

**Independent Environmental Monitoring Agency
25th Meeting of the Board of Directors
Yellowknife, Northwest Territories
September 21 - 23, 2001**

Summary of Discussion

Directors

Red Pedersen	Tim Byers
Peter McCart	Bill Ross
Tony Pearse	François Messier
Bob Turner	

Staff

Zabey Nevitt	Robin Staples
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Friday September 21st, 2001

Meeting called to order by chair at 8:30 am

Agenda reviewed and accepted.

Introduction of new directors:

- Bob Turner introduced himself as an interim director appointed by the North Slave Metis Alliance (NSMA) and Tim Byers introduced himself as the Akaitcho Treaty 8 appointee to the board of Directors.

Meeting Preparation

Directors discussed issues and concerns for the upcoming meetings with personnel from BHP Billiton, the department of Resources, Wildlife and Economic Development (RWED), the Environmental Monitoring Advisory Board (EMAB) and DIAND operations.

Meeting with BHP Billiton (John Witteman, Chris Hanks, Derek Chubb)

John, Chris and Derek provided an update on the various developments and ongoing activities at the Ekati™ mine site.

General:

- Thermistor cables are currently placed in Panda and Misery waste rock dumps and in the tailings facility. The Misery waste rock pile temperature was discussed and it was noted that permafrost appears to be setting in, and similar to the Panda waste rock pile, super-cooling is expected. Areas with higher levels of schist also appear to be cooler than those areas dominated by granite. There are a couple of spots in the

Misery waste rock pile that were recorded to be above freezing, but this may be a result of placing the waste rock in the pile during the summer months.

- Construction of the Sable road is currently on hold as it has reached the lease boundary. It will continue once the Mackenzie Valley Land and Water Board (MVLWB) has issued the required land use permit.
- The transfer of water from King Pond to Cujo Lake is ongoing as all water licence requirements are still being met.
- The groundwater report is almost complete and will be submitted to the MVLWB shortly. There is a groundwater well at the bottom of Panda pit but to date, not much groundwater has been observed.
- Tailings are being discharged into cell B until the end of October and then the discharge point will be moved back into cell C for the winter. Dyke C has been raised for winter levels. The reclaim barge remains in cell C. It was also noted that cell A is once again going to be used in the mine plan.
- A research project studying the effects of kimberlite on benthic invertebrate recolonization has begun in Long Lake. The project is a joint study with Environment Canada, DFO, the University of Saskatchewan and BHP Billiton. This study has implications on the potential impacts of using open pits for tailings deposition and reclaiming them as pit lakes.
- Construction of fuel tanks along the road to Fox pipe has almost been completed. Hydrostatic tests on the fuel tanks will be undertaken using water from Long Lake.
- Fox dewatering plan has been submitted to the MVLWB. BHP Billiton hopes to dewater approximately 65% of lake volume before reaching discharge limits.
- Old camp will be abandoned and restored as per the A&R plan next summer. The density separator at old camp will be shut down in February or March. A section of old camp will be used as a plant nursery for re-vegetation work.
- Airstrip esker is still being used and is not yet ready to be reclaimed.
- Building expansion at main camp has been completed (e.g. truck shop, accommodations).
- Preparations are beginning for underground mining at Koala North. It is expected that underground mining will commence in 2002.

Update on ISO 14001 accreditation:

- A workplan is being developed to achieve this accreditation.
- This accreditation is for the Ekati™ mine only.

Sable, Pigeon and Beartooth:

- The applications for land use permits and a class “A” water licence for the Sable, Pigeon & Beartooth development have been submitted to the MVLWB and have been sent out for comments by reviewers.
- The land use permit application for the Sable road is in the hands of the MVLWB and a decision is anticipated shortly.
- Applications have been submitted to DIAND for a land lease for the Sable road and the Sable, Pigeon and Beartooth development.
- Ongoing negotiations are taking place with DFO regarding fisheries authorizations.

Directors noted that they were pleased with the Sable Road application, as it was very detailed.

