Ekati Closure and Reclamation Plan Working Group Advisory Document

Prepared: June 30, 2008 **Files:** MV2001L2-0008 & MV2003L2-0013

Working Group Meeting Date: May 29-30th, 2008
Board Meeting Date: July 3rd, 2008

SUBJECT:

Section 4 (Chapter 8 – Environmental Assessment, Chapter 9 – Progressive Reclamation, Appendix F – Reclamation Research Plan, Appendix G – Post Closure Monitoring) of the Ekati Interim Closure and Reclamation Plan (ICRP) as submitted by BHP Billiton Diamonds Inc. (BHPB).

REGULATORY HISTORY:

On January 15, 2007 BHP Billiton submitted an Interim Closure and Reclamation Plan (ICRP) to the WLWB to satisfy the requirements of Water Licences MV2001L2-0008 and MV2003L2-0013.

Submission of the ICRP reactivated the Working Group responsible for providing *"… opinions and recommendations in a timely manner to the Board on the technical soundness and adequacy of the ICRP in fulfilling the requirements set out in Water Licences MV2001L2-0008 (Part L) and MV2003L2-0013 (Part J), and the requirements set out in the ICRP Terms of Reference once approved by the Board"* (taken from the Working Group Terms of Reference, December 2005).

1. The ICRP was divided into four sections to ease its review:

Working Group Section	Corresponding Parts of the ICRP
1	1. Executive Summary 2. Introduction 3. Scope 4. Project Background 5. Mine Overview Appendix A - Terms and Definitions Appendix C - Closure Goal, Objective and Criteria

2	6.1 Open Pits 6.2 Underground Mines 6.3 Waste Rock Storage Area Appendix D- Engineering Summary only those items that apply to sections 6.1 -6.3
3	6.4 Processed Kimberlite Containment Facilities 6.5 Dams, Dykes and Channels 6.6 Buildings and Infrastructure Appendix D - Engineering Summary only those items that apply to sections 6.4-6.6.
4	7. Temporary Closure Measures 8. Environmental Assessment 9. Progressive Reclamation Appendix F - Reclamation Research Plan Appendix G - Post Closure Monitoring
Sections of the ICRP providing background and supplementary information, but were not to be reviewed and approved by the Board.	Appendix B - Community Consultation Summary Appendix E - Risks and Contingencies Appendix H - Expected Cost of Closure and Reclamation Appendix I - ICRP Terms of Reference Appendix J - Plain English Summary

2. A familiarization phase began on January 18, 2007 and lasted four weeks. No written comments were required at the end of this phase but members were encouraged to review and become familiar with the plan in its entirety. This phase ended on February 18, 2007.

3. Immediately following the familiarization phase was the review and comment period for Section 1 of the ICRP. Following the review and comment period, BHPB provided responses to all received comments. The Section 1 working group meeting was held on May 3, 2007. Following the meeting, members had one week to provide written comments verifying whether or not BHPB's responses satisfied those comments and concerns raised before or during the meeting. BHPB used this opportunity to respond to recommendations made during the meeting. This verification period ended on April 18, 2006. The Section 1 Advisory Document was presented to the Board on May 25, 2007.

4. The Section 2 review was initiated following the receipt from BHPB of the revised closure objectives and criteria tables on June 22, 2007. The deadline for the submission of comments to be reviewed during the working group was July 27, 2007. Members were encouraged to discuss questions and concerns with BHPB prior to the submission of the comments.

5. On August 10, 2007, the WLWB reviewed the comments provided by all parties and provided direction to BHPB. BHPB provided their responses to comments on September 14, 2007 to allow two weeks for parties to view their responses. The Working Group meeting for Section 2 was held on September 28, 2007. Following the meeting, members had one week to provide written comments verifying

whether or not BHPB's responses satisfied those comments and concerns raised before or during the meeting. BHPB used this opportunity to respond to recommendations made during the meeting. This verification period ended on October 5, 2007 and the Advisory Document was presented to the Board on November 19th, 2007.

6. Parties were requested to submit comments for the Section #3 review by November 19, 2007. The Section #3 Working Group meeting took place on January 21, 2008. There were several minor issues that in the interest of time were not dealt with during the Working Group process, so all parties were advised that an additional round of verification comments would be allowed to address those issues that were postponed. To ensure that there was sufficient time to deal with each issue, the Section #4 Working Group meeting was held over 2 days to accommodate the expected large volume of discussion. The Section 3 Advisory Document was presented to the Board on February 18th, 2008.

