	6.5 - 9.0	6.8	7.2	7.2	7.1
Specific conductivity	µS/cm	-	180	200	187	208
Hardness, as CaCO ₃	mg/L	-	60	68	63	66
Total alkalinity, as CaCO ₃	mg/L	-	8.1	9.7	12	10
Total suspended solids	mg/L	35	1.8	<1.0	<1.0	<1.0
Major Ions						
Bromide	mg/L	-	0.069	0.078	0.077	0.092
Calcium	mg/L	-	-	-	-	-
Chloride	mg/L	-	8.4	11	9.4	11
Cyanide	mg/L	-	-	-	-	-
Fluoride	mg/L	-	0.051	0.069	0.068	0.070
Magnesium	mg/L	-	-	-	-	-
Potassium	mg/L	-	-	-	-	-
Sodium	mg/L	-	-	-	-	-
Sulphate	mg/L	-	57	63	54	65
Nutrients						
Nitrate	mg-N/L	-	0.019	<0.003	<0.003	<0.003
Nitrite	mg-N/L	-	<0.001	<0.001	<0.001	<0.001
Total ammonia	mg-N/L	-	<0.005	<0.005	<0.005	0.0057
Total phosphorus	mg-P/L	-	0.012	0.011	0.017	0.015
Dissolved phosphorus	mg-P/L	-	-	-	-	-
Orthophosphate	mg-P/L	-	<0.001	0.0010	0.0010	<0.001
Nitrogen, kjeldahl	mg-N/L	-	0.23	0.27	0.30	0.27
Total Metals						
Aluminum	mg/L	-	0.050	0.012	0.030	0.041
Antimony	mg/L	-	0.00014	0.00011	0.00011	0.00010
Arsenic	mg/L	0.05	0.0053	0.0044	0.0053	0.0055
Barium	mg/L	-	0.0100	0.011	0.0096	0.0100
Beryllium	mg/L	-	<0.0001	<0.0001	<0.0001	<0.0001
Bismuth	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005
Boron	mg/L	-	0.037	0.038	0.032	0.038
Cadmium	mg/L	-	0.000018	<0.000005	<0.000005	<0.000005
Calcium	mg/L	-	18	20	18	19
Cesium	mg/L	-	0.000064	0.000094	0.000089	0.00011
Chromium	mg/L	-	<0.0005	<0.0005	<0.0005	<0.0005
Cobalt	mg/L	-	0.0017	0.00026	0.00028	0.00032
Copper	mg/L	0.2	0.0011	0.00095	0.0012	0.0011
Iron	mg/L	-	0.23	0.11	0.13	0.18
Lead	mg/L	0.05	0.00011	<0.00005	<0.00005	<0.00005
Lithium	mg/L	-	0.0093	0.011	0.010	0.011
Magnesium	mg/L	-	3.9	4.3	4.2	4.6
Manganese	mg/L	-	0.096	0.0092	0.011	0.0098
Mercury	mg/L	-	<0.000005	<0.000005	<0.000005	<0.000005
Molybdenum	mg/L	-	0.00013	0.00012	0.00015	0.00016
Nickel	mg/L	0.3	0.0082	0.0041	0.0046	0.0043

Table A2: Effluent Quality Results from Sewage Lake at station LUP-14

Parameter	Unit	Water License Sewage Lake Effluent Criteria	Sampling Sites			
			LUP-14 PRE- DECANT	LUP-14	LUP-14	LUP-14
			2021-06-25	2021-07-28	2021-08-18	2021-09-08
Potassium	mg/L	-	2.1	2.3	2.1	2.3
Rubidium	mg/L	-	0.0040	0.0047	0.0045	0.0047
Selenium	mg/L	-	0.000054	0.000064	<0.00005	<0.00005
Silicon	mg/L	-	0.45	0.12	0.11	0.16
Silver	mg/L	-	<0.00001	<0.00001	<0.00001	<0.00001
Sodium	mg/L	-	6.3	7.3	6.6	7.6
Strontium	mg/L	-	0.11	0.13	0.11	0.12
Sulphur	mg/L	-	21	21	20	23
Tellurium	mg/L	-	<0.0002	<0.0002	<0.0002	<0.0002
Thallium	mg/L	-	<0.00001	<0.00001	<0.00001	<0.00001
Thorium	mg/L	-	<0.0001	<0.0001	<0.0001	<0.0001
Tin	mg/L	-	<0.0001	<0.0001	<0.0001	<0.0001
Titanium	mg/L	-	0.0011	<0.0003	<0.0003	0.00068
Tungsten	mg/L	-	<0.0001	<0.0001	<0.0001	<0.0001
Uranium	mg/L	-	0.000031	0.000013	0.000015	0.000016
Vanadium	mg/L	-	<0.0005	<0.0005	<0.0005	<0.0005
Zinc	mg/L	0.5	0.015	0.0036	<0.003	<0.003
Zirconium	mg/L	-	<0.0002	<0.0002	<0.0002	<0.0002
Ungrouped Analytes						
Biochemical oxygen demand	mg/L	30	<2.0	<2.0	4.0	<2.0
Fecal coliform	CFU/100mL	1000	<1.0	<1.0	<1.0	<1.0

Bolded concentrations are higher than water quality guidelines.

Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision *after* comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Concentrations equal to the guideline values were not identified as exceedances.

- = no guideline or no data.

Table A4: Water Quality Results from Boot Lake, East Lake and Lower Sewage Lake

Parameter	Unit	CWQG (CCME, 1999) Guidelines		Sampling Sites					
				LUP-BL-01	LUP-BL-01	LUP-EL-01	LUP-EL-01	LUP-LSL-01	LUP-LSL-01
		Acute	Chronic	2021-06-25	2021-08-30	2021-06-25	2021-08-30	2021-06-18	2021-08-30
Field Measured									
pH	-	-	6.5 - 9.0	4.5 ^(C)	6.4 ^(C)	6.1 ^(C)	4.8 ^(C)	7.0	6.5
Specific conductivity	µS/cm	-	-	41	22	21	50	193	142
Temperature	°C	-	-	4.9	12	5.9	9.6	7.0	13
Dissolved oxygen	mg/L	-	6.5	-	10	-	6.6	-	11
Conventional Parameters									
pH	-	-	6.5 - 9.0	6.0 ^(C)	6.8	5.5 ^(C)	5.9 ^(C)	6.7	7.3
Specific conductivity	µS/cm	-	-	22	29	38	70	165	183
Hardness, as CaCO ₃	mg/L	-	-	6.8	9.2	12	23	56	61
Total alkalinity, as CaCO ₃	mg/L	-	-	2.1	3.9	<1.0	1.7	6.8	11
Total suspended solids	mg/L	-	-	1.3	1.4	2.1	2.1	2.5	<1.0
Major Ions									
Bromide	mg/L	-	-	<0.005	-	<0.005	-	0.058	-
Calcium	mg/L	-	-	-	-	-	-	-	-
Chloride	mg/L	640	120	0.29	-	0.85	-	6.9	-
Cyanide	mg/L	-	0.0050	-	-	-	-	-	-
Fluoride	mg/L	-	0.12	0.021	-	0.038	-	0.050	-
Magnesium	mg/L	-	-	-	-	-	-	-	-
Potassium	mg/L	-	-	-	-	-	-	-	-
Sodium	mg/L	-	-	-	-	-	-	-	-
Sulphate	mg/L	-	-	5.6	-	12	-	53	-
Nutrients									
Nitrate	mg-N/L	124	2.9	0.010	-	0.0065	-	0.0080	-
Nitrite	mg-N/L	-	0.060	<0.001	-	<0.001	-	<0.001	-
Total phosphorus	mg-P/L	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dissolved phosphorus	mg-P/L	-	-	-	-	-	-	-	-
Orthophosphate	mg-P/L	-	-	-	-	-	-	-	-
Nitrogen, kjeldahl	mg-N/L	-	-	-	-	-	-	-	-
Total Metals									
Aluminum	mg/L	-	0.0050 - 0.10 ^(a, b)	0.057 ^(C)	0.028 ^(C)	0.19 ^(C)	0.17 ^(C)	0.14 ^(C)	0.027
Antimony	mg/L	-	-	<0.0001	<0.0001	<0.0001	<0.0001	0.00014	0.00011
Arsenic	mg/L	-	0.0050	0.00078	0.0010	0.0017	0.0016	0.0080 ^(C)	0.0053 ^(C)
Barium	mg/L	-	-	0.0035	0.0031	0.0084	0.012	0.012	0.0084
Beryllium	mg/L	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bismuth	mg/L	-	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Boron	mg/L	29	1.5	<0.01	<0.01	<0.01	<0.01	0.037	0.031
Cadmium	mg/L	0.00014 - 0.0013 ^(C)	0.000040 - 0.00010 ^(C)	0.0000089	<0.000005	0.000035	0.000043	0.000043	<0.000005
Calcium	mg/L	-	-	1.3	1.6	2.2	4.1	17	18
Cesium	mg/L	-	-	0.000016	0.000021	0.000035	0.000048	0.000085	0.000088
Chromium	mg/L	-	0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cobalt	mg/L	-	-	0.00081	0.00027	0.0093	0.0063	0.0050	0.00027
Copper	mg/L	-	0.0020 ^(C)	0.0014	0.0016	0.0046 ^(C)	0.0063 ^(C)	0.0026 ^(C)	0.0011
Iron	mg/L	-	0.30	0.088	0.12	0.21	0.34 ^(C)	0.43 ^(C)	0.12
Lead	mg/L	-	0.0010 - 0.0017 ^(C)	<0.00005	<0.00005	0.000094	<0.00005	0.00020	<0.00005
Lithium	mg/L	-	-	0.0017	0.0027	0.0026	0.0048	0.0087	0.010
Magnesium	mg/L	-	-	0.88	1.2	1.5	3.0	3.1	3.9
Manganese	mg/L	-	-	0.0075	0.0041	0.098	0.058	0.15	0.018
Mercury	mg/L	-	0.000026	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005

