

SIA sampling results for two sites sampled October 20 2016

| Parameter | Units | Weir | SW-1 | Water Quality Guidelines (approved and working) for the Protection of Aquatic Life WEIR HARDNESS | | Water Quality Guidelines (approved and working) for the Protection of Aquatic Life BACKGROUND HARDNESS | |
|------------------------|-------|-----------|-----------|---|-------|---|--------------|
| | | | | Chronic | Acute | Chronic | Acute |
| EMS Site Number | | | | | | | |
| Sample Date | | 20-Oct-16 | 20-Oct-16 | Chronic | Acute | Chronic | Acute |
| Depth / Duplicate | | | | | | | |
| Conductivity | µS/cm | 647 | 819 | | | | |
| Turbidity | NTU | 82.7 | 11.9 | | | | Change of 5 |
| Total Suspended Solids | mg/L | 43 | 11 | 25** | | change of 5 | Change of 25 |
| Hardness - Total | mg/L | 193 | 281 | | | | |
| Anions | | | | | | | |
| Chloride -Dissolved | mg/L | 74.1 | 96.2 | 150 | 600 | 150 | 600 |
| Sulphate | mg/L | 97.1 | 173 | 218 | | 218 | |
| Total Metals | | | | | | | |
| Aluminum | µg/L | 4570 | 534 | | | | |
| Antimony | µg/L | 0.5 | 0.3 | | 20 | | 20 |
| Arsenic | µg/L | 1 | <0.5 | | 5 | | 5 |
| Barium | µg/L | 41 | 33 | 1000 | 5000 | 1000 | 5000 |
| Beryllium | µg/L | <0.1 | <0.1 | 5.3 | | 5.3 | |
| Bismuth | µg/L | <0.1 | <0.1 | | | | |
| Boron | µg/L | 55 | 52 | | 1200 | | 1200 |
| Cadmium | µg/L | 0.02 | 0.02 | | | | |
| Calcium | mg/L | 58.6 | 85.5 | | | | |
| Chromium | µg/L | 9.7 | 1.8 | | 1 | | 1 |
| Cobalt | µg/L | 2.46 | 0.78 | 4 | 110 | 4 | 110 |
| Copper* | µg/L | 9 | 2.8 | 8 | 20 | 2 | 7 |
| Iron | µg/L | 4680 | 570 | | 1000 | | 1000 |
| Lead* | µg/L | 2.1 | 0.4 | 11 | 189 | 4.6 | 33.5 |
| Magnesium | mg/L | 13.8 | 16.1 | | | | |
| Manganese* | µg/L | 214 | 68.9 | 1454 | 2667 | 800 | 1100 |
| Molybdenum | µg/L | 1 | 1.6 | 1000 | 2000 | 1000 | 2000 |

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|-------------------------|-------|-------|-------|---|------|---|------|
| | | | | | | | |
| Nickel* | µg/L | 8.4 | 2.4 | | 150 | | 25 |
| Phosphorus | µg/L | 100 | 20 | | | | |
| Potassium | mg/L | 2.21 | 2.29 | | 373 | | 373 |
| Selenium | µg/L | <0.5 | <0.5 | 2 | | 2 | |
| Silicon | µg/L | 10900 | 4900 | | | | |
| Silver* | µg/L | <0.05 | <0.05 | 3 | 1.5 | 0.05 | 0.1 |
| Sodium | mg/L | 44.7 | 44.6 | | | | |
| Strontium | µg/L | 293 | 366 | | | | |
| Sulfur | mg/L | 47 | 65 | | | | |
| Thallium | µg/L | <0.02 | <0.02 | | 0.3 | | 0.3 |
| Tin | µg/L | <0.2 | <0.2 | | | | |
| Titanium | µg/L | 238 | 28 | | 2000 | | 2000 |
| Uranium | µg/L | 0.6 | 0.94 | | 300 | | 300 |
| Vanadium | µg/L | 12 | 2 | | 6 | | 6 |
| Zinc* | µg/L | 14 | 4 | 85 | 110 | 7.5 | 33 |
| | | | | | | | |
| Dissolved Metals | | | | | | | |
| Aluminum | µg/L | 7 | 7 | 50 | 100 | 50 | 100 |
| Antimony | µg/L | 0.4 | 0.3 | | | | |
| Arsenic | µg/L | <0.5 | <0.5 | | | | |
| Barium | µg/L | 16 | 30 | | | | |
| Beryllium | µg/L | <0.1 | <0.1 | | | | |
| Bismuth | µg/L | <0.1 | <0.1 | | | | |
| Boron | µg/L | 53 | 47 | | | | |
| Cadmium* | µg/L | <0.01 | 0.01 | 0.34 | 1.16 | 0.06 | 0.09 |
| Calcium | mg/L | 56.9 | 85.2 | | | | |
| Chromium | µg/L | 0.7 | 0.6 | | | | |
| Cobalt | µg/L | 0.2 | 0.3 | | | | |
| Copper | µg/L | 1 | 1.5 | | | | |
| Iron | µg/L | <10 | <10 | | 350 | | 350 |

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|------------|-------|-------|-------|--|--|--|--|
| | | | | | | | |
| Lead | µg/L | <0.1 | <0.1 | | | | |
| Magnesium | mg/L | 12.4 | 16.6 | | | | |
| Manganese | µg/L | 137 | 57.8 | | | | |
| Molybdenum | µg/L | 1 | 1.6 | | | | |
| Nickel | µg/L | 1.6 | 1.6 | | | | |
| Phosphorus | µg/L | <20 | <20 | | | | |
| Potassium | mg/L | 1.75 | 2.32 | | | | |
| Selenium | µg/L | <0.5 | <0.5 | | | | |
| Silicon | µg/L | 2400 | 4300 | | | | |
| Silver | µg/L | <0.05 | <0.05 | | | | |
| Sodium | mg/L | 44.5 | 46.4 | | | | |
| Strontium | µg/L | 281 | 374 | | | | |
| Sulfur | mg/L | 47 | 66 | | | | |
| Thallium | µg/L | <0.02 | <0.02 | | | | |
| Tin | µg/L | <0.2 | <0.2 | | | | |
| Titanium | µg/L | <5 | <5 | | | | |
| Uranium | µg/L | 0.47 | 0.91 | | | | |
| Vanadium | µg/L | <1 | <1 | | | | |
| Zinc | µg/L | <4 | <4 | | | | |

*Hardness dependent WQG

Above BC Aquatic Life WQG

Requires background hardness

Permit exceedance

** this is a permit limit requirement