



INDEPENDENT ENVIRONMENTAL MONITORING AGENCY

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February 11, 2009

Violet Camsell-Blondin
Chairperson
Wek'eezhi Land and Water Board
Box 32
Wekweeti NT
X0E 1W0

**Re: Verification Comments on the Final
Interim Closure and Reclamation Plan (ICRP)—Working Draft**

Dear Ms. Camsell-Blondin

Please accept the Agency's verification comments on the Final ICRP Working Draft dated December 2008. We would like to thank your staff for an efficient and effective final Working Group meeting and BHP Billiton for agreeing to further improve the ICRP.

A detailed assessment of the Agency's issues discussed at the Working Group is found in the attachment with sections providing details on the issue, a rationale, the response from BHPB and the Agency's views on resolution of the issue. It is fair to say that most of the Agency's issues were resolved or will be resolved pending the receipt of acceptable wording or information from BHPB.

The most significant outstanding issue is BHPB's proposed use of fish barriers on the pit lakes and Cell E at closure. During the Working Group meeting we heard that there is no technical basis for exclusion of fish from these water bodies. If BHPB would change its approach and make its closure objectives for the pits and LLCF regarding fish passage and creation of shallow zones consistent with the overall site closure goal, to "return the Ekati mine site to viable, and whenever practicable, self-sustaining ecosystems that are compatible with a healthy environment, human activities, and the surrounding environment" this issue could be resolved. We are of the view that this issue is not about technical uncertainty or an expenditure of significant funds but one of perceived legal principle for the company. We have suggested how appropriately worded closure objectives, measures and criteria might be inserted into the ICRP to resolve this issue and hope that BHPB will seriously consider this constructive approach (see the pages 2-4 of the Attachment to this letter). If a successful final agreement can be reached with DFO that is consistent with the Agency's suggestions (and those of others), this very critical issue could be resolved in advance of the hearing.

The Agency was very pleased with BHPB's willingness to constructively discuss and to revise the structure and organization of the Reclamation Research Plan and Engineering

Studies sections of the ICRP. This should result in a significantly improved ICRP with the added benefit of reducing uncertainty and perhaps the company's reclamation liability.

We are confident that the remaining issues for the Agency can be addressed in this version or the next version of the ICRP with BHPB's cooperation or further direction from the WLWB.

The remaining issue for our verification letter is the timing of the revisions to the ICRP and the scheduling of the public hearing. We are aware that there was a lengthy discussion at the second day of the Working Group on these matters. We feel that it would be prudent for the WLWB to know how much time BHPB would consider necessary to make the remaining changes it has committed to do.

The Agency understands that several different options exist with respect to the scheduling of the public hearing in relation to the revisions required for the ICRP. While this has been a long and onerous process to date, the Agency believes that the right thing to do is to go to a public hearing with a revised and completed ICRP that all parties can have confidence in. It does not seem appropriate to complete the hearing as scheduled if an extension of a few months will get us the revised document we all need. In the view of the Agency, there is no pressing urgency to get this plan approved.

The Agency recommends, therefore, that the Board consider delaying the hearing until the product is in a revised form that reflects all the input provided to date by the Working Group. From BHPB's comments we understand that such a delay may be in the order of two or three months. Besides, the precedent set in allowing a partially completed plan to go to a public hearing is likely to be a source of frustration for the Board in the future.

Once again, we would like to thank your staff for facilitating a helpful discussion of the ICRP and to BHPB for its willingness to constructively discuss further improvements to the ICRP.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Ross".

Bill Ross
Chairperson

cc. Society Members
Helen Butler, BHPB
Jason Brennan, DIAND Water Inspector
Bruce Hanna, Fisheries and Oceans
Anne Wilson, Environment Canada

ATTACHMENT

IEMA Final ICRP Issues Resolution

#1, 107- post-closure illustrations of mine components

Issue/Concern: Post-closure illustrations are required for each mine component.

