



MEMORANDUM

DATE: Sept. 3, 2007

TO: Nathen Richea, INAC Water Resources

FROM: John Brodie, P. Eng.

SUBJECT: Ekati Mine, PKC Pore Water Quality Assessment

BHPB has prepared the report “Quality of Pore Water Extracted from Processed Kimberlite Beach in Cell B of the LLCF” dated May 2007. This memo presents comments on that report.

The sampling methodology and approach to analysis of samples appears appropriate for the project objectives. More sophisticated methods are probably not warranted for the very fine fraction where pore water is likely to be mostly immobilized or for the well drained material where there is little pore water that may cause environmental issues.

It is noted that the sampling addressed only the beach area of Cell B. The pore water associated with the “gelatinous fine fraction” is not considered in this report. However, freezing of this material with its very high moisture content may have a greater effect on supernatant and LLCF runoff water quality.

An evaluation of each of the water quality parameters against the Water Licence criteria has not been presented, and has not been done in preparing this memo. A brief scan of the water quality data in the appendices shows generally low levels for all of the parameters.

It is not known if cryo-concentration could yield problematic concentrations of some parameters as permafrost aggrades into the tailings. However, this process is relatively slow, not all of the cryo-concentrated fluids would be expressed from the tailings, and dilution would mitigate some of the potential concerns.

It may be beneficial for BHPB to prepare an evaluation of cyro-concentration effects for the long-term discharge from the combined coarse and gelatinous tailings.