

***Independent Environmental Monitoring Agency  
61<sup>st</sup> Meeting of the Board of Directors  
Ekati Mine Site, Lutsel K'e and Yellowknife, NWT  
September 9<sup>th</sup>-12<sup>th</sup>, 2008  
Summary of Discussion***

Revised: September 26, 2008

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Directors

Tim Byers  
Jaida Ohokannoak  
Tony Pearse  
Kim Poole  
Bill Ross  
Laura Johnston (via teleconference on September 12<sup>th</sup>)

Staff

Sean Kollee (September 12<sup>th</sup>)  
Kevin O'Reilly

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The Board and staff visited the Ekati mine site on September 9 and 10. The following areas of the mine were viewed:

- Old Camp and Phase I tailings containment area where closure options were discussed, Fred's channel, Airport esker revegetation work;
- Revegetation plots on top of Panda/Koala/Beartooth waste rock storage area;
- Upper Panda Lake, Panda Diversion Channel, Nero-Nema Bridge and habitat enhancement work, Ammonium Nitrate storage building;
- Long Lake Containment Facility Cell B, Fay Lake spill, Cell A road and discharge point;
- Rock testing site at end of Grizzly Lake road, Beartooth Pit;
- Helicopter tour along the proposed Sable road route, proposed Sable pit area including the downstream watershed to Exeter Lake; and
- Misery Road caribou ramp.

The business part of the Board meeting began at Ekati on the afternoon of September 10 and continued the next day in Lutsel K'e. A community feast sponsored by the Agency took place on the evening of September 11 at the Council chambers in Lutsel K'e. The Agency Board and staff met with members of the Lutsel K'e First Nation Council and staff, members of the Wildlife, Lands and Environmental Committee, and elders on the morning of September 12 before returning to Yellowknife where the Board meeting concluded on the afternoon of September 12.

## INFORMATION UPDATES

In addition to routine review of Agency business:

Bill – dealt with regular Agency communications.

Jaida – worked on the plain language version of the Agency annual report and the Agency audit.

Tony – worked on reviewing the 2007 seepage report.

Tim – met with Bruce Hanna to discuss Fisheries issues and worked on the plain language summary of the 2007-8 Agency annual report.

Kim – worked on the Agency annual report and reviewed the 2007 WEMP report. He also reported that he and others have been contracted by DIAND to update the caribou movements and distribution study that was done in 2004. This work is to be completed by March 31.

Kevin – finalized the edited changes for the Watershed Adaptive Management Plan review done by Jacques Whitford, reviewed several versions of the Agency annual report, four letters were drafted and distributed (2007 WEMP, 2007 AEMP, LLCF water quality model, and the ICRP section 4 verification comments), a letter on the reclamation research plan was drafted and distributed, information was gathered to respond to the audit management letter, and began preparations for the recruitment of a new Environmental Analyst. (This followed the announcement by Sean Kollee that he will be leaving the Agency in late October.)

## FINANCES

Kevin updated the 2008-09 Agency budget and work plan. Final financial statements for 2007-8 were distributed to the Directors. He reported that a new required change in accounting practices for the audit will require an additional two pages of notes in the Agency Annual Report as reporting requirements are becoming stricter. The audit proceeded smoothly and the accountants spent a week in the Agency office. The surplus for 2007-8 appears to be approximately \$15k, plus the surplus from the previous year that was not deducted from the second instalment from BHPB last year of about \$7,800.

It was agreed that Sean's vacation travel assistance should be increased by \$1,500 effective the second birthday of his son. Kevin's special leave for assisting with his wife's illness was also approved.

The Directors decided that the Agency should pay the monthly fee (\$15) to allow the Manager and Secretary-Treasurer to see the balances in both the Agency's chequing account and the Guaranteed Investment Certificate accounts.

Jaida will work with Kevin to bring forward a risk management policy, as recommended by the auditor, for the Agency at the next Board meeting using some of the materials provided by the auditor.

Kevin provided two quotes for accident and benefit insurance coverage for the Directors while on Agency business. An attempt was made to get a similar quote or information from the Workers' Safety and Compensation Commission without success. The Directors decided to go with the second insurance quote as follows.