Misery Land Treatment:

- An updated wastewater and processed kimberlite management plan was submitted to the MVLWB and it included a pilot program for land treatment at Misery. The updated plan went out for review and the MVLWB indicated to BHP Billiton that a type 'B' water licence would be required for land treatment at Misery.
- BHP Billiton is approaching land treatment at Misery as a pilot study and intends to carry out extensive monitoring. At this time, discharge limits into Cujo Lake are being met and land treatment is being proposed as a polishing step.
- During the review of the updated wastewater and processed kimberlite management plan, a number of questions and concerns were raised by various parties on the land treatment approach.
- BHP Billiton feels that the risk associated with land treatment is more of a monetary one for them rather than an environmental one.
- BHP-Billiton noted that the drainage basin is quite large and the significant freshet will lead to a high level of dilution.

Fox amendment:

- BHP Billiton has submitted responses to the MVLWB post – hearing information requests. The response was supported by two reports titled 'Prediction of water chemistry for the Long Lake containment facility (LLCF)' and 'Preliminary environmental effects for predicted water quality for the LLCF'. The modeling used in the two reports followed a very conservative approach.

Directors initiated a discussion on data inconsistencies between the two reports for water quality of the LLCF (described above) and the AEMP. Copper and zinc are two examples where these data are inconsistent. Before the recent reports it appeared that copper and zinc in 2000 were slightly increasing in the Koala watershed. An explanation from BHP Billiton is needed to determine why these values differ (e.g., lab changes, methodology). These types of inconsistencies and lack of detailed explanation causes the Agency to be concerned with the overall quality of data and analysis.

John responded to the above noted data concerns by noting that there have been some lab changes and the detection limit for some substances has been improved. John confirmed that a written response from BHP Billiton on these issues would be forthcoming.

Action Item #1

Pete to draft a letter to BHP Billiton regarding data inconsistencies (e.g. concentrations of copper and zinc) between the aquatic effects monitoring program reports and water quality reports for the Long Lake containment facility.

Food management and wildlife issues:

- No wolverine or grizzly problems have been observed at Misery or main camp this summer as there are plenty of caribou in the area and food management issues of the past have been addressed.
- At Misery camp all food waste is contained and then incinerated in a fenced-in area.

- At the main camp, a few instances have been observed where food waste has made it to the landfill. BHP Billiton is taking steps to cover the landfill more frequently and is continuing rigorous staff training on food management.
- At the main camp, the sewage system is being adapted to handle food wastes. As a result, an industrial garbage disposal is being placed in the kitchen.
- Lutsel K'e trappers have proposed to BHP Billiton that a trap line be set up on and around claim block and on the winter road. It was noted that Yellowknife Dene trappers already have trap lines along the winter road. BHP Billiton does not openly support such activities.
- It is predicted that wolverine will still visit the site this winter, as food and other odours (e.g. incinerators) will be drawn to the camps. BHP Billiton is hoping to limit wildlife habituation and will cover the landfill as frequently as possible.

Seepage Survey:

- The spring seepage survey has been submitted to the MVLWB. The spring survey contains data but very little analysis. The fall seepage survey will contain detailed analysis on both spring and fall data. To date, a major observation is that granite does not appear to be acid generating and as a result BHP Billiton would like to re-focus the seepage studies to better study the course kimberlite.
- BHP Billiton will be looking for an extension from the MVLWB to submit the fall seepage survey after November.
- Baseline information is currently being collected on the environment in areas where the Fox and Sable waste rock piles will be located.

Aquatic Effects Monitoring Program (AEMP) and Wildlife Effects Monitoring Program (WEMP):

- Noted that monitoring programs keep increasing and as a result the studies are quite general and provide less detailed information. BHP Billiton would like to focus some of the monitoring programs and address specific concerns (e.g. trace metals, winter data).
- In response to the Agency concerns on metal levels under ice, BHP Billiton did winter sampling last winter and will be doing it this winter. Dissolved oxygen work will also continue this upcoming winter.
- The fish survey for the panda diversion channel will not be very reliable this year as many fish swam over the fish boxes during the high freshet.
- As Patty Hogg has left BHP Billiton, Allison Armstrong will be running the WEMP.
- As soon as the data are collected they are sent to Golder consulting in order to speed up the reporting phase for the WEMP.
- Large numbers of caribou have been migrating through Ekati™ and caribou monitoring along the Misery road has been ongoing.
- The monitoring workshops will be held on the 4th and 5th of February this year.

