



Wek'èezhii
Land and Water Board

Box 32, Wekweètì, NT X0E 1W0
Tel: 867-713-2500 • Fax: 867-713-2502 • www.wlwb.ca

April 19, 2007

File: MV2003L2-0013

Mr. Richard Weishaupt
Manager, Health, Safety and Environment
BHP Billiton Diamonds Inc.
#1102, 4920-52nd Street
YELLOWKNIFE, NT X1A 3T1

Fax: (867) 669-9293

Dear Mr. Weishaupt:

Conditional approval of the December 2006 plan for the 2007-2009 AEMP

The Wek'èezhii Land and Water Board (the Board) met on April 19, 2007 to review the December 2006 plan for the Aquatic Effects Monitoring Program for 2007-2009. To assist in its review of the plan as well as stakeholder comments, the Board commissioned Gartner Lee Limited and Ecometrix to provide their own analysis in the form of a comment summary table (attached).

The Board decided to conditionally approve the plan provided that BHP Billiton Diamonds Inc. (BHPB) fulfills the requirements listed below. Please note that the tracking numbers correspond to the tracking numbers used in the attached table.

1. Commitments: BHPB fulfills their commitments made in their responses to review comments (Tracking Numbers 7, 10, 11, 14, 17, 18, 32, 33, 50, 51, 57, 58, 59 and 62).
2. Open Water Sampling Schedule: The current schedule of sampling in June, July and August shall be maintained. If BHPB wants to proceed with August only sampling, BHPB needs to submit information demonstrating that August only sampling is superior or at least an equally effective indicator of long term trends (Tracking Numbers 6, 16 and 45).
3. Three year reviews: The three year reviews of the plan for the AEMP as required by WL MV2003L2-0013 shall include:
 - a) Multivariate Statistics: BHPB shall fulfill its commitment to carry out multivariate analysis every three years, with time trend analysis carried out every year (Tracking Numbers 12, 24 and 47).
 - b) Stepwise methodology: BHPB shall fulfill its commitment to provide an assessment of the utility of step-wise elimination of biotic data during the next review of the plan scheduled for 2009 (Tracking Numbers 26 and 48). If species are eliminated, rationales referencing the exploratory analysis must be provided.
 - c) Use of fish plugs: BHPB shall fulfill its commitment to reconsider the use of fish plugs during the next review of the plan scheduled for 2009 (Tracking Number 20). The

suite of required analytes should focus on harmful metals that bioaccumulate in fish tissues.

4. **DELTA analysis:** The Board notes that under point 13 on page 2-2 of the plan that Lutsel K'e and the Inuit are the groups that have expressed interest in participating in the DELTA analysis. The Board expects BHPB to extend the invitation again to the other affected communities well in advance of the start of the scheduled field season for the DELTA analysis.
5. **Shallow water benthic sampling:** The Board approves the termination of shallow water benthic sampling.
6. **February 2008 Report:** In a letter to the Board dated December 31, 2006, BHPB wrote that *"BHP Billiton is committed to undertake a variability study and to evaluate the issue of effects size."* BHPB proposed to submit the results of this work to the Board in February 2008 following discussions with stakeholders. The Board accepts this proposal and expects BHPB to uphold its community engagement commitments.

In addition, BHPB must include the following information in the February 2008 report under the identified sections:

