



***INDEPENDENT ENVIRONMENTAL MONITORING AGENCY***

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February 15, 2006

Sarah Baines  
Regulatory Officer  
Mackenzie Valley Land and Water Board  
P.O. Box 2130  
Yellowknife NT X1A 3P6

Dear Ms. Baines

**Re: Draft Terms of Reference for the BHPB Interim Closure and Reclamation Plan**

Please accept this letter as the Agency's comments on BHP Billiton's draft terms of reference (TOR) for its Interim Closure and Reclamation Plan (ICRP).

The Agency has four major points we would like to raise and then a number of minor comments, and some suggestions of an editorial nature.

Major Points

1. An Integrated Approach to Reclamation Planning

The Agency strongly encourages BHPB, and the regulators, to take an integrated approach to closure and reclamation planning such that a single plan is submitted that fulfills the requirements set out in the two water licences covering the site (0013 and 008) and the Environmental Agreement Article VIII (covering closure and reclamation plan for the surface lease). We suspect this may be the case as was done for the approved 2000 Interim Abandonment and Restoration Plan, but an integrated approach should be confirmed by BHPB and the regulators in the TOR.

2. Consultation and Collaboration

It is not clear in the TOR how the reclamation planning process will proceed during the period between the approval of the TOR and BHPB's submission of the draft plan. While much of the work during this period is clearly the responsibility of BHPB, there is a demonstrated need for continuing involvement of other parties (i.e., Aboriginal organizations, regulators and the Agency) in the development of key aspects of the plan during this interim period. In this regard, we recommend the following:

- identify in the TOR certain stages in the process for seeking technical input into key issues from the regulators, the Agency and the Aboriginal organizations. The

Working Group may or may not be an appropriate option for this. However, for the review of complex closure issues (e.g., identifying the key issues that need to be identified for developing closure objectives, options and further studies, etc.), it is highly recommended that BHPB obtain external expert review and input at key stages during the process, and not leave this to the review stage of the completed draft plan.

- identify in the TOR the tasks or stages for which consultation and collaboration with members of the affected communities will be sought. Of particular note, the identification of closure objectives for mine components, the array of options available, and the evaluation of preferred options for closure are all discrete activities that should involve Aboriginal communities. In our view, more intensive consultation is required to accommodate effective community input into those aspects of the plan development where it is needed. At the end of the day, community support for the plan will be essential, and the best way of doing this is to ensure a staged consultation process where meaningful input can be collected and incorporated into the plan as it is developed.
- in addition to the above, BHPB and the Working Group each consider the desirability of having the Working Group convene intermittently during the plan development period to ensure that the plan evolves in the context of a wider understanding and support, and that there are opportunities for Working Group input at key stages in the plan design. (See item #4 below).

These initiatives would help build consensus and confidence in the draft plan that BHPB develops.

### 3. Scope of Risk Assessment

The Agency views the risk assessment outlined in the draft TOR under Task 3 as far too narrow in scope. While the Failure Modes Effects Analysis (FMEA) may be an appropriate methodology for engineered structures, it may not provide for the kind of input desired by many of the interested parties in the reclamation planning process and may not deal with some of the key areas where risk assessment is necessary such as toxicity testing or other matters. The Agency suggests that a multi-disciplinary and collaborative approach be taken to consideration of risk and managing it. This will require initial input from the interested parties in identifying areas of concern and potential issues, and involvement in the evaluation of options that results in the short-list to be used in the Multiple Accounts Analysis process.

### 4. Reclamation Planning as an Iterative Process

The Agency recognizes that there is a longer term need for reclamation research to take place such as the on-going Pit Lakes studies and the wildlife risk assessment related to metal uptake in plants. There will be additional research required on a variety of other closure matters and that it may not be possible to develop technically and economically feasible options until this work is complete. The link between this research and setting closure objectives for some of the mine components is clear. The interested parties may not be in a position to provide informed input into the development of closure objectives for all mine components until some of this research is done.