The concerns of elders that have been passed on to the Agency regarding the caribou crossings and the coarse rock that is used in their construction were also expressed and discussed.

Pete noted that he would like to meet with BHP Billiton and others before the February workshops (i.e. sometime in December) to discuss future changes to the aquatic monitoring program with a focus on technical issues.

Action Item #2

Zabey to inform BHP Billiton what date in December would be most desirable to the Agency for a meeting on the technical details of the aquatic effects monitoring program (similar to that held for the wildlife effects monitoring program).

Reclamation:

- Cell B re-vegetation studies were discussed and BHP Billiton indicated that it is its goal to establish islands of vegetation in cell B to be the colonizing source during the reclamation stage of the project.
- A non-native plant species (green fox tails) have been observed at the mine site. They most likely are transported to site on workers boots. Efforts are being made to remove these plants, including their roots, when they are seen.

Joint studies:

- In response to questions about how BHP-Billiton could better coordinate its monitoring programs with others in the region, BHP Billiton noted that more cooperation and direction from government and other agencies is required before they can get heavily involved in regional studies. BHP Billiton did mention that they are meeting with Diavik regularly and monitoring programs have been discussed.

Following his update, John initiated a general discussion on the Agency's use of the term "significant adverse cumulative effect" in the 2000-2001 annual report and the following was noted:

- The Agency used this term very carefully and noted that this was the first time that it was used.
- The use of the term came about as result of the combined numbers of wolverines either killed or relocated from the immediate area around Misery, Diavik and other near-by camps. An appreciable fraction of the population has been removed by a number of parties in this local area (i.e. cumulative effect).
- This effect is significant for this specific area (in and around the claim block), but not necessarily on the larger regional population (the Slave Geological province).
- This problem is being addressed by the responsible parties and can be remedied.
- Additional harvesting by trappers and hunters in this area has to be considered as it also has the potential to influence this already impacted population.

Meeting with RWED – North Slave Office (Raymond Bourget, Ernie Campbell)

Following introductions, Agency Directors and personnel from RWED discussed a variety of issues and concerns that they had in regards to wildlife monitoring at Ekati™. The following was noted:

- The two recently reported caribou deaths at the mine site appear to be due to natural causes.

- No significant wildlife concerns have been noted since the incinerator at the Misery camp was fenced in. RWED staff are pleased with the improvements at the Misery camp, but will have to wait until winter to see if wolverines and other wildlife come back to camp and pose problems.
- Appropriate covering on sewage lines and skirting around buildings has also reduced the risk of future wolverine problems, although the skirting of some of the buildings at main camp could be improved.
- Following a question on wolves entering camps, it was noted that there have been no reports of wolves near any of the main buildings at the main camp, potentially due to the high level of activity and the size of the operation.
- RWED personnel have discussed wildlife sampling protocol with BHP Billiton and other mines and exploration camps. Notification procedures were discussed and it was expressed that a protocol is needed for reporting significant wildlife events.
- RWED would like to see BHP Billiton keep more detailed daily wildlife sighting records at both the Misery and main camp. A protocol is needed to ensure that all mine employees are recording and logging wildlife sightings.
- Training for dealing with wildlife has been given to Diavik employees and has been offered to BHP Billiton.
- Dead or injured wildlife cannot be handled by mine staff without RWED first being contacted and notified.
- There is a need for compatible wildlife monitoring data collection for cumulative effects management. More cooperation and communication between industry and government appears to be required.

Following a question on the authority of RWED in terms of wildlife, it was noted that RWED staff have fairly restricted legislative powers. It was also expressed that there may be a need for more frequent site inspections by RWED staff, but this may not be possible due to limited resources.

The Agency noted that effective communication (e.g. copying letters on carnivore problems at Misery) did lead to effective action. Directors requested that RWED personnel send copies of their inspection reports in the future to help keep the Agency on top of the issues discussed above. RWED staff agreed to this request and noted that they look forward to closer cooperation between the Agency and RWED in these matters.