*Motion to accept the group travel insurance quote B from Axa with an annual premium of \$1,205.*

*Moved by Tony.*

*Seconded by Tim. Carried unanimously (Laura later concurred by phone).*

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| Action Item #1 – Kevin to finalize payment on the group travel insurance for the Directors. |
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| Action Item #2 – Kevin and Jaida to develop a draft risk management policy |
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#### INTERIM CLOSURE AND RECLAMATION PLAN (ICRP)

BHPB has both Rescan and EBA Engineering assisting with the revisions to the ICRP. The final draft is now due on December 15, 2008. The final Working Group meeting is scheduled for February 3, 2009. Tony is available to attend but Bill will be out of the country with a teaching commitment.

#### 2007 SEEPAGE REPORT

Kevin passed along that the WLWB staff had called the office wondering why the Agency had not sent any comments on the 2007 seepage report submitted by BHPB. The Directors had reviewed the internal review conducted of the report and accepted that the Agency did not need to submit any comments. In future, the Agency will indicate to the Board where it does not intend to submit any comments on a document out for review.

#### LLCF WATER QUALITY PREDICTION MODELS

The Directors noted the July 23, 2008 response from BHPB to the comments made by various reviewers, including the Agency, on the LLCF water quality models. BHPB did not respond to the comments that were made as it believes that much of this work is continuing internally. The Directors were of the view that the Agency should encourage BHPB to continue the work on the LLCF water quality models to support the WAMP and that the comments provided by the reviewers provide the basis for further improvements.

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| Action Item #3 – Kevin to draft a letter to BHPB suggesting that further improvements to the LLCF water quality models are encouraged. |
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## CELL E FISH SURVEY

The Directors reviewed BHPB's proposed cell E fish survey methodology to follow-up on the source of hydrocarbons detected in fish liver bile during the 2007 AEMP. The study is also to include work on whether slimy sculpin in Cell E have high levels of ligulosis, consistent with downstream water bodies. The Directors were of the view that BHPB's response is appropriate and look forward to the report that is to be delivered by Rescan in February 2009.

## 2007 AQUATIC EFFECT MONITORING PROGRAM REPORT

The Directors reviewed BHPB's responses to reviewers' comments on the 2007 AEMP report. While the Directors generally accepted BHPB's responses, the company's answer to tracking issue #1 regarding increasing molybdenum levels in Moose Lake was not accepted. BHPB continues to promote its Tier I ecological risk assessment criterion of 16 mg/L to protect aquatic life, while the CCME guideline is 0.073 mg/L. The Agency has no reason to believe that BHPB's proposed criterion provides adequate protection. However, the Agency is pleased to see that BHPB will raise selenium to an evaluated parameter in the 2008 AEMP.

Action Item #4 – Kevin to send the new CCME Protocol and presentation to Tony.

Action Item #5 – Kevin to draft a letter to BHPB on the issue of a molybdenum discharge criterion.

## 2007 BHPB EKATI ANNUAL ENVIRONMENTAL REPORT

It was agreed that Tim, Jaida and Kim would provide any comments on the 2007 Ekati Annual Environmental Report to Kevin early by September 17 for compilation into a letter. The Agency does not have an electronic version of the plain language summary version but would like to obtain it from BHPB.

Action Item #6 – Tim, Jaida and Kim to provide comments on the 2007 Ekati Annual Environmental Report to Kevin by September 17. Kevin will then draft a letter for circulation to the Directors before submission to DIAND later that week.

Action Item #7 – Kevin to request an electronic version of the 2007 Ekati Annual Environmental Report plain language summary from BHPB.

## SCHEDULE PLANNING

The Directors decided to set the Annual General Meeting for the Agency Society members for December 4, 2008. This will be preceded by a one-day Environmental

Workshop on December 3, 2008 that will cover BHPB's 2007 monitoring program results. December 5, 2008 will be a regular Board meeting.

The next Board meeting will be held January 13-15, 2009. The following Board meeting may be held some time in late March 2009.

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| Action Item #8 – Kevin to provide official notice of the Agency AGM to the Society members. |
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| Action Item #9 – Kevin to work with Directors in preparing an agenda for the Environmental Workshop and presentation materials. |
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#### WLWB SURVEY ON CLOSURE PLANNING

Tony drafted a response to the WLWB survey on closure planning. After much discussion, it was agreed that Tony, based on the discussion, will update the responses and circulate the revised version for Agency approval.

