

**BHP Billiton Diamonds Inc.**  
Operator of the EKATI Diamond Mine



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Wek'èezhii Land and Water Board  
P.O. Box 2130  
Yellowknife, NT  
X1A 2P6  
Attention: Ms. Violet Camsell-Blondin, Chair

Dear Ms. Camsell-Blondin:

**Re. 2007 Waste Rock and Waste Rock Storage Area Seepage Survey Report**

BHP Billiton is pleased to provide 2 hard copies plus 2 CDs of the report, *2007 Waste Rock and Waste Rock Storage Area Seepage Survey Report* (the "Report"). This report is submitted under Part F, Item 4(f) of Water Licence MV2003L2-0013.

The Report incorporates a number of presentation changes that relate to previous reviewer requests. BHP Billiton has incorporated such changes on the basis of providing a concise technical report that presents the necessary information in a clear manner.

The Water Licence requires "consideration of how the results will affect the Waste Rock and Ore Storage Management Plan". BHP Billiton has considered this and feels that the 2007 monitoring information does not affect the Waste Rock and Ore Storage Management Plan. Two areas of interest are highlighted below along with BHP Billiton's planned actions for 2008.

There are two areas of interest that are identified in the Report. These are SEEP-018/019 located near the northeast corner of the Panda/Koala Waste Rock Storage Area (WRSA) and SEEP-052 located near the northwest side of the Misery WRSA. Both of these locations have been identified as areas of interest in the past and extra monitoring, research and mitigative work has been conducted at each location.

SEEP-018/019 is an intermittent flowpath from the Panda-Koala WRSA. This flow increases in certain metals and decreases in pH along its flowpath. In 2007 BHP Billiton circulated a research report that validated a hypothesized chemical mechanism to explain the observed seepage chemistry. The mechanism as it is now understood is that WRSA seepage water containing higher than natural levels of calcium ions interacts with the natural soils to result in a chemical substitution that adsorbs natural aluminum from the soil into the water and that lowers

the pH. This suggests that the observed elevated aluminum level should decrease slowly with time. Indeed, the concentration of total aluminum at SEEP-019 has decreased from 2005 to 2006 to 2007.

BHP Billiton feels that the mechanism explaining the observed chemistry along the SEEP-018 to 019 flowpath is adequately understood and that the monitoring results appear to confirm the expectation of decreasing aluminum over time. However BHP Billiton feels that increased monitoring is necessary to increase confidence in the current understanding and expectation. Therefore, in addition to the routine spring and fall seepage surveys, BHP Billiton will conduct weekly sampling at locations SEEP-018 and SEEP-019 through the open-water season of 2008. The weekly samples will be analysed for total metals and major ions as defined in the Water Licence plus dissolved metals and field parameters. The results of the weekly monitoring will be included into the 2008 Report.

Seep-052 is an intermittent flow from the northwest side of the Misery WRSA. This seepage water contains concentrations of certain metals that are elevated as compared to other seepage locations. In the past, BHP Billiton relocated metasediment waste rock away from the area immediately upgradient of the seepage, which resulted in a change in water chemistry at SEEP-052. Nonetheless, the concentrations of some metals in the seepage water remained elevated through 2007.

In 2007 BHP Billiton conducted weekly sampling at location SEEP-052 as a means of gathering the information necessary to identify trends in seepage chemistry. The data indicate that there is variability through the summer season. BHP Billiton feels that this area continues to be of interest and therefore, in addition to the routine spring and fall seepage surveys, BHP Billiton will conduct weekly sampling at location SEEP-052 through the open-water season of 2008. The weekly samples will be analysed for total metals and major ions as defined in the Water Licence plus dissolved metals and field parameters. The results of the weekly monitoring will be included into the 2008 Report.

BHP Billiton trusts that the attached report and the information in this letter are clear. Please contact the undersigned at 669-6116 if you have any questions.

Sincerely,  
**BHP Billiton Diamonds Inc.**



Eric Denholm  
Superintendent - Traditional Knowledge and Permitting  
EKATI Diamond Mine