General discussion was initiated by a question that was expressed to the Agency by the Lutsel K'e Environment and Lands committee dealing with lesions and lacerations that have been noticed on select caribou during the community hunts. Raymond responded that he has heard similar concerns and testing on infected caribou is currently being done. It is believed to be a condition called foot rot that results from environment conditions (i.e. wet conditions, increased numbers of insects) that leave the foot and lower leg more susceptible to injury (i.e. lacerations). It was also pointed out that these particular caribou of concern did not pass through any of the mine sites.

The Directors noted that the condition of the caribou have to be considered in a cumulative impact framework, as they are potentially more vulnerable to additional stresses such as mining developments.

Action Item #3

Staff to acquire bacteriological report from RWED (when released) on samples collected from dead caribou.

Meeting with the Environmental Monitoring Advisory Board - EMAB (Bob Turner, Floyd Adlem, Doug Doan)

Following introductions, Bob, Floyd and Doug gave an update on EMAB's ongoing activities and noted the following:

- EMAB is still in a growing phase and is currently developing a workplan.
- Diavik's environmental documents and monitoring programs are being reviewed and recommendations for change being formulated.
- The potential of traditional knowledge (TK) and technical sub groups for the EMAB is being reviewed. At this time, experts at Diavik and in the government are being utilized for technical support. Expertise from the Diavik Technical Committee (DTC) that was set up with the MVLWB is also being utilized. It was noted though that the component of TK is not necessarily there just by having community representatives in the EMAB, although, due to the board's makeup, TK concerns are often raised more frequently and discussed.
- EMAB is concerned with the fact that so much of the technical information is presented only by Diavik and noted that the DTC approach is useful, but may not be the best way to discuss technical concerns, as many groups present cannot effectively participate.
- An upcoming caribou workshop is being planned for the end of October and EMAB looks forward to bringing together a good number of stakeholders to discuss common issues and concerns regarding caribou.

A general discussion took place on the make up and mandate of the two boards and effective means of cooperation was discussed and operational advice shared.

- Noted that EMAB Directors are more heavily community based than the appointed Agency Directors. This is how the Environmental Agreement with Diavik was written and the way the impacted aboriginal groups wanted it.
- EMAB's community involvement has been positive, although the capacity of those in the communities to effectively deal with issues relating to mining development is often limited.
- Concern was mentioned that, in the past, the Agency had been too independent and not effectively communicating to the communities. The Agency agreed and indicated that an effective communication strategy is vital.
- Information protocols with industry, government and other agencies should be addressed early on to achieve clear lines of communication and information sharing.
- The recommendation by the Agency for BHP Billiton to hold annual workshops on the aquatic and wildlife monitoring programs has been very constructive and it was suggested that EMAB push Diavik to do the same.
- Directors of the Agency also expressed concern over EMAB's reliance on Diavik personnel for technical expertise. Independent objective technical advice is seen to be a critical component for effective independent monitoring.

- The need to have the monitoring programs from each development to be in harmony for efficient cumulative effects analysis was stressed. Data collection by BHP Billiton and Diavik should, at the very least, be compatible and easily fed into the larger cumulative effects studies, such as those being done on caribou.
- Overall both the Agency and EMAB expressed much interest in the sharing of resources and knowledge, and it was noted that communication and cooperation benefits would result by having Bob sitting on both boards.

Action Item #4

Zabey to meet with the new executive director of the Environmental Monitoring Advisory Board once she starts to discuss ways in which the two offices could cooperate and the potential of combining the board room.

The Agency and EMAB executive then had a general discussion on DIAND's review of project specific Environmental Agreements. The impact that increasing aboriginal joint ventures will have on the credibility of independent monitoring agency's was also discussed and it was noted that a potential conflict of interest may arise on some boards in the future if community representatives are unable to avoid pro-development political agenda's.

Meeting with DIAND Operations (Ed Hornby)

Agency Directors and Ed Hornby discussed the work of the previous inspector, Darren Unrau, and the options DIAND has to replace him.

