



INDEPENDENT ENVIRONMENTAL MONITORING AGENCY

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February 5, 2013

Mark Cliff-Phillips
Executive Director
Wek'eezhii Land and Water Board
P.O. Box 32
Wekweti NT X0E 1W0

Dear Mr. Cliffe-Phillips

**Re: Ekati Diamond Mine 2012 Annual Interim Closure and Reclamation Plan
Progress Report**

The Agency has reviewed the 2012 Annual Interim Closure and Reclamation Plan (ICRP) Progress Report prepared by BHP Billiton (BHPB) for the Ekati Diamond Mine. While we agree that there is some useful reorganization of Reclamation Research Plans and Engineering Studies, we have two major concerns as found below (lack of progress on reclaiming Old Camp and lack of progress on reclamation research plans). Other issues are detailed in the attached appendix.

Progressive Reclamation

The current water licence for the Ekati Mine requires in Part K, item 3:

The Licensee shall implement the Interim Closure and Reclamation Plan as approved by the Board in accordance with the schedules and procedures specified in the plan and **endeavor to carry out progressive reclamation of areas as soon as is reasonably practicable.** (emphasis added)

We had expected a separate reclamation plan to carry out progressive reclamation of Old Camp (including the Phase I Processed Kimberlite Containment Area), as BHPB had committed to during the review of the ICRP by the Working Group (see Section 3 Comment Table, items 110 and 111 at <http://www.mvlwb.ca/WLWB/Registry/2003/MV2003L2-0013/ICRP/ICRPJan07/s3/MV2003L2-0013%20-%20ICRP%20Section%203%20-%20BHPs%20Response%20to%20Comments%20with%20all%20Verification%20Comments%20Attached%20-%20Feb05%2008.pdf>). During that point in the review of the ICRP, BHPB said Old Camp progressive reclamation was to be carried out in 2008. We note from the August 2011 ICRP as approved by the Wek'eezhii Land and Water Board, that BHPB



committed to carry out reclamation at the Old Camp beginning in 2010 and ending in 2012 (see Table 5.5-7, page 5-130).

In the 2012 Progress Report, BHPB states:

The following unanticipated delay in 2012 will affect progressive reclamation at EKATI:

The Old Camp Closure and Reclamation Plan delivery to the WLWB has been postponed as a result of business decisions concerning the most effective time to conduct the Phase 1 tailings pond reclamation work. (page 10)

We note that this progressive reclamation work has now slipped more than four years and BHPB does not indicate in the Progress Report when this work will take place. As provided for in the Annotated Outline for BHP's Annual ICRP Progress Report, **we respectfully request that the WLWB set a timeframe for the submission of a plan for the progressive reclamation on Old Camp. We believe such a plan should be submitted before the end of 2013 and that the work will be completed forthwith.**

Slippage in the Reclamation Research Plan Tasks

In reading the Progress Report we found it difficult to compare it with the ICRP Reclamation Research Plans and Engineering Studies. For example, information on reorganization of the Plans and scheduling is spread over three different tables (7-1, 7-2 and B-1) without much reference to what was in the ICRP.

It is important that the reporting be improved to make comparability with the original ICRP easier and more transparent. Perhaps it would be more appropriate to use a variance report approach where the scheduling changes are highlighted with a rationale, rather than spread across several tables.

There is serious slippage throughout many of the tasks under the Reclamation Research Plans, as detailed in the appendix. There appears to be at least a one or two year delay in almost all tasks. We are increasingly concerned that this work will not be done in time for the anticipated closure of Ekati in 2019, just six years away.

We understand that BHPB is prepared to meet with the Agency to discuss any concerns or issues with the Progress Report, in anticipation of its internal annual reclamation planning session. **We welcome the opportunity to discuss our concerns and issues with BHPB and suggest that this be open to all interested parties and become an annual event.**

Further comments are found in the appendix. We would appreciate a written response from BHPB and look forward to a discussion with BHPB on timely implementation of the ICRP.

Should you require any clarification, feel free to contact our Executive Director.

Sincerely,

A handwritten signature in black ink, appearing to read "W.A. Ross". The signature is fluid and cursive, with the first letters of each word being capitalized and prominent.