Rationale/Explanation: Part J s. 1 (e) of the main water licence states that “the Terms of Reference [for the ICRP] shall, at a minimum, consider the following...e) a detailed description, including maps and other visual representations, of the pre-disturbance conditions for each site, accompanied by a detailed description of the final desired landscape...”. The Terms of Reference s. 6.1.3 states “A visual representation and written summary of the expected development of each individual open pit at the end of the mine life will be presented”. Similar provisions exist for other mine components (see 6.2.3 underground mines and LLCF 6.4.3).

Response: BHPB has stated that some computer modeling and fieldwork are needed to complete this work and undertook to do this for the next major revision to the ICRP.

Resolution: The Agency concurs with BHPB’s response.

#3-post-closure water quality discharge criteria from pit lakes

Issue/Concern: What effluent quality criteria (EQCs) would apply to discharges or water flow from the pit lakes at post-closure.

Rationale/Explanation: There are no proposed EQCs for discharges or water flow from the pit lakes at post closure found in the ICRP. Although BHPB states that all discharges will comply with water licence requirements, it was not clear to the Agency whether this meant current EQCs or those that may be developed at some future point.

Response: BHPB has stated that the intention was to comply with whatever EQCs may be in place in a post-closure licence or whatever licence EQCs may be in place at the time of any discharge. BHPB committed to review the ICRP to correct any inconsistencies.

Resolution: The Agency considers the issue resolved.

#12-Fish in the pit lakes and cell E

Issue/Concern: (a) The ICRP proposes to use barriers to prevent fish from entering the pit lakes and Cell E at closure.

(b) The requirement for research into the reestablishment of fish habitat in pit lakes has been unilaterally dropped by the company (a portion of Task 7 of the approved Pit Lakes Studies Terms of Reference).

Rationale/Explanation: (a) BHPB's proposal for fish barriers is not consistent with the overall site closure goal to "return the Ekati mine site to viable, and whenever practicable, self-sustaining ecosystems that are compatible with a healthy environment, human activities, and the surrounding environment." Furthermore, BHPB confirmed at the Working Group meeting that there is no technical evidence that the predicted water quality in the pit lakes or Cell E will be unsafe for fish at closure. DFO indicated that there is no need for a fish barrier at the end of the LLCF as fish are currently found in Cell E. It is unclear whether a final agreement that is acceptable to the Agency and others, will be reached between BHPB and DFO before the proposed hearing date.

(b) The Mackenzie Valley Land and Water Board approved BHPB's Pit Lakes Studies Terms of Reference on May 17, 2005. Amongst the work to be done, was Task 7 that includes "fish passage and refuge in the reclaimed pit lakes" (see Pit Lakes Terms of Reference page 17). The draft ICRP submitted by BHPB in January 2007 contains provisions for fish barriers into Pit Lakes and Cell E. On April 17, 2007 the WLWB sent a letter to BHPB that basically rolled the Pit Lakes Studies into the ICRP Reclamation Research Plan and allowed BHPB to "propose changes to the tasks to reflect research results and Working Group discussions". At a meeting held on March 20, 2008 by BHPB, Task 7 was presented as modified work to exclude any study of fish habitat or fish passage into pit lakes. BHPB has not received approval of the WLWB to drop this work but has cited in its letter to DFO dated January 30, 2008 that the Terms of Reference for the Pit Lakes "due to a change in staffing...erroneously included Task 7". This is the first direct reference by BHPB to a change in the tasks.

Response: BHPB is prepared to consider whether it can qualify the fish barriers as "temporary" and will meet with DFO in early March 2009 in an effort to reach a final agreement on fish in pit lakes and the creation of shallow zones.

Resolution: This issue is currently unresolved. The Agency recommends that the closure approach for pits include a statement that the fish barriers would be temporarily used during pump flooding and then removed when water quality was safe for fish passage, and that there will be shallow zones established around the pit perimeters. This would be consistent with the overall site closure goal. Table 5.1-1A should be changed by replacing the existing wording with new text as follows:

Open Pit Closure Objectives (Wildlife 1)

1. Pit Lakes are safe for fish passage.

Closure Criteria

Pit Lake water quality and flow is of sufficient quality and quantity that fish can freely and safely pass into and out of these water bodies. No fish mortalities due to water quality or quantity.

