



INDEPENDENT ENVIRONMENTAL MONITORING AGENCY

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David Scott
Manager Technical Services
BHPB Billiton Diamonds Inc.
#1102 4920-52nd Street
Yellowknife NT
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**Re: Independent Review of
2004 Waste Rock Storage Area Seepage and Waste Rock Survey Report**

Dear Mr. Scott

The Independent Environmental Monitoring Agency commissioned an independent review (pursuant to Article 4.2(c)(iii) of the Environmental Agreement) by reclamation specialist, Bill Price, of the above report, submitted by BHPB in accordance with requirement of Part F (3)(b) of Water Licence N7L2-1616. Attached for your information are the reviewer's comments. You may recall that a similar review was conducted of the 2003 seepage report and copied to BHPB on June 23, 2004.

The Agency concurs generally with the findings of the independent review. In our view, there is uncertainty remaining about the long-term chemical stability of some waste rock types on site, and how well post-closure conditions for acceptable water quality can best be met. The geochemistry work, as well as a discussion of the results, should be made more robust in the near future to narrow the uncertainties identified in the independent review, particularly in light of the need for more progress on closure. This is in keeping with the Agency's view that monitoring should be carried out so that BHPB can get the information it needs for effective environmental management of Ekati.

In submitting the independent review to BHPB, we wish to highlight several of the key findings, namely that:

1. the 2004 seepage report would be improved if it better addressed the management implications of the monitoring results;
2. the 2004 report showed no evidence of having considered recommendations from the earlier independent review of the 2003 seepage report;
3. there is uncertainty regarding future performance of some of the wastes and the ability of present mitigation measures (e.g. toe berms and permafrost aggradation) to achieve the post-closure environmental protection and reclamation objectives;
4. drainage from the coarse kimberlite rejects may present an environmental concern after mine closure;



5. the cause of the acidity observed at some waste rock seeps is still uncertain;
6. tundra water is likely exacerbating potential acidity and metal leaching processes;
7. the leaching of nickel from kimberlite and black clay may be a potential concern in the long-term;
8. heat produced from sulphide oxidation in some of the dumps may interfere with the adopted strategy of relying on freezing of the waste rock material to prevent ARD.

The independent reviewer recommends a number of “proposed actions” to deal with the above issues, as well as a number of other, more specific problems identified. The main ones can be summarized as follows:

1. the terms of reference for future survey reports should be expanded to include:
 - a discussion of management implications of the monitoring data;
 - a discussion of the implications of past placement of waste rock materials that may be interacting with tundra water, and that may present operational or post-closure issues for site water management;
 - an analysis of the long-term effectiveness of freezing as an ARD mitigation measure (the 2004 report did not discuss the thermal monitoring results or implications for management);
 - completion of kimberlite mineralogical characterization (using quantitative x-ray diffraction techniques) to identify source materials for observed metals and ARD;
2. BHPB should focus more on demonstrating that drainage from the coarse kimberlite rejects can meet receiving environmental objectives after the mine closes;
3. additional controlled studies are required to better understand the mechanisms of acid generation, the potential magnitude and location of future acid generation and metal loadings, whether additional mitigation measures or refinements to the mine plan are required, and whether there is a potential for long-term nickel leaching from kimberlitic wastes.

We hope the BHPB finds this submission helpful in refining the waste rock seepage survey in the future. We look forward to an opportunity to fully discuss this review and BHPB’s formal response.

Respectfully,

-ORIGINAL SIGNED BY-

William A. Ross
Chairperson

cc. Society Members
Chairperson, Mackenzie Valley Land and Water Board