Bill Ross
Chairperson

cc. Society Members
Helen Butler, BHP Billiton
Bruce Hanna, Fisheries and Oceans
Lisa Lowman, Environment Canada

Appendix: Detailed Comments on the 2012 Annual ICRP Progress Report

General Comments

- The report appears to meet the general requirements of the Annotated Outline for BHPB's Annual ICRP Progress Report as issued by the WLWB in its November 2011 Directive, except for the following:
 - 2. Community Engagement—there is no evidence that the summary Table A-1 was circulated to the appropriate communities and whether there was any feedback (this process of community verification has been referred to as 'best practice' by the WLWB).
 - 3. Reclamation Research Update—it is unclear whether there are any new research tasks that are “within 3 years of implementation” and thus require detailed scopes of work.
 - 7. Schedule—while Figure B-1 provides an updated Reclamation Research Schedule, it is not clear “whether the current closure planning schedule is on track”. A detailed analysis of the scheduling of the revised Plans #1 and 4 shows slippage of about 1-2 years already from what was proposed in the ICRP (see below).
 - 8. Security Update--There is no “updated estimate of the current mine reclamation liability” and BHPB states that the update is “delayed until the Company receives clear and common directive from WLWB and AANDC on reporting and designation of liabilities”. It appears there may be some recent movement on this issue but is it not reasonable that BHPB should unilaterally decide that it does not have to conform to this requirement.

Specific Comments

- Page 1 (1. Introduction), BHPB continues to states that the “ICRP is conceptual in nature”. This may have been an appropriate characterization much earlier in the life of the mine. With only six or seven years left and when progressive reclamation should be well under way with appropriate lessons learned, the ICRP should be in a state where closure measures for the existing components and conditions at the mine are essentially implementable, or close to it.
- Page 4 (3. Community Engagement), BHPB states “the WLWB's Working Group process maintained communications on the status of the ICRP”. This process was not a substitute for the consultation that BHPB should have been doing and still needs to do, as shown by the comments made at the sessions over the last year (see Table A-1) where there is still little understanding of what is in the plan and why.
- Page 5 (4. 2012 Reclamation Research), this section and Appendix B reference several literature reviews that the Company commissioned over the last year (e.g. PK backfilling, permafrost growth within the WRSA, and TK in Reclamation Research). It would be helpful to have these references and for the company to make them available to other interested parties.
- Page 6 (5.1 2012 Reclamation Activities), does the company expect to carry out the remaining PDC widening work this winter 2012-13? If not, why not? We now

understand the work will not be done this winter and that no plan has been made for when it will be done.

- Page 9 (5.6 Collaboration with Other Mines), there is no mention here of the EMAB TK Panel that has done a lot of work on mine closure at Diavik over the last year. This has been mentioned to BHPB on more than one occasion as these individuals or even as a group may help serve as the company's proposed "Ekati Mine Aboriginal Reclamation Advisory Group".
- Page 11 (6.1 Security Update), the company only provided a total of the current security held (\$127.6 million) and not a reclamation liability update as required in the WLWB outline. Note that the company did provide a reclamation liability update in its 2011 Annual Report (\$126.8 million) but provided no details on the calculation. In order to properly evaluate the liability it is necessary to have the detailed breakdown of estimated costs, and we expect to see these in the next progress report.
- Page 7-2 (Table 7-2 Reclamation Research Plans) shows 20 plans but the text on page 11 (last paragraph) states there are 21 reorganized plans (1.4 Pit Lake Water Quality) appears to be missing from the table). None of the plans seems to cover Old Camp.
- Page 16 (8.3 Proposed 2103 Progressive Reclamation Work) does not mention anything about Old Camp.
- Page 17 (Figure 8-1 Progressive Reclamation Schedule), the units and colours are not explained in any way. This is confusing and should be clarified.
- Appendix B, it is very difficult to compare the ICRP Reclamation Research Plans and Engineering Studies with the updates provided in this section of the Progress Report. This is largely because of the organization of the information in the Progress Report where changes may be scattered over at least three or four places including Tables 7-1, 7-2 and B-1. It is difficult to determine whether the work is on track or not, or how the work completed in 2012 actually reduces uncertainty or has lead to further refining of closure objectives and/or criteria.