Actions/Measurements

Installation of temporary fish barriers during pump flooding of pits and until such time as subsequent regular sampling ensures that pit water quality is safe for fish.

Research Reference

Insert a reference to Appendix 5.1-4A (Reclamation Research Plan 3 Pit Lake Water Quality including water quality modeling and predictions, water balance and related work).

Monitoring Reference

Appendix 5.1-5, Table 5.1-5A Water 2 and 3; Table 5.1-5B

Open Pit Closure Objectives (Wildlife 2)

2. Creation of shallow zones around the pit lakes edges to facilitate a self-sustaining ecosystem.

Closure Criteria

Shallow zones that will support riparian life and have the potential to serve as fish habitat (to be designed in cooperation with DFO). Legal liability for this fish habitat should not accrue to BHP Billiton, in accordance with an anticipated legal agreement between DFO and BHPB.

Actions/Measurements

To be determined in cooperation with DFO and others.

Research Reference

Insert a reference to Appendix 5.1-4A (Reclamation Research Plan 3 Pit Lake Water Quality including the entire original Task 7 from the Terms of Reference, water quality modeling and predictions, water balance and related work with DFO) and Appendix 5.1-4B (Engineering Studies 1 Final Pit Perimeter Stability and 2 Physical Topography of Final Pit Perimeters, and any related work with DFO).

Monitoring Reference

Appendix 5.1-5, Table 5.1-5A Water 2 and 3; Table 5.1-5B.

Similar to the change recommended above for Open Pit Closure Objective 1, Table 5.1-1D PKCA (Processed Kimberlite Containment Area Closure Objective Wildlife 2 where fish barriers are proposed), should be changed. BHPB should also change the related text in the ICRP to reflect the above change in closure objectives, measures and criteria. Further reference might be made to the provisions of whatever acceptable agreement may be reached with DFO.

If BHPB adopted this approach, it would likely take this issue off the table for the public hearing.

#13-Beartooth Pit as a Sump

Issue/Concern: The Final ICRP Working Draft contains references to Beartooth pit as minewater storage sump (for example, see Figure 1.1-2 EKATI 2005 Life of Mine Plan (LOM) and Closure Plan).

Rationale/Explanation: This change in use of Beartooth pit from pump flooding and test pit for study as part of the Pit Lakes Studies has not been approved by the WLWB and is the subject of a separate process to amend the Wastewater Processed Kimberlite Management Plan.

The Agency is not opposed in principle to the temporary use of Beartooth pit for minewater storage during operations. While we understand the economic rationale for BHPB's preferred use of Beartooth as a sump, we believe that there should be a careful examination of the environmental trade-offs and lost research and monitoring opportunities, in providing a rationale for the proposal being advanced. The next available pit for these other purposes would be Fox in 2014. If Beartooth pit is used for processed kimberlite deposition in the future, it may also be possible to avoid using Cell D for any tailings disposal, and provide an extra measure of protection for water coming out of the Long Lake Containment Facility.

Response: It was agreed at the Working Group meeting that the easiest way to handle the use of Beartooth pit as a sump, is to add some wording to the ICRP to indicate that this is subject to the ongoing process to amend the Wastewater Processed Kimberlite Management Plan.

Resolution: The Agency believes that the ICRP should describe the closure options that are foreseeable at this time for Beartooth pit. We can accept the proposal to add wording to the ICRP indicating that the use of Beartooth as a minewater sump is subject to the Wastewater Processed Kimberlite Management Plan provided that the delay in reclamation research, potential avoidance of tailings deposition into Cell D, and that a thorough consideration of environmental trade-offs are open for discussion. However, it is important that the ICRP say something meaningful about how Beartooth pit will be closed if it is [a] used operationally for mine water storage; [b] used for PK or wastewater discharge; or [c] none of the above.

