

BHP Billiton Diamonds Inc.
Operator of the EKATI Diamond Mine



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Wek'èezhii Land and Water Board
1 4905 – 48th Street
Yellowknife, NT
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Attention: Ms. Violet Camsell-Blondin, Chair

Dear Ms. Camsell-Blondin:

Re: Study Report for Acid Rock Drainage (ARD) Classification of Kimberlite

BHP Billiton Diamonds Inc. (BHP Billiton) is pleased to submit a copy of the report, *ARD Classification of Kimberlite* in response to questions and concerns previously raised by stakeholders regarding the carbonate mineralogy of the kimberlites.

The origin of this particular study was a question regarding whether the current classification of kimberlite waste rock as not-potentially acid generating (PAG) might be influenced by the specific type of minerals that are measured as neutralizing potential through standard tests. For example, if a large portion of the neutralizing minerals are readily reactive minerals such as calcite and dolomite, then the standard tests can be used to provide the classification. However, if a large portion of the neutralizing minerals are slow or non-reactive minerals such as silicates or iron carbonates, then the actual neutralization that is available will be less than indicated by those tests.

To investigate this question, a series of specialized tests (including Riesveld XRD, microprobe and mineralogical assessment) that determine the type of neutralizing minerals present in rock were completed. The test results indicate that the neutralizing minerals are dominated by calcite and dolomite, which are readily reactive. Therefore the current method for calculating neutralization potential (NP) from carbonate content and the classification of kimberlite as not-PAG are valid.

This study is one of a number of studies that are underway to address questions raised through reviews of annual Seepage Reports and through the 2006 Environmental Impact Review (EIR) process. We are submitting this study report on its' own ahead of others because this is a stand-alone study and because some of the other studies may take some time before adequate information is collected to provide a technical report. The other studies are summarized below:

Field performance of potentially reactive waste rock and kimberlite

This is a field study where crushed rock and processed kimberlite of various types is placed into open barrels at the mine site and natural precipitation is allowed to infiltrate. Seepage water from the barrels will be collected and analysed. We anticipate that it will be several years before adequate data is collected that would provide for useful technical discussions.

The rationale for this study is that the field performance of waste rock and processing residues is not well understood due to tundra contact effects. These controlled field tests should show field weathering effects without the effect of tundra leaching. For this reason, it is important that fresh (unweathered) material is obtained for these tests. To date, the following barrel tests have been established:

- Granite
- Metasediment (schist)
- Waste kimberlite rock
- Kimberlite
- Fine processed kimberlite
- Coarse kimberlite rejects

Evaluate origin of acidity in seepage water/Tundra soil study

This is a field and desktop study to investigate the origins of seepage water that has pH lower than the natural runoff, using SEEP-019 on the north toe of the Panda waste rock pile as a test case. One speculated explanation is the emergence of iron-rich water that results in pH depression, possibly involving an ion exchange mechanism. This study is specifically designed to assess this concept (including ion-exchange). An understanding of the mechanism responsible for lower pH water will help to indicate potential for future changes in pH.

The time required for sample collection, shipment, assaying at a professional laboratory and, finally, analysis of results by technical specialists is substantial and efforts are being made to complete this report quickly. However, it remains important to ensure that adequate time is taken to provide a well-researched and complete report to the Board and to also ensure that other essential work is not displaced. We anticipate that a study report will be available for the Board later in 2007.

Long Lake Containment Facility (LLCF) Tailings Porewater Characterization

A field and desktop study of the quality of porewater in Cell B tailings is being conducted to provide an estimate of porewater quality of tailings that are subject to weathering and continued water renewal. The information obtained will be used as an input to the LLCF water model which will assist with identifying possible long-term, reclamation issues.

A report on this study is undergoing final technical review and will be shared with the Board when complete.

We trust that the attached report and the comments on other studies that are underway provide an update on how BHP Billiton is continuing to work with reviewers to answer complex technical questions regarding seepage from rock piles. Since the questions are of a complex scientific nature, the studies that are underway require adequate time to develop complete responses and we are moving these studies along as quickly as practical.

If you have any questions, please do not hesitate to contact Charlie Morrissy, Environmental Specialist (880-2232).

Sincerely,

BHP Billiton Diamonds Inc.



for

Laura Tyler

Manager – Environment, Community, Communications and Planning

EKATI Diamond Mine

LT/ejd/cjm...

Attachment