The reorganization of the Reclamation Research Plans and Engineering Studies into more comprehensive work focused on mine components makes sense. We are pleased with this change. We also note that several of the plans have been updated.

A detailed review was conducted of the completion deadlines specified for the new Reclamation Research Plan 1 on Pit Lakes and Plan 4 Processed Kimberlite Containment Area compared to what was in the ICRP Reclamation Research Plans (RRP) and the Engineering Studies (ES). The following was found:

Research Plan #1 Pit Lakes					
1.1 Pit Perimeter Safety					
Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	Yes				
2	No	2013 (RRP#1)	2014	1 year	
3	No	2014 (RRP#1)	2016	2 years	
4	No	2015 (RRP#1)	2016	1 year	
1.2 Pit Perimeter Stability					
Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	Yes				
2	No	2013 (ES#1)	2017	4 years	
3	No	2014 (ES#1)	2017	3 years	
4	No	2018 (ES#1)	2017 or greater	1 year or more	Progress Report Figure B-1 only goes out to 2017, start date delayed by 1 year
5	No	2018 (ES#1)	2015	None-3 years early	
1.3 Pit Lake Perimeters and Connector Channels					
Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	Yes				
2	No				New Task
3	No	2012 (ES#2)	2013	1 year	
4	No	2013 (ES#2)	2017 or greater	4 years or more	Progress Report Figure B-1 only goes out to 2017
1.4 Pit Lake Water Quality					
Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	No	2010 (RRP#3)	2013	3 years	
2	No	2011 (RRP#3)	2013	2 years	
3	No	2011 (RRP#3)	2013	2 years	
4	No	2011 (RRP#3)	2013	2 years	
5	No	2012 (RRP#3)	2013	1 year	
1.5 Water Withdrawal from Source Lakes					
Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	Yes				
2	Yes				
3	No	2012 (RRP#2)	2013	1 year	
4	No				No changes
1.6 Pit Lake Water Cap over Processed Kimberlite					

Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	Yes				
2	No				Not covered in ICRP ES#5
1.7 Groundwater Study					
Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	Yes				
2	Yes				
3	No	2014 (RRP#6)	2015	1 year	
Research Plan #4 Processed Kimberlite Containment Area					
4.1 Pit Perimeter Safety					
Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	No	2012 (RRP#12)	2013	1 year	
2	No	2013 (RRP#12)	2013	None	
3	No	2017 (RRP#12)	2017 or beyond	unknown	Progress Report Figure B-1 only goes out to 2017, start date delayed by 4 years
4.2 Permafrost Growth in LLCF					
Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	Yes				
2	No	2011 (RRP#13)	2013	1.5 years	
3	Yes				
4	Yes				
5	No	2011 (RRP#13)	2013	1.5 years	
6	Yes				
7	No	2012 (RRP#13)	2013	1 year	
8	No	2017 (RRP#13)	2017 or beyond	unknown	Progress Report Figure B-1 only goes out to 2017
9	No	2013 (RRP#13)	2014	1 year	
4.3 Processed Kimberlite Weathering					
Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	No	2011 (ES#9)	2013	2 years	
2	No	2012 (ES#9)	2014	1.5 years	
3	No	2012 (ES#9)	2014	1.5 years	
4	No	2013 (ES#9)	2015	2 years	
5	No	2013 (ES#9)	2017 or beyond	4 years or more	Progress Report Figure B-1 only goes out to 2017