#87-Road Decommissioning and Reclamation Research

Issue/Concern: In section 5.7 of the Final ICRP on Buildings and Infrastructure, there is no classification of roads (including mapping of roads or sections, by type of road), or specific timelines provided for decommissioning various stretches when they may no longer be needed. We are unsure which sections of road will be modified at closure, and how these sections align with pre-development caribou travel routes and habitat. As a further example of this issue, page 5-186 states "Except in those sections of road considered hazardous to wildlife, shoulder berms will be knocked down and contoured to provide access for wildlife."

Rationale/Explanation: The Agency is concerned about the filter or barrier effect to caribou movement because of roads left on the mine site. Aboriginal communities have consistently raised concerns with caribou crossings of mine roads. This is an excellent opportunity to incorporate Traditional Knowledge into closure planning for roads.

Response: BHPB has committed to add road classification, timing of reclamation and areas of significance (caribou migration areas and potentially hazardous areas) in the next update of the ICRP. “Hazardous” is to be defined in the context of roads in this version. Reclamation Research Plan 26 was referenced as dealing with TK into closure planning for roads.

BHPB stated at the Working Group meeting that it cannot fully remove roads or building pads and that haul roads are specifically designed to be flush with the landscape wherever possible. The company has years of caribou survey work that indicates where the caribou travel and trails along the Sable haul road so appropriate crossings will be designed into that route. BHPB is of the view that there is no need for any further research on road decommissioning and that it is standard practice.

Resolution:

The Agency does not expect that BHPB would ever attempt removal of the road beds. There are no specific details in the ICRP on how BHPB will actually decommission roads. It is not clear whether there will be any attempt to facilitate natural plant colonization, where berms will be knocked down, verges graded or crossings put in, the depth and patterns of scarification, or any efforts at revegetation. There may be some lessons learned from roads less used on site such as the Fox portal access road. With regard to TK and road decommissioning, Reclamation Research Plan 26 in the ICRP is only a general statement and contains nothing specific to road decommissioning.

While the Agency acknowledges that BHPB has committed to further details on road decommissioning in the next version, we believe that more detail about road closure methods should be provided in the current version. Detailed surveying and mapping of the road types for classification purposes is, we agree, an exercise that can wait until the next version of the ICRP. However, conceptual plans regarding berm treatment, grades, stream crossings, whether or not scarification will be used, and any revegetation measures should be available at this stage. We do not see providing this information to be a major exercise. The WLWB might want to consider whether it should provide clearer direction on what should be expected in this version, including specific details on decommissioning that may require more detailed research and engineering work by the company. With the inclusion of a little more detail in the ICRP, the Agency would consider this issue resolved.

#94—Industrial Standard for hydrocarbon contaminated soil remediation

Issue/Concern: BHPB has stated for the first time, in the Final ICRP, that soil remediation for hydrocarbon contamination will be carried out to an “Industrial Standard” (see for example Table 5.1-1A Closure Objectives and Criteria for Open Pits Land 2, and Table 5.1-1F Buildings and Infrastructure Land 4).

Rationale/Explanation: The Ekati mine site will not generally be used for industrial purposes after closure as suggested by remediation to an “Industrial Standard”. The CCME has developed a series of remediation standards depending on the end use of an area. A Residential/Parkland remediation standard is the appropriate standard given the future use of the Ekati mine site.

Response: At the Working Group meeting BHPB indicated that it wants to do some research to look at what its past and current practices have been with regard to spill cleanup and what it would mean if the company had to start working towards a ‘parkland standard’. BHPB also wants to know what is done at other sites.

Resolution: The Agency does not support the adoption of an industrial remediation standard for this issue. If BHPB were to agree to use the parkland standard, we would be satisfied and this matter would be resolved.

#95-Component-specific wildlife use objectives and criteria

Issue/Concern: Closure objectives and criteria are set out in Appendix 5.1-1 for each mine component. One of the stated wildlife closure objectives for each mine component is “wildlife are using the Ekati claim block”, with an accompanying closure criterion that is stated as “wildlife observed using the Ekati claims block”.