7. Members of the Working group were directed to submit comments on Section 4 by April 4th, 2008 and BHPB provided their responses by May 16th, 2008. The Section 4 Working Group was held on May 29th and 30th.

ATTENDEES AT THE SECTION 4 WORKING GROUP MEETING – May 29th & 30th 2008:

Zabey Nevitt	WLWB
Ryan Fequet	WLWB
Kathy Racher	WLWB
Mark Cliffe-Phillips	WLWB
Erika Nyyssonen	GNWT-ENR
Bruce Hanna	DFO
Savanna Levenson	EC
Nick Lawson	Jacques Whitford
Steve Wilbur	Jacques Whitford
Jamie Van Gulck	LKDFN
Joe Murdock	LKDFN
Iris Catholique	LKDFN
Lionel Marcincoski	INAC- EC
Krystal Thompson	INAC- EC
Nathan Richea	INAC-WRD
Marc Casus	INAC-WRD
Tony Pearse	IEMA
Bill Ross	IEMA
Kevin O-Reilly	IEMA
Laura Tyler	BHPB
Helen Butler	BHPB
Marc Wen	Rescan
Gary Koop	EBA Engineering

SUMMARY OF REVIEW COMMENTS AND OPINIONS OF MEMBERS:

One substantive issue that remained after the review of previous sections was regarding reviewers request that BHP Billiton consider implementing shallow areas around the edges of the pits as a restoration technique that would provide potential fish habitat in the future and not to use fish barriers that would prevent fish from having access to the Pit Lakes and the LLCF. The majority of reviewer concerns have been addressed in the Agreement In Principle (AIP) between BHP Billiton and DFO (please find attached). At the Working Group meeting, BHP and DFO offered to consider comments from all parties on the content of their Agreement in Principle by June 12, 2008 and they will advise the Board when the agreement has been finalized.

Several items remained unresolved after the Section 4 review and the subsequent verification comments (#16, 22, 23, 25, 107, 117, 119, 121, 122, 201) however, after clarification and/or references are provided these issues will be resolved. However, there are 3 outstanding issues which the Board should be made aware of:

(1) The first outstanding issue relates to establishing clear linkages between the research plan and measurable closure objectives and criteria.

Parties are concerned that BHP Billiton is not able to identify clear measurable closure criteria for some of the mine components and feel that they should include direct linkages to a specific research program that will help identify each item. BHPB did update the reclamation research tables prior to the Section 4 Working Group meeting which was very helpful to members of the Working Group.

However, all parties still feel that linkages between the closure objectives and criteria and the research plan are deficient and haven't adequately addressed the known and unknown uncertainties. Jacques Whitford has supplied an example 'Research Plan' to highlight the concepts that most reviewers feel are necessary to produce a thorough and effective Closure and Reclamation Plan.

On June 27, 2008, BHP submitted a letter (attached) to the Board stating that they appreciated the Jacques Whitford example of what should be in a Research Plan and that they will be adopting it with a few minor changes.

(2) The second issue is regarding the research tasks to be completed within the Pit Lakes Study.

In the ICRP Terms of Reference, which was approved by the Board on May 17th, 2005, ten tasks were identified as areas that required further investigation to gain an understanding of the feasibility of creating pit lakes as a viable closure option. In a letter from the WLWB on April 30th, 2007, the Board invited BHPB to make changes to the tasks based on their research findings and working group discussions then incorporate these findings into the Reclamation Research Plan,

as well as provide updates on all of the tasks in the original Pit Lakes Study Terms of Reference.

In a Pit Lakes Study workshop hosted by BHPB in March of this year, they indicated that since they had decided keep fish out of the pit lakes at closure they didn't need to continue to investigate any of the tasks related to fish passage between or habitat within the pit lakes. These changes have not yet been submitted to the Board for approval. In light of the recent Agreement in Principle with DFO, reviewers believe that BHP should fulfil their commitment to the research tasks in the original Pit Lakes Study document and feel that "refining the design of created littoral habitats within each of the flooded pits, as well as in the connecting streams that may have been altered during pit operation" (Pit Lakes Terms of Reference pg. 3-17) is a key area that requires additional information and study considering the imminent closure of the Beartooth pit.

(3) The third issue is regarding the cut-off date for the inclusion of new information into the ICRP.

BHPB has stated that they "cannot provide continuous updates to the ICRP that is currently under review each time new information is published" (response to #31) so they have used January 2007 as their cut-off date since January 15th, 2007 was the date the version of the ICRP in question was submitted to the WLWB.