4.4 Permafrost Growth in LLCF					
Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	No	2012 (RRP#16)	2015	3 years	
2	No	2012 (RRP#17)	2016	4 years	
3	No				Not in ICRP
4	No				Not in ICRP
5	No				Not in ICRP
6	No	2012 (RRP#16)	2017 or beyond	5 years or more	Progress Report Figure B-1 only goes out to 2017
7	No				Not in ICRP
8	No	2014 (RRP#18)	2017 or beyond	3 years or more	Progress Report Figure B-1 only goes out to 2017
9	No	2012 (RRP#16)	2017 or beyond	5 years or more	Progress Report Figure B-1 only goes out to 2017
4.5 Stabilization of the EFPK in the LLCF					
Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	Yes				
2	Yes				
3	No	2012 (RRP#14)	2013	1 year	
4	No	2011 (RRP#14)	2015	4 years	
5	No	2012 (RRP#14)	2015	3 years	
6	No	2013 (RRP#14)	2015	2 years	
7	No	2014 (RRP#14)	2017 or beyond	3 years or more	Progress Report Figure B-1 only goes out to 2017, start delayed 2 years
8	No	On-going (RRP#14)	2017 or beyond	Unknown	Progress Report Figure B-1 only goes out to 2017, start delayed 2 years
4.6 LLCF Pilot Study					
Task	Completed	Completion Date in ICRP	Completion Date in ICRP Progress Report	Delay	Other Comments
1	No	2011 (RRP#19)	2013	2 years	
2	No	2012 (RRP#19)	2013	1 year	
3	No	2012 (RRP#19)	2013	1 year	
4	No	2013 (RRP#19)	2015	2 years	
5	No	2014 (RRP#19)	2017 or beyond	3 years or more	Progress Report Figure B-1 only goes out to 2017, start delayed 1 year
6	No	2014 (RRP#19)	2017 or beyond	3 years or more	Progress Report Figure B-1 only goes out to 2017, start delayed 1 year
7	No	2015-18 (RRP#15)	2017 or beyond	unknown	Progress Report Figure B-1 only goes out to 2017, start delayed 1 year
8	No	2017 (RRP#19)	2017 or beyond	unknown	Progress Report Figure B-1 only goes out to 2017, start delayed 1 year

The same analysis for the two remaining RRP's from the Progress Report (#3 and 7) was not attempted. If the two Plans reviewed are any indication, 2012 was a year where there was very little progress.

- Page 64 (Research Plan 1.6 Pit Lake Water Cap over Processed Kimberlite), BHPB asked EBA to do a literature review of in-pit disposal. No quantitative value for a fresh water cap depth was generated but placement of PK into Beartooth Pit has already begun. The Agency would like to see this report.
- Page 73 (Research Plan 4.2 Permafrost Growth in the LLCFF), has BHPB completed PK deposition into Cell B?
- Page 78 (Research Plan 4.4 Processed Kimberlite Plant Species and Communities), note statement from research carried out in 2012 “it is unlikely that tundra vegetation will be tolerant of the high pH and sodium present in the PK”. What are the implications for revegetating the LLCFF?
- Page 84 (Research Plan 4.5 Stabilization of EFPK in the LLCFF) contains a surprising statement: “should the results of this task identify that EFPK stabilization methods will not provide an acceptable closure for the LLCFF, BHP Billiton will, through risk assessment, review alternate options for EFPK storage”. What are the alternatives at this point?
- Pages 90-91 (Research Plan 7.1 TK Incorporation in Reclamation Planning), BHPB had Dillon do a literature review on NWT reclamation projects in northern Canada that have incorporated TK. The case studies included tar sands projects, Giant, Faro and Colomac mines. The Agency is interested in obtaining a copy of this literature review. Another literature review was conducted of past and current TK projects at Ekati, an approach the Agency had recommended in our 2008-09 and 2009-10 Annual Reports, but was rejected by the Company. Again, the Agency is interested in a copy of this report.
- Pages 94-95 (Reclamation Research Plan 7.2 Closure Criteria for Wildlife Safety), BHPB completed a literature review of wildlife closure criteria for Diavik and Jericho. The Agency would appreciate receiving a copy.
- Pages 104-108 (Reclamation Research Plan 7.5 Closure Criteria for Enhancement of Natural Recovery at Disturbed Sites), a Revegetation Performance Standard that will establish a “proposed list of closure objectives and criteria suitable to site conditions at Ekati” is to be developed by 2017 or later. Admittedly, a draft of such objectives and criteria is to be submitted to the WLWB at the end of 2014, but all of this seems to be coming very late, and even after some of the progressive reclamation will have started. The same problem is evident for the Geotechnical Stability closure criteria (pages 108-110) that are not going to be completed until 2017.