Rationale/Explanation: Closure criteria for wildlife use should be developed for each mine component along with appropriate monitoring methods and indicators that relate back to Valued Ecosystem Components. Therefore, a more appropriate closure objective might be something like “indigenous wildlife species can safely use (name the component)”. For example, wildlife use closure criteria for the waste rock storage areas might be something like:

- Caribou use of the waste rock storage areas is similar to analogous landforms such as rocky plateaus;
- Waste rock piles do not result in increased predation rates on caribou; and
- The vegetation on waste rock piles is safe for wildlife consumption.

Response: BHPB attempted mine-component specific objectives and criteria in the January 2007 version of the ICRP but dropped this in favour of a commitment to continuing wildlife monitoring into post-closure. Appendix 5.1-1 is to be reviewed for consistent wording for closure objectives and criteria. During the Working Group meeting, BHPB further indicated that the overall site will be monitored up to and after closure as part of the WEMP. The WEMP results would be used to identify any trends in wildlife use for the entire site and specific components. The company intends to develop more specific objectives and criteria in future versions of the ICRP and committed to provide this explanation in this version of the ICRP

Resolution: The Agency does not agree with the postponement of identifying closure objectives and criteria for wildlife until a later version of the ICRP. It would be acceptable to postpone the details of how the objectives will be achieved to the next version, but the objectives and criteria are now overdue. A commitment to continuing wildlife monitoring in

the post closure phase is not a substitute for the requirement to have component-specific objectives and criteria for wildlife.

#105 Reclamation Research Plan and Engineering Studies structure and content

Issue/Concern: (a) More information is required to properly describe the actual work that has to be done to address the existing information gaps identified in the Reclamation Research Plan.

(b) LLCF revegetation pilot study does not appear to begin until 2013, even though there is to be no further processed kimberlite deposition at the north end of Cell B where the reclamation research project is proposed.

(c) More detail should be provided on water cover for the EFPK, other options for the EFPK, and constructability research and engineering work for the LLCF.

(d) Lack of clarity on the sequencing and linkages for the LLCF revegetation work and the interface zone for wildlife safety.

Rationale/Explanation: (a) The results of reclamation research are essential for proper closure and progressive reclamation of the site and ready in the timeframes dictated by the Life of Mine Plan. The Board and all interested parties should have confidence that there is a sound and defensible research program with sufficient details to ensure that the site is properly closed according to an approved plan.

(b) The Agency is increasingly concerned with the lack of progress on pilot scale revegetation studies for the LLCF. The company itself has acknowledged in the ICRP that at least two decades is required to establish a mature plant cover (Final ICRP page 5-133). We may not know whether and what species may make up a mature plant cover before full-scale reclamation activities are supposed to start in 2022 (Figure 8.5-1) if the pilot study does not start until 2013.

(c) The EFPK stability issue has been a long-standing area of concern for the Agency. It is unclear whether the material can be effectively stabilized and contained at closure with a water cover alone. This is why we suggested several years ago that the EFPK could likely be placed in the bottom of a meromictic pit lake at closure. The same is true of the water-beach interface zone and the related issue of wildlife safety on the LLCF after closure.

(d) It is unclear to the Agency what direction BHPB is going with its work on revegetation of the LLCF and whether there should be an attempt to make a neutral landscape or even one that discourages wildlife use. The research that relates to wildlife safety on the LLCF is found in several disparate research plans and it is not linked to show how BHPB intends to answer this concern. The research that is needed relates to the constructability of the interface zone, revegetation, palatability of the species that will be part of the mature cover, and any metal uptake in such vegetation.

Response: (a) As a result of the second day discussion of the ICRP Working Group, BHPB has agreed to a revised Reclamation Research Plan and Engineering Studies framework as detailed in the letter from WLWB staff on February 4, 2009. Note that this letter omitted to mention the commitment from BHPB that the revised framework would also be applied to the Engineering Studies section of the ICRP, as was agreed at the meeting.