IEMA has identified 5 reports, published since January 2007, that they feel should be included in the ICRP - three of which BHPB has committed to incorporate. The two reports that BHP has not agreed to are the Pit Lakes Study and the Long Lake Water Quality Prediction Model (version 1 and 2). It is important to note that an extremely crucial report such as the Pit Lakes Study for example would greatly enhance the ICRP; however, this study won't be completed until the end of 2008 and so inclusion of this study would require the ICRP process to wait for the completion. On the other hand, Version 1 of the Long Lake Water Quality Prediction Model has been available internally to BHPB since 2005/2006 even though it wasn't made public until March of 2008. Overall, the constant arrival of new and important research is a valid reason why a cut-off date must be established so that a final version of the ICRP can be completed.

IEMA, JW and ENR believe that any relevant research which has been published or produced since January 2007 should be incorporated into the this version of the ICRP as this version will be approved approximately two years after the original submission and the next round of updates will not come for several years. The Board will have to consider if the January 2007 cut-off date is appropriate or not for this iteration of the ICRP.

NEXT STEPS:

At this point of the Working Group process, BHP Billiton is required to submit the 'Final ICRP Working Draft' incorporating all of the revisions and commitments made throughout the review of each of the four sections and any additional meetings with specific parties. There was no opposition from Working Group members to BHP Billiton's request for four months to revise and edit the 'Final Working Draft' of the ICRP. On June 27, 2008, BHPB requested a total of five months to make their revisions based on their recent agreement to significantly enhance the Reclamation Research Plan section.

At this time the Board will have to provide the Working Group with further direction on the process as the Terms of Reference provide the flexibility to pursue a variety of different options.

In the Terms of Reference, if deemed necessary, a 'Final Review Period' of the 'Final Working Draft' of the ICRP will be distributed to Working Group members for a 3-week review period. All parties have agreed that an additional Working Group meeting would be a beneficial exercise as it would provide another avenue for constructive comments before the 'Final Draft' of the ICRP is produced.

IEMA, DFO and INAC have requested that parties be given 6 weeks to conduct a thorough review of this edition of the ICRP. After which, a 'Final Advisory Document' will be produced informing the Board of both outstanding and settled items in preparation for Phase 4. Following the 'Final Advisory Document', BHP Billiton will have 8 weeks to submit a 'Final Draft' of the ICRP which will initiate Phase 4 of the workplan, the Public Hearing.

Working Group members have been informed that the Board will provide direction on all of the aforementioned details by July 17th, 2008 so that BHPB may begin revising the current ICRP.

Board Staff recommend:

1. The Board accept BHP Billiton's proposed Reclamation Research Plan outline as submitted on June 27, 2008. Board Staff are confident that this format will satisfy the concerns of Working Group members and make for a much stronger ICRP.
2. The Board remind BHP Billiton and Working Group members that the research tasks outlined in the original Pit Lakes Study Terms of Reference was approved by the WLWB on May 15th, 2007 and subsequent changes to those tasks, if any, need to be formally submitted to the Board for consideration and approval.
3. The Board make a decision on the cut-off date for the inclusion of information, new research and studies relevant to the ICRP. Board Staff recommend that BHPB be directed to include the results of the Long Lake Water Quality Prediction Model (Version 1 & 2), the 2006 and 2007 Mine Revegetation

Research Projects by Harvey Martens, the 2006 Wildlife and Human Health Risk Assessment by Rescan, and the Agreement In Principle between DFO and BHPB.
The Pit Lake Studies are expected to be completed by the end of 2008, so the Board should request that BHPB provide a workshop in early 2009 to update Working Group Members on the status and findings of the Pit Lake Studies.
The Board should encourage BHPB to include any significant information obtained after January 2007 that BHPB feels will enhance the conclusions made in the ICRP.

4. That the Board grant BHP Billiton's request for a 5-month time period to complete the 'Final Working Draft' of the ICRP (propose a due-date of December 12th, 2008).
5. The Board grant reviewing parties 5 weeks to complete their review of the 'Final Working Draft', considering that parties are being asked to review the proposed changes for each of the 'Section Reviews' and not the document in its entirety.

ATTACHMENTS:

- WLWB Verification Comment Summary Table
- DFO & BHPB Draft Agreement In Principle (AIP)
- Letter from BHPB, dated June 27, 2008, with their proposed format for the Reclamation Research Plan section

Respectfully submitted,

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