



Mount Polley Mining Corporation

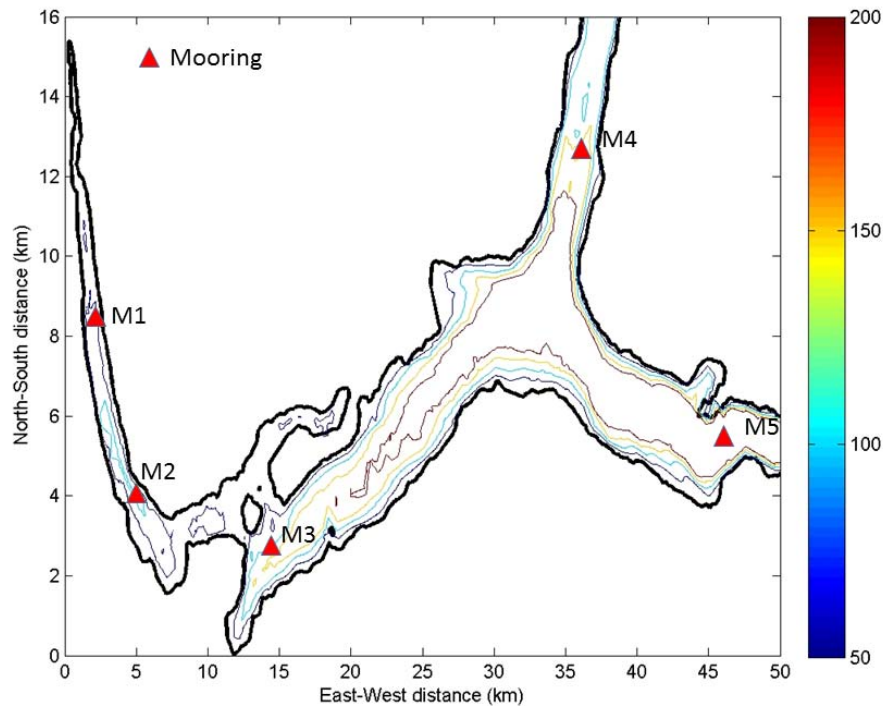
an Imperial Metals company

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Mount Polley Mine Supports Quesnel Lake Research

Mount Polley Mining Corporation (MPMC) has recently purchased equipment required to undertake a research project on Quesnel Lake including studies of its circulation patterns, cloudiness, and algal growth.

MPMC has purchased a number of scientific research instruments, including 7 turbidity/fluorescence recorders, 7 turbidity sensors, 2 conductivity/temperature sensors, 5 depth/temperature sensors and 16 temperature sensors, that were deployed on November 21 on five subsurface moorings in Quesnel Lake by Department of Fisheries and Oceans researchers, with the assistance of staff from the UNBC Quesnel River Research Centre (see simplified map below). In addition, the BC Ministry of the Environment has committed funding to support logistics costs related to the deployment and retrieval of these moorings and their instruments.



These instruments will measure turbidity and chlorophyll to monitor both the sediment plume and phytoplankton distributions as well as water temperature and lake levels throughout the lake. In addition, the water flow in and out of the West Arm is being monitored using two Acoustic Doppler Current Profilers (ADCP) contributed by Fisheries and Oceans Canada. All these sensors will help us understand the water movement and how the formation and breakdown of the seasonal thermocline (temperature layer) of Quesnel Lake will affect the turbidity and sediment transport in the lake. The moorings will be recovered, serviced and redeployed in May 2015, at which time we will get access to the first set of data.

This cooperative research program provides MPMC with a way to monitor Quesnel Lake conditions, especially when ice cover prevents boat access, but also as a continuous record of what is going on in the lake. These data will provide the research community with valuable data as often as every second for months at a time from now on and into the future. Quesnel Lake is the deepest lake in British Columbia (maximum depth of 506 metres) and the deepest fjord lake in the world. The lake sits in a region with extensive sockeye, kokanee, trout and other fishery resources. This makes it a lake of considerable scientific research interest.



These acoustic doppler current profilers (ACDP) use the variable nature of sound waves created by particles in the water to measure water currents. They are also instrumented with temperature and turbidity probes and double as anchors for two of the moorings. *Photo: S. Albers, QRRC Manager*



The heavily instrumented moorings prior to deployment on UNBC's Mathews research vessel. Moorings are anchored to the lake bottom by a heavy chain and submerged just below the surface. The moorings provide continuous information on the physical structure and biological patterns within Quesnel Lake. *Photo: S. Albers, QRRC Manager*

MPMC recently concluded a significant limnological (study of lakes) data collection exercise involving two specially-equipped research vessels and will be making the data available to researchers. MPMC have also used the data to develop a predictive computer simulation model (hydrodynamic model) that describes the movement of Quesnel Lake water, particularly in the West Arm. The results of this model were recently posted to *Mount Polley Updates* on Imperial Metals' website www.imperialmetals.com.

MPMC's contribution of approximately \$100,000 to fund the equipment acquisition will be an enduring contribution to Quesnel Lake research as the equipment will be gifted to a non-commercial research group or institution when the Mount Polley monitoring work is completed.

The collaborative research agreement between MPMC and the DFO-led research group will provide the research group with access to the data collected by the instruments for research and non-commercial purposes, and in exchange, the research group has agreed to provide historical data from similar moorings in Quesnel Lake for MPMC to use in its research on the impacts of the Mount Polley tailings dam failure.