All of this is to say that the Agency recognizes that it may not be possible or desirable in the current version of the ICRP to clearly state objectives for each mine component. The research that will lead to the development of information required for such decisions, needs to be laid out as soon as possible and scheduled in such a way as to feed into an iterative process of developing more detailed plans through time that can be implemented as we approach final closure. Clear objectives need to be established for each mine component but in the case of some mine components, this will take more time to ensure that appropriate research is completed and that there are continuing opportunities for the involvement of all interested parties. This involvement should continue not only through development of this ICRP but also through any closure plans.

### Minor Comments

A table of concordance would be most helpful showing water licence 0013 Part J, water licence 008 Part L, and the Environmental Agreement Article VIII requirements and the corresponding section(s) in the draft terms of reference. It is not clear where some requirements of water licence 0013 Part J, water licence 000 Part L (Sable, Pigeon and Beartooth), and the Environmental Agreement Article VIII have been met including the following:

#### Part J of Water Licence 0013

1. (d) a description of the measures required, or actions to be taken, to achieve the objectives stated in the NWT Water Board's "Guidelines for Abandonment and Reclamation Planning for Mines in the NWT, September 1990" or any subsequent editions, and in part J, item 1(a) for each mine component

1. (j) a description of proposed revegetation plans, incorporating a description of how initial vegetation cover will promote successional development on reclaimed landscape units, what the expected progression and time-frame will be, and how it will be compatible with local ecosystem characteristics

1. (l) a description of the monitoring programs to be employed in recording the progress of mining activities as they relate to on-going reclamation needs....

1. (n) an explanation of how aesthetic concerns will play a role in reclamation

#### Part L of Water Licence 008

1. (a) (xiii) reclamation of aquatic habitat in all areas

1. (b) a description of the measures required, or actions to be taken, to achieve the objectives stated in the NWT Guidelines and Part L, item 1(a) and (b) for each mine component

1. (k) a detailed description of proposed re-vegetation plans, incorporating a description of the manner in which invasive species non-indigenous species in the re-vegetated area will be addressed and how initial vegetation cover will promote successional development on

reclaimed landscape units, what the expected progression and time-frame will be, and how it will be compatible with local ecosystem characteristics

1. (l) a description of the monitoring programs to be employed in recording the progress of mining activities as they relate to on-going reclamation needs...

1. (n) an explanation of how aesthetic concerns will play a role in reclamation

9. The Licensee shall submit to the Board for approval by March 31, 2004 a Reclamation Monitoring Program to evaluate the effectiveness of all progressive reclamation and to identify any modifications required to facilitate landscape reclamation.

### Environmental Agreement Article VIII

#### 3. Natural Recovery

Closure and reclamation shall be undertaken in such a manner as to enhance the natural recovery of the areas affected by the Project by:

(a) ensuring that mine facilities and infrastructure are abandoned in such manner that:

(i) the Project site is physically stable and any requirement for long-term maintenance and monitoring is minimized;

(ii) any threat to public safety is eliminated; and

(iii) all buildings and such man-made structures are removed as required by the approved Reclamation Plan;

(b) preventing continuing impacts from contaminants and wastes on the environment including those associated with acid rock drainage; and

(c) returning affected areas to a state where negative effects on the use of the surrounding lands compatible with the original undisturbed conditions are minimized to the fullest extent reasonably possible giving due consideration to factors such as aesthetics, economics, future ecosystem productivity and future uses.

Page 2, Task 1--Stakeholder Consultation--change "First Nations" to "Aboriginal organizations" or "Aboriginal communities"

Task 2--Reclamation Research Studies—While BHPB intends to seek public input into its closure planning, it is not clear how input will be sought into defining these studies, the scope of such studies or who might be appropriate to do such research. The reclamation research

should be completed as soon as possible and will inform stakeholder consultations including the definition of closure options, ranking and other aspects of planning.

Task 3--Closure Option Ranking and Risk Assessment--it is not clear how or whether BHPB intends to seek any public input into defining these options or their scope. We encourage such input.

