



**bhpbilliton**

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

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Wek'eezhii Land and Water Board  
Box 2130, 7<sup>th</sup> floor 4910-50<sup>th</sup> Avenue  
Yellowknife, NT  
X1A 2P6

Attention: Ms. Violet Camsell-Blondin, Chair

Dear Ms. Camsell-Blondin:

**Re: Aquatic Effects Monitoring Program (AEMP) Plan for 2007-2009, Condition Part I-1,  
Water Licence MV2003L2-0013**

Water licence term MV2003L2-0013 Part I – 1 requires that BHP Billiton complete a comprehensive review of the Aquatic Effects Monitoring Program (AEMP) for submission to the Wek'eezhii Land and Water Board by December 31, 2006 and every three years thereafter. Therefore in accordance with this requirement BHP Billiton is pleased to submit a revised AEMP for the period 2007 – 2009 (dated December 31, 2006) for the Board's approval.

The review and revision of the AEMP involved a comprehensive process which included consideration of input from our stakeholders. These stakeholders included the responsible federal and territorial government departments, the Independent Environmental Monitoring Agency (IEMA), an independent peer review solicited by BHP Billiton from Simon Fraser University and the Aboriginal groups that have Impact Benefit Agreements (IBAs) with EKATI. The consultation process included considering comments on the existing AEMP that BHP Billiton had received from stakeholders over the last three years since the last program review. The most significant of the pre-existing comments accommodated in the AEMP review was that BHP Billiton should use multi-variate statistical analysis as part of the re-examination of the analytical analysis of AEMP water quality parameters. This recommendation was received from many of our stakeholders as a means to ensure that the existing AEMP was detecting all potential changes in the receiving environment water quality downstream of the EKATI site.

Multivariate statistics were utilized in the review of the AEMP and were summarized in a report entitled "*EKATI Diamond Mine- AEMP Proposed Program for 2007-2009*" that was released to the WLWB and our stakeholders for their review in mid November 2006. The report was subsequently reviewed with stakeholders in a two day multi-party technical session, which was held at the end of November 2006. Representatives from government, the IEMA and the Aboriginal groups were in attendance. Following the workshop, stakeholders were given an opportunity to provide written comments to BHP Billiton by December 15, 2006. This timeline was established to allow BHP Billiton the opportunity to revise the 2007-2009 Aquatic Monitoring Program, incorporating additional stakeholder comments in time to meet the December 31, 2006 deadline identified in the water licence.

BHP Billiton is committed to community consultation. With the release of the “*EKATI Diamond Mine- Aquatic Effects Monitoring Program for 2007-2009*” BHP Billiton will offer to the IBA communities the opportunity to have the company provide community briefings on the AEMP at their request. BHP Billiton has requested the presence of government regulators at these community meetings so that the viewpoints of the regulators could be shared with local people. Several government regulators have agreed to consider this request.

At the technical session, representatives from Lutsel K'e requested a community meeting to discuss the proposed AEMP revisions and in particular the question of fish palatability. Attempts were made to arrange this meeting, accompanied by DFO representatives, in December 2006. However due to conflicting schedules, it was not possible to arrange a meeting with the community before the December 31st deadline as required under the Water Licence. This additional consultation will be attempted in the New Year.

It is BHP Billiton's opinion that the existing AEMP is a robust and effective early warning system for detecting potential changes in the downstream aquatic receiving environment. This opinion is based on the recently completed review of the AEMP methodology, the previous 2003 AEMP program review *EKATI Diamond Mine – AEMP Re-evaluation and Refinement Report: Proposed Program 2003-2007* and the annual results of the AEMP program over the last eight years of the mine's operation.

The AEMP has identified minute changes in water quality parameter concentrations within the aquatic receiving environment that are far less than the Canadian Council of Ministers of the Environment (CCME) guidelines. Effects were predicted in the 1995 Environmental Impact Statement (EIS) for the EKATI Diamond Mine, which was discussed by a Panel operating under the auspices of Environmental Assessment Review Process (EARP), and identified by the Panel within their 1996 report to the Federal Government. This report, which was accepted by government on behalf of all stakeholders, acknowledged that change will occur in the downstream receiving environment, as part of the consequences of the development of the EKATI Diamond Mine. However the predicted changes will not result in any significant adverse effect on the downstream environment that will extend past the final closure of the mine as measured against commonly accepted Canadian and/or international toxicological standards.

Therefore, based on the AEMP results to date, there has not been, nor is there, predicted to be a significant adverse effect on the downstream environment. The environment has been and will continue to be monitored. New tools such as the Adaptive Management Plan (required under Water Licence MV2003L2-0013 Part H – 7) are being developed and added to the existing comprehensive list of monitoring activities to assist in ensuring that future changes within the downstream receiving environment do not result in significant adverse effects.

The AEMP is collected and analyzed using standard methods that have been reviewed with and accepted by stakeholders so that the results of the monitoring program are comparable to other studies that may occur within the Lac de Gras Basin. Based on this use of standard methodology, the AEMP will support cumulative effects studies that may be designed and implemented by the appropriate federal regulatory authorities.

BHP Billiton acknowledges that the 2006 AEMP review has identified some areas where there maybe the potential for additional continuous improvement of the AEMP in the future. To this end, BHP Billiton is committed to undertake a variability study and to evaluate the issue of effect size. The issue of variability within our water sample replicates was identified previously by federal regulators and their consultants. The recent review of the AEMP water quality variables using

multivariate statistics analysis further reinforced the need to address this outstanding issue. Additionally the issue of effect size was raised as a new issue during the November information session.

Both of these suggestions, especially the issue of effect size, which was made late in the review process, will require substantial resources to undertake and evaluate and cannot be completed in time for the Board's consideration of the 2007 -2009 AEMP Plan. BHP Billiton is committed to evaluating these issues during 2007 and suggests that with the Board's permission, we would report back to the WLWB on these issues by February 1, 2008. This process requires a year because of the time required to undertake the necessary studies and consult with stakeholders prior to when BHP Billiton submits their findings to the Board. The company's report to the Board will include a recommendation on whether or not the AEMP will require revision of its methodology as a result of this additional work. If revision is necessary, BHP Billiton will submit a revised AEMP to the Board at that time, as provided for in the Water Licence MV2003L2-0013 Part I, Item 5. This proposed process provides the time, if necessary, to include additional changes for the 2008 AEMP program.

We trust that the information provided is acceptable to the Board at this time. We would be pleased to address any questions regarding this submission that the Board may have. Thank you for your time and consideration of our submission.

Yours truly,  
**BHP Billiton Diamonds Inc.**



Brent Murphy, M.Sc., P.Geol  
Chief Environmental Officer - Operations

Attachments

- cc. Anne Wilson, Environment Canada
- Bruce Hanna, Department of Fisheries and Oceans,
- Rebecca Chouinard, Department of Indian Affairs and Northern Development
- Joel Holder, Government of the Northwest Territories Department of Environment and Natural Resources
- Bill Ross, Independent Environmental Monitoring Agency
- Eddie Erasmus Tli cho Government
- Rachel Crapeau, Yellowknife Dene First Nation
- Monica Kreiger, Lutsel K'e Dene First Nation
- Geoff Clarke, Kitikmeot Inuit Association
- Sheryl Grieve, North Slave Métis Alliance