



## Memorandum

Ministry of Environment  
Environmental Protection  
1259 Dalhousie Dr  
Kamloops BC V2C 5Z5

**Date: August 07, 2014**

**File:**

**To: Jim Standen,  
Assistant Deputy Minister  
Environmental Protection Division**

**Re: Quesnel Lake Water Quality of August 7, 2014**

Ministry of Environment Staff collected water quality samples at several locations in Quesnel Lake on a daily basis since August 4, 2014, the day of the Mt. Polley Tailings Dam Breach to determine potential impacts on drinking water quality and aquatic life.

The Parameters analysed so far include pH, conductivity, turbidity, total suspended solids, total dissolved solids, Hardness, alkalinity, total and dissolved metals, and E.coli. While concentrations of most of these parameters could be influenced by the tailings discharge, E.coli bacteria are not a typical contaminant in tailings and results are thus likely not due to the tailings discharge.

Samples collected near the Town Site of Likely and on the North Shore of Quesnel Lake indicate that none of the analysed chemical and physical contaminant concentrations exceeded BC or Health Canada Drinking Water Guidelines. E.coli concentrations were below or just above the guideline at typical concentrations for lakes in BC and well below the disinfection and partial treatment guidelines. The detected value of 1 E.coli / 100mL is not likely a result of the tailings discharge.

Contaminant concentrations at the above sites were well below aquatic life guidelines at all sites. However, the concentrations for Cadmium and Zinc could not be compared to guidelines, since the lab analysis detection limit was higher than the guideline and the detection limit for Chromium was at the guideline.

Based on the above impact to aquatic life and fish is not expected.

Fish tissue samples have not yet been collected, however, tissue sampling is planned in the near future. Generally bio-accumulation of contaminants in fish muscle tissue occurs over a longer exposure time than a few days.

Gabriele Matscha, RPBio.,  
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