- The Agency expressed that we greatly appreciated Darren Unrau's work and were sorry to see him go. We hope that the next inspector is equally dedicated and professional.
- Darren's frequent inspections and detailed reports helped keep the Agency and other groups informed and improved the quality of BHP Billiton's on site operations.
- It was noted that a full time inspector for Ekati™ would be in place by this time next year and for the short term the Diavik inspector, Craig Broome, is becoming familiar with Ekati™.

General discussion on the length of time it will take to bring the new inspector up to speed on relevant issues at the mine site and the aspects of mine operations that the Agency feels should receive the highest priority.

- Operations at Misery remain of high interest due to past food management problems, increasing development and the high use of contractors.
- King Pond dewatering and sampling should also be closely be monitored.
- Fox dewatering and seepage surveys of interest.
- Noted that inspections should not be limited to the requirements of land leases, land use permits and water licences but should also address broader operational issues such as done by Darren (e.g. food management, wildlife)

The role of DIAND inspectors in the management of cumulative effects was briefly discussed, as was the process of prosecution in the existing system. Issuing tickets or fines to proponents who do not meet permit or licence requirements was noted as an alternative approach before

prosecution, but caution was expressed as the fines may be insignificant to the budgets of some proponents.

Meeting adjourned for the day.

Saturday September 22nd, 2001

Meeting called to order by chair at 8:30 am

Information Updates:

Red: Noted that he has been enjoying his summer and that he has been in regular contact with the Agency and KIA offices. He also mentioned that he was interviewed by a reporter from the Globe & Mail regarding environmental monitoring at Ekati™.

Bill: Mentioned that his involvement in Agency matters has been limited over the summer, but he has worked on the incorporation of a western and northern affiliate for the International Association for Impact Assessment (IAIA).

Pete: Began by noting that he spoke recently with Nick Jones, the University of Alberta researcher, regarding the survival probability of young-of-year grayling in the Panda Diversion Channel (PDC) versus that seen elsewhere (e.g. Alaska, Yukon). Pete reviewed Nick Jones' study and interestingly noted that much of the productivity for northern streams appears to be coming from the upstream lakes. This is an especially important point when studying the PDC as most of the lakes along or upstream of the PDC have been removed and thus productivity adversely effected. Pete is eagerly waiting the literature review on young-of-year grayling growth provided by Dillon Consulting to BHP Billiton.

Action Item #5

Staff to acquire literature review on young-of-year grayling growth provided by Dillon Consulting to BHP Billiton.

Pete continued his update by mentioning that he has reviewed the data provided to him from the Lutsel K'e Stark Lake study and has had discussions with Tracy Williams of Lutsel K'e regarding the data. He has offered to assist Tracy in the analysis of data and visit Lutsel K'e again if they so desire. In addition, Chris Hanks of BHP Billiton approached Pete in regards to Pete potentially offering advice on the reclaimed pit lake and associated fish issues at BHP Billiton's Island Copper mine.

The other Agency Directors viewed this potential request from Chris as a good opportunity for cooperation and gave their support. A discussion then followed on using processed kimberlite in reclaimed pit lakes and the potential impacts to water quality (i.e. metals) and benthic communities (i.e. bioaccumulation, diversity).

Action Item #6

Staff to ask BHP Billiton or Environment Canada for research description of cell E Long Lake Tailings Facility benthic re-colonization study.

Action Item #7

Zabey to invite Steve Harbicht and/or Anne Wilson of Environment Canada to the next board of Directors meeting in December to discuss phase 1 and 2 of the kimberlite toxicity studies being run in the Long Lake tailings facility.

François: Noted that he has reviewed the draft caribou chapter from the Inuit TK study, which was provided by Chris Hanks of BHP Billiton. He mentioned that it is a good package of TK knowledge on caribou, but not necessarily specific to the Lac de Gras area. François also reviewed some aspects of the WEMP and noted that he was approached by Golder Assoc., BHP Billiton's WEMP consultant, regarding advice on re-vegetation work at Ekati™. François and the rest of the Agency as a whole is pleased to see BHP Billiton and its consultants cooperating well with the Agency and hope it continues.

Red noted that there were some errors in the Inuit TK report in regards to the trading