(b) At the Working Group, BHPB indicated that the pilot scale revegetation work would begin sooner than 2013. Significant field research and surveys and some greenhouse work is required before the pilot scale work can begin on Cell B. BHPB stated that this work would be started as soon as possible and may be moved up before 2013, but the work requires further scoping.

On the second day of the Working Group discussion of the Reclamation Research Plans, BHPB volunteered to submit a revised version of Plan 14 that deals with revegetation studies on the LLCF by applying the agreed upon revised framework. This plan involves longer term research and the level of detail for those activities more than three years into the future will be at a conceptual level.

(c) BHPB is of the view that there is sufficient detail on this work in the ICRP but volunteered on the second day of the Working Group discussion of the Reclamation Research Plan to apply the revised framework to Plan 16 that deals with EFPK stabilization in the LLCF. This should provide more detailed scope of work for all of the tasks as they are to be carried out in the next three years.

(d) BHPB committed at the Working Group meeting to providing an explanation of the links and sequencing of the research and engineering work to show how the issue of wildlife safety on the LLCF will be resolved.

Resolution: (a,b,c,d) The Agency has recommended in our covering letter that the hearing be delayed until the ICRP is revised in accordance with the Working Group review results to this point. In that case, there should be sufficient time for BHPB to revise its Reclamation Research Plan and Engineering Studies to where they are all consistent with the new framework proposed by BHPB. If, in the alternative, the Board proceeds with the public hearing as currently scheduled, then the following comments apply:

(a) The Agency is pleased with BHPB's willingness to discuss the organization and structure of the Reclamation Research Plan and the Engineering Studies appendices of the ICRP and with the company's commitment to revise these sections. This issue is considered resolved pending the receipt of the revised appendices.

(b) The Agency appreciates BHPB's commitment to move up the pilot scale revegetation work to as soon as possible, but we are concerned about the lack of progress to date and the significant time still required to know whether a self-sustaining vegetation cover can be established, and whether it will be palatable and/or attract wildlife. The Agency looks forward to the receipt of a revised Research Plan 16 (Establishment of Self-Sustaining Plant Communities–PKCA) in advance of the public hearing.

(c) The Agency is pleased that BHPB will resubmit in advance of the hearing, a revised version of Research Plan 14 (Stabilization of EFPK in the LLCF). Pending receipt of an acceptably revised Plan that is organized using the revised framework and more detailed task scope of work, the Agency considers this issue resolved.

(d) This issue is resolved pending the receipt of the wording from BHPB on the linkages and sequencing of research and engineering work to deal with wildlife safety on the LLCF.

#116 Progressive Reclamation and Lessons Learned

Issue/Concern: The Agency is of the view that BHPB should make every effort to learn from the progressive reclamation that has taken place at site or will take place before final closure of all components.

Rationale/Explanation: While the Misery site is in temporary shutdown until 2012, there are opportunities for monitoring of the open pit and waste rock storage area that can lead to better design of similar features in the Panda-Koala-Beartooth areas. For example, monitoring of the pit edges and the waste rock piles for wildlife use at Misery should lead to better design of wildlife use closure measures and criteria, the desirability and placement of access ramps, and similar matters. The Agency is prepared to work with BHPB and others to help design an active monitoring program at Misery while it is temporarily closed, which should facilitate improved closure at other parts of the mine site.

Response: The company has stated previously that wildlife monitoring of the Misery open pit and WRSA during suspension of operations, for the purposes of learning how wildlife interact/use the site at closure will not be conducted. Because the site remains active the company will maintain responsibility for safety of workers and wildlife.

Resolution: The Agency notes that there is little or no activity anticipated at the Misery site, particularly around the Waste Rock Storage Area for the period from 2008 to 2012 and perhaps longer. This should allow for some additional forms of wildlife monitoring around the rock piles and pit, perhaps even using novel methods such as motion-activated cameras, to gain insights into caribou behaviour. The Agency is prepared to work with BHPB to more carefully examine potential methods of wildlife monitoring at Misery while it is in suspension.