Page 3, Task 4--Multiple Accounts Analysis--it is not clear what if any role there may be in setting overall site goals and objectives for Ekati and how this relates to this and other tasks

Task 5--Closure Criteria--delete "that" from the first sentence

Page 4, 1.1. Proponent Overview--although "examples of other BHPB closure projects will be presented", it would also be important to present lessons learned

1.2. Regulatory Requirements--the listing here should include surface leases and any land use permits that cover exploration and development inside the claims block

Page 5, 2.1. Terms and Definitions--the definition of "goals" appears to be limited to "prevent progressive degradation and to enhance recovery of areas affected by mining." We hope that the overall site reclamation goals would be more ambitious and make reference to return of the area to previous ecological productivity and/or diversity. We encourage BHPB to actively seek the input of Aboriginal communities in defining these goals.

--"Objectives Describes what the reclamation activities will achieve.." It would be more appropriate to change "will achieve" to "are intended to achieve". This may seem like a minor point, but "will achieve" in this context implies infallibility (and by extension no need for long-term monitoring).

Page 6, 2.4. Consultation—BHPB's summary should include dates, place, the parties consulted, while stressing issues and concerns raised, and how BHPB responds or intends to respond

Page 8, Part 4.4. Materials/Waste Management "Also included will be land fill locations and expected volumes of demolition materials at mine closure." Concerns have been raised by our Aboriginal Society Members as they expect to be informed of more than simple total volumes of all materials to be buried in landfill, but a more comprehensive inventory of each distinct type of landfilled material.

5.1.1. Closure Objectives and Criteria--fencing or berming of the pits might be considered here to divert wildlife away from the pits

Page 15, 5.6.2. Pre-Disturbance Conditions--this section should also include a detailed description of the final desired landscape

5.7. Progressive Reclamation--this is not a mine component and we suggest it should be given its own section and numbering

5.7.3. Reclamation Research Plan--although details on the overall plan may be brought together in this section, the actual research needs should be detailed in relation to each mine component and the selection or discarding of options, the costs also need to be set out on an annual basis, how progress will be monitored

Page 16, 5.7.4. Metals Uptake Research--A more comprehensive risk assessment on health effects on herbivores from metal uptake in vegetation should be set out in this section, especially caribou ingestion of processed kimberlite in the LLCF and possible herbivore ingestion of metals-laden plant life growing on reclaimed surfaces. Anne Gunn had noted in an earlier review of Golder's draft report "ASSESSMENT OF THE POTENTIAL FOR EFFECTS ON WILDLIFE FROM EXPOSURE TO PROCESSED KIMBERLITE AT THE EKATI DIAMOND MINE" that the risk assessment was not conservative. This assessment was done with known heavy metal effects levels on pigs and rodents as the reference values for caribou (see Table II-7) while cattle and sheep are more sensitive to certain metals, so a more appropriate comparison should be included as a basis for risk analysis.

6.2. Organizational Structure Post Closure--this section should include not just an organizations chart but some details on the job descriptions and reporting relationships of individual positions, full costing and other relevant matters for the purposes of compiling an adequate security deposit

Page 17, 6.5 Environmental Management System--this section should also deal with information management, particularly during the closure and post-closure phases. It is very important that studies and as-built drawings and monitoring programs results are safely and efficiently stored for use in analyzing any trends on site and the success of reclamation.

7.1 Overview—The Agency believes that the environmental assessment referred to in this section of the TOR should be an accounting of the residual effects of the project after reclamation activities are carried out and the site is closed. It is important that this task be completed to allow for clear communications to Aboriginal communities and the general public about the status of the site and any residual effects to avoid potential for misinformation.

7.4. Terrestrial Resources—Drop the word "localized".

We look forward to discussing these issues at the Working Group meeting scheduled for March 23, 2006.

Sincerely,

-ORIGINAL SIGNED BY-

Bill Ross  
Chairperson

cc. Society Members