Table A4: Water Quality Results from Boot Lake, East Lake and Lower Sewage Lake

Parameter	Unit	CWQG (CCME, 1999) Guidelines		Sampling Sites					
				LUP-BL-01	LUP-BL-01	LUP-EL-01	LUP-EL-01	LUP-LSL-01	LUP-LSL-01
		Acute	Chronic	2021-06-25	2021-08-30	2021-06-25	2021-08-30	2021-06-18	2021-08-30
Molybdenum	mg/L	-	0.073	<0.00005	<0.00005	<0.00005	<0.00005	0.00015	0.00018
Nickel	mg/L	-	0.025 - 0.065 ^(c)	0.0041	0.0036	0.016	0.031^(c)	0.012	0.0038
Potassium	mg/L	-	-	0.51	0.53	0.65	0.66	2.0	2.1
Rubidium	mg/L	-	-	0.0013	0.0017	0.0018	0.0022	0.0038	0.0048
Selenium	mg/L	-	0.0010	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Silicon	mg/L	-	-	0.48	0.13	1.0	0.58	0.58	<0.1
Silver	mg/L	-	0.00025	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Sodium	mg/L	-	-	0.73	1.1	1.2	2.1	5.1	7.1
Strontium	mg/L	-	-	0.0074	0.010	0.013	0.025	0.099	0.12
Sulphur	mg/L	-	-	1.9	2.2	4.3	7.8	18	19
Tellurium	mg/L	-	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Thallium	mg/L	-	0.00080	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Thorium	mg/L	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Tin	mg/L	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Titanium	mg/L	-	-	<0.0009	<0.0003	0.0022	0.0014	0.0036	<0.0003
Tungsten	mg/L	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Uranium	mg/L	0.033	0.015	0.000037	0.000024	0.000044	0.000044	0.00011	0.000015
Vanadium	mg/L	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Zinc	mg/L	0.011 - 0.039 ^(d)	0.0063 - 0.015 ^(e)	<0.003	<0.003	0.0096^(c)	0.013^(c)	0.030^(c)	<0.003
Zirconium	mg/L	-	-	<0.0002	<0.0002	<0.0002	0.00026	<0.0002	<0.0002

(a) = guideline is pH dependent. The guideline range shown is based on the pH range observed in the dataset (4.5 to 7.0). The guideline is calculated based on the individual pH for each sample.

(b) = guideline is pH dependent: 0.005 mg/L at pH < 6.5 and 0.1 mg/L at pH ≥ 6.5.

(c) = guideline is hardness dependent. The guideline range shown is based on the hardness range observed in the dataset (7 to 61 mg/L). The guideline is calculated based on the individual hardness value for each sample.

(d) = guideline is for dissolved zinc, but comparison to total zinc is appropriate when no dissolved zinc concentrations are available. The acute dissolved zinc guideline is hardness and DOC dependent. The guideline that results in the minimum acute zinc guideline (11.3 µg/L) is based on the combination of Hardness (6.8 mg/L) and DOC (0.3 mg/L). Guidelines calculated with Hardness and DOC values falling outside the defined range (i.e., Hardness 13.8 to 250.5 mg/L and DOC 0.3 to 17.3 mg/L) should be used with caution, as the WQG does not necessarily accurately reflect toxic effects at the low and high hardness and DOC extremes. The guideline is calculated based on the individual hardness and DOC measurements for each sample.

(e) = guideline is for dissolved zinc, but comparison to total zinc is appropriate when no dissolved zinc concentrations are available. The chronic dissolved zinc guideline is pH, hardness and DOC dependent. The guideline that results in the minimum chronic zinc guideline (6.3 µg/L) is based on the combination of field pH (4.5), Hardness (6.8 mg/L) and DOC (0.3 mg/L). Guidelines calculated with pH, Hardness and DOC values falling outside the defined range (i.e., pH 6.5 to 8.13, Hardness 23.4 to 399 mg/L and DOC 0.3 to 22.9 mg/L) should be used with caution, as the WQG does not necessarily accurately reflect toxic effects at the low and high pH, hardness and DOC extremes. The guideline is calculated based on the individual pH, hardness and DOC measurements for each sample.

(c) = concentration is higher than the chronic aquatic life CCME guideline or outside the recommended pH, DO or total alkalinity range.

Bolded concentrations are higher than water quality guidelines.

Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision *after* comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Concentrations equal to the guideline values were not identified as exceedances.

CQWG = Canadian Water Quality Guidelines; CCME = Canadian Council - = no guideline or no data.