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| Action Item #10 – Tony to revise responses to the WLWB survey on closure planning by September 17. |
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#### MIXING ZONES

After a request (during the site visit) by Eric Denholm, the Directors discussed the appropriateness of mixing zones in relation to discharges from Ekati. The Agency had suggested in its comments on the proposed chloride discharge criterion for the SPB licence that there not be a mixing zone for discharges from the Two Rock sedimentation pond. It was observed that EC does not promote a mixing zone as this is not good practice in terms of environmental protection. It is too hard to control where the point of compliance may be and how to meet effluent standards. The best point of control is where the effluent is discharged. A DFO authorization might be required if there were a mixing zone in Horseshoe Lake, as this could have an adverse effect on fish habitat.

#### OUTSIDE REVIEW OF AGENCY

A decision to proceed with the outside review of the performance of the Agency was agreed to by the Directors. Kevin mentioned that the budget and work plan for the Agency does not contain any provision for this work. It was agreed that the issue of funding should be discussed further at the next Board meeting. Options include a request to BHPB and/or DIAND or reallocation of other core funds.

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| Action Item #11 – Kevin to prepare a final terms of reference for the outside review and to gather further information about funding options. |
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## NEW ENVIRONMENTAL ANALYST RECRUITMENT

The Directors decided to approve the job description for the environmental analyst position prepared by the Manager. Jaida and Tim agreed to work with Kevin as part of the hiring process. Kevin will advertise the position in various ways.

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| Action Item #12 – Kevin to advertise the environmental analyst position in News/North and Yellowknifer, and distribute the job ad to Society members and others. |
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## TIMELINE CHRONOLOGY PROJECT

The Directors discussed the timeline chronology project. It was agreed that it needs to be laid out differently and be made available in an electronic format. It would also require a fourth line that discusses environmental effects milestones. Some of these include a Kodiak Lake eutrophication event, garbage attractants to Misery Camp and the Fay Lake spill. Some other agency key events include the first trip to Lutsel K'e (2000) and the trip to Rae (1998 or 1999).

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| Action Item #13 – Sean to revise the timeline chronology and investigate electronic format options. |
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## MEETINGS WITH OTHERS

*Lutsel K'e Wildlife, Lands and Environment Committee – Florence Catholique and Angie Lantz*

Florence introduced Angie Lantz as the new Permitting Coordinator for the Wildlife, Lands and Environment Committee. Florence raised some concerns with the Directors concerning the renewal of the Sable, Pigeon and Beartooth water licence. Lutsel K'e was invited to a meeting with BHPB on the renewal but did not feel there was adequate consultation. The community is concerned with the transfer of authority over Ekati water use and disposal from the NWT Water Board to the Mackenzie Valley Land and Water Board and finally to the Wek'eezhii Land and Water Board. For the SPB renewal, the community would not like to see a licence run until the end of the operation. The community would also like to see the security reassessed periodically, plans submitted for each pit in advance of actual operation, and that the impact and benefit agreement be revised in light of the new operations.

Florence also raised the issue of resources and capacity for the community. The Lutsel K'e First Nation has a research protocol that includes costs for any consultation to be done with the community. The current funding for the Wildlife, Lands and Environmental Committee includes \$46k from the Interim Resource Management Assistance Program through DIAND, \$40k from Akaitcho Territory Government and funding from both the Environmental Monitoring Advisory Board and the Snap Lake Environmental Monitoring Agency. Members of the WLEC have raised questions about

why the community is expending funds to review the SPB renewal when the Agency should be doing this work or making a contribution towards these costs.

Bill responded by saying that the Agency too had submitted comments on the SPB renewal and that such comments will be provided in advance of regulatory deadlines where possible, to allow others to use or respond to Agency input. The company itself is a very good source of information on the mine and is often more than willing to visit or provide additional documentation or presentations. The Agency will also assist, within its own capacity and budget, any community that may have questions about the environmental performance at Ekati. Bill stated that to date, most of the requests the Agency has ever received have come from Lutsel K'e and that the Directors and staff have provided information, written updates and memos, discussed matters over the phone and visited the community. Under the Environmental Agreement for Ekati, which is different from the agreements for Diavik and Snap Lake, the Agency cannot provide funding directly to communities.

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| Action Item #14 – Agency to note Lutsel K'e concerns, including the inability of the Agency to provide direct funding, in a letter to the community and copied to the Environmental Agreement signatories. |
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*Open House in Lutsel K'e—Approximately 10 community members*

The Agency hosted a community feast that was held in the Council Chambers on the evening of September 11, 2008. A short PowerPoint presentation was made by the Agency that included photos from the mine site visit that took place the previous two days.