- a) **Effects Sizes**
 - o the evaluation of effects sizes must include an evaluation of power analysis (Tracking Number 4)
- b) **Variability Study**
 - o As committed to by BHPB, the variability study shall include a component on core sampling and whether or not there is any systemic bias related to this sampling method. The variability study is to address sediment deposition rate and, if necessary, consider 1 cm sampling depths (Tracking Numbers 9 and 31).
 - o The variability study is to include shallow water benthic sites and is to consider standardizing sampling on specific substrates and proportional representation of all substrate types for stratified sampling (Tracking Number 19).
 - o The variability study is to indicate what constitutes a valid replicate for the purpose of representing within-lake variability (Tracking Number 55).
7. **Flushing times** (annual, peak and no discharge periods) are to be provided in the February 2008 Report for Leslie, Moose, Nema and Slipper Lakes (Tracking Number 2).
8. **LLCF Water Quality Modeling:** The Board appreciates BHPB's efforts to improve the LLCF water quality modeling. Although this isn't a requirement of BHPB's water licenses, the Board has given a number of approvals, most notably for the use of chloride in the process plant and the Wastewater and Processed Kimberlite Management Plan, on the understanding that the results of this modeling would be provided to the Board in the near future. BHPB must complete this modeling and update the plan for the AEMP if necessary to address any trends of concern identified in the modeling results. The changes, if any, are to be proposed in the February 2008 Report so that they can be reviewed by the Board (Tracking Number 1). The Board itself may require changes to be made to the plan based on the modeling results.
9. **Cumulative Effects:** Part 1, item 3(h) of Water Licence MV2003L2-0013 requires that BHPB include in the plan for the AEMP "a description of how the project-related

cumulative effects on the aquatic environment in the Lac de Gras region will be evaluated, including the effects of contaminant loadings." Although BHPB is not responsible for carrying out a regional cumulative effects assessment on Lac de Gras, BHPB must collect the Ekati-related data that would inform such an assessment. To satisfy the licence condition quoted above, BHPB shall identify all stressors reaching Lac de Gras through the Slipper Lake and Lac du Sauvage drainages and all other pathways sourced at Ekati (e.g. dust deposition) and describe the monitoring needed to document the magnitude of these stressors (Tracking Numbers 3 and 28). This information is to be provided in the February 2008 Report.

10. In the February 2008 Report, BHPB is to more fully clarify the following:

- a) It's responses to Environment Canada's comments regarding the purpose of doing triplicate samples for all lake water samples and the archiving of invertebrate samples for at least 5 years (i.e. why will samples only be archived for 3 years?) (Tracking Numbers 30 and 34).
- b) How multiple reference lakes will be treated in the analysis of time trends compared between lakes (i.e. lake x time interaction) (Tracking Number 53).
- c) The reason why DOC will not be sampled (supporting analysis/justification required) (Tracking Number 49).

11. Link between the AEMP and Adaptive Management Plan: Part I, item 2(h) of WL MV2003L2-0013 requires that BHPB describe "...how the results of the [AEMP] will be incorporated in the overall adaptive management strategies employed by [BHPB]." The Board understands that much of this information will be included in the Adaptive Management Plan and that it relates to the results of BHPB's evaluation of effects sizes. The Board will review the Adaptive Management Plan and the report on effects sizes and, if necessary, provide BHPB with further direction on how to address the licence requirements quoted above.

Overall, the Board appreciates BHPB's efforts to address the review comments and its commitment to revise the plan for the AEMP based on the results of the various studies BHPB is undertaking. The Board will also be reviewing these studies, including the February 2008 Report, and may require changes to be made to the plan for the AEMP.

If you have any questions, contact Sarah Baines at (867) 766-7457 or email sbaines@mvlwb.com.

Yours sincerely,



Violet Camsell-Blondin
Chair

Attachment – Gartner Lee Limited review

Copied to: BHPB Distribution List



Transmittal Sheet

File: **MV2003L2-0013**

To: **Mr. Richard Weishaupt, BHPB**

From: **Violet Camsell-Blondin**

Fax: **1-867-880-4012**

Pages: **5 + table (table sent via email)**

Phone: **n/a**

Date: **May 28, 2007**

Re: **Board decision – AEMP 2007-2009**

CC: **BHPB Distribution List**

Urgent

For Review

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Please see the attached letter describing the Board's decision on the December 2006 plan for the 2007-2009 AEMP.



Wek'èezhì
Land and Water Board

Yellowknife Office (BHP Billiton & Diavik only):
#1 4905 - 48th St., Yellowknife, NT X1A 3S3
Fax: 867-669-9593

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Bruce Hanna	DFO	<input type="checkbox"/> 867-669-4940

OTHERS

Bill Ross	HEMA	<input type="checkbox"/> 867-669-9145
David Scott	BHP Billiton Diamonds Inc.	<input type="checkbox"/> 867-669-9293