A community member asked a question about the cause of the Fay Lake spill. The Agency responded by saying that it was still under investigation by both the company and the regulators. It was explained that BHPB had contacted community leaders and the regulators upon finding it, and that a temporary road was built down to Fay Lake to remove the processed kimberlite before the ice on the lake melted. The Agency said it believes that the company has done a good job cleaning it up.

An elder said that some caribou have recently been seen with leg wounds that may be due to crossing of roads at the mines. Bill explained that BHPB put in the first caribou ramps along the Misery road about 2003 or 2004 and that it is working with communities to place more of them. Tim added that the company has said it will need more help from the communities with caribou ramps if the Sable road goes ahead.

Another community member noted that she had worked at Ekati in 2001 when a dead caribou was found in front of the main camp on the shores of Kodiak Lake. She wondered whether it was ever reported and documented. The Agency undertook to check the relevant WEMP report and to report back to this individual.

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| Action Item #15 – Kevin to check the WEMP reports around 2001 to locate any |
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references to a caribou mortality near Kodiak Lake and report back to the individual in Lutsel K'e who raised the issue.

*Lutsel K'e First Nation Council, WLEC and Community Members*

Approximately 12-15 community members participated in a meeting with the Agency where a PowerPoint presentation was given on the morning of September 12, 2008 in the Council Chambers. Dennis Drygeese acted as the interpreter.

Questions from the participants included a concern why the company does not want fish back in the pit lakes after the mine closed. The Agency responded by saying that the company is of the view that compensation has already been provided to the federal government and that BHPB may also be concerned that it will assume some liability if fish are allowed back in the lakes. One community member asked whether fish at the mine site had tapeworms before the mine began operations and whether fish could be cured of these parasites. Tim undertook to respond by looking at the baseline information the company may have filed. Bill also mentioned that the company is continuing to study the tapeworm issue in slimy sculpin in Cell E to see if those fish have similar levels as those downstream.

Action Item #16 – Tim to check the baseline fish information that BHPB may have submitted before mining to determine whether there was any indication of tapeworms in fish.

Some community members said that they would like to know about problems at the site as soon as possible, with particular reference to the Fay Lake spill. Bill responded by saying that BHPB had told the Agency that calls were made to community leaders soon after the spill was noticed and that the company appears to be willing to have visitors to the site, including two people from Lutsel K'e who are currently at Ekati.

Some community members expressed concerns with contaminants in the tailings and waste or spilled oil. Tim mentioned that the Agency had recommended rope and flagging tape over the contaminated snow site on the waste rock piles after ducks were observed in the pond. The company has done this and there does not appear to be a problem now.

Florence Catholique and Angie Lantz raised a number of issues as follows:

- The community wants to be involved in the fish studies;
- Who determines what happens with the fish habitat compensation funds?
- Is it possible to revegetate the waste rock and tailings? Would like to meet with the company and other experts to look at this issue.
- BHPB previously assisted and funded a GIS technician position in the community but this stopped once Chris Hanks left BHPB. Would like to pick up this work again.
- The community wants better overall communications with BHPB.



- There are concerns with permafrost after reviewing Senator Sibbeston's report on climate change.
- As a result of the Fay Lake spill, there are concerns with the barriers or berms that are located or should be located at the north end of Cell B.
- How much chloride will be discharged from the LLCF and what will the effects be downstream?
- How can the Agency assist with Traditional Knowledge studies?
- What was the aquifer like beneath the Ekati mine site and in which direction did this underground water flow?

The Agency undertook to transmit these concerns to BHPB and the regulators, as part of its mandate to convey the issues and concerns of Aboriginal peoples.

Action Item #17 – Kevin to draft a letter to BHPB and the regulators to convey the concerns and issues raised during the Agency's visit to Lutsel K'e.

*Air Quality Monitoring—Dave Fox (Environment Canada) and Graham Veale (GNWT)*

Graham and Dave mentioned that in their view, air quality monitoring has improved over the last year and governments are pleased with the progress demonstrated. On the key topic of dust deposition around mines, they suggested that measuring dust is one task, but the interpretation is another. Most guidelines are based on aesthetics, and at Ekati the issue is habitat impacts, are there metals accumulating and what does this do to wildlife. The air quality monitoring results to date cannot answer the bigger wildlife impact questions.

Directors commented that the improved plan for snow and lichen monitoring to go out 30 km is more promising than the old sampling that only went out as far as 16 km.

The Directors and EC/GNWT agreed that some correlation between the various mine air quality-monitoring programs would be advisable. Diavik is developing an air quality model and this work should be coordinated with BHPB.

BHPB has made several positive changes to the air quality monitoring program and there are more commitments that have been made with regard to sampling and analytical protocols. All of these changes should be properly documented in a revised air quality monitoring plan that does not appear to have been updated since the mining operation began. It was mentioned that DeBeers has recently submitted a document that could be used as a template. There was agreement from the Directors that the air quality management plan needs to be updated. The AEMP was cited as an example of a plan that is regularly approved and improved under the water licence. The Directors also wondered about BHPB's commitment to discuss the changes to the air quality monitoring program with communities.

BHPB has moved the Continuous Air Quality Monitoring Building from Grizzly Lake to the emulsion plant yard. The equipment is difficult to calibrate properly and GNWT has

loaned a technician to assist. BHPB may have also contracted with a southern company to help with this task. The data from 2008 are not likely to be of much use but it is hoped that the calibration can be done and maintained so there will be reliable data.

The old incinerator units at Ekati have serious problems and faults due to heat damage and were not being operated at the right temperatures. BHPB has since taken the advice of EC and GNWT to improve these operations. The governments mentioned that new Canada wide standards exist through the CCME for incineration (particularly for dioxin and furan emissions). Medical facilities that were tested in the NWT all failed and this led to a question of what is happening at the mine sites. Ekati purchased good equipment but the equipment is not running yet. A scrubber unit was added but it was not part of the original equipment and is being disconnected. The new unit, once it is operational, should be stack tested and this could be coordinated with Diavik to save expenses. GNWT is developing an incinerator guidance manual for operators by the end of the year and this should assist BHPB and others in properly operating incinerators.

Initial test results of sediments in Kodiak Lake suggest that levels of dioxin and furan are ten times higher than in reference lakes. EC is unsure of the significance of these results at this point, but some preliminary modeling is to take place. Anne Wilson is guiding this work and the analysis is being donated by the EC lab. Further results from lower and older sediments are still to come. An interim report will be available some time next year. The case may be made for water licences to contain air quality emission standards to prevent aquatic impacts.

Action Item #18 – Kevin to draft a letter to BHPB commending the company on the positive improvements to air quality monitoring and suggesting that these changes and other commitments should be documented in a revised air quality monitoring plan. The letter should also request information about how BHPB has consulted with the communities regarding the changes to the air quality monitoring program.

*Wek'eezhii Land and Water Board Staff--Kathy Racher and Ryan Frequet*

*WLWB update*

Kathy stated that the issue of amalgamation of the two Ekati water licences is to be decided September 15<sup>th</sup>. A staff report was prepared along with a request to the Board to make a ruling. Work Plan options for the renewal process have been developed and involve a technical session that could be held as early as November. The outstanding issues include BHPB's proposals to change the EQCs and initial dilution zone. This meeting requires some additional information from BHPB on why the EQCs as they currently stand are not working and if BHPB can meet the current discharge limits or not. A public hearing may be scheduled as early as December depending on the outcome of the amalgamation issue.

*ICRP*

On the topic of the closure planning interviews, Kathy only has interviewed BHPB to date. The directors mentioned that Tony is revising the agency response to the questionnaire. Following this, WLWB staff can contact Agency Directors or staff.

*2007 AEMP*

This document is not for approval but there are some issues that the WLWB consultant identified. The 2007-09 AEMP review is up for final approval but there are 17 outstanding conditions being worked through (final approval is recommended by staff).

*LLCF water quality prediction model*

The Board asked BHPB to use all the comments received in subsequent updates and this was agreed to by BHPB.

*Watershed Adaptive Management Plan*

The WAMP review is at the stage where the Board is more interested in the process of what needs to be done rather than an in depth review of thresholds of contaminants. The reviewers to date have stated that the effects sizes work should be included. In response to a question from the Directors, Kathy replied that by November 15<sup>th</sup> a scoping document should be available that outlines what the plan should contain and the revision process including involvement of interested parties. Kathy is going to meet with the WLWB consultants to look over comments on AMPs that have been submitted. The Directors indicated that the Agency is willing to provide additional comments on molybdenum and other contaminants at the appropriate time.

MEETING ADJOURNED

Summary of Discussion Approved by

Jaida Ohokannoak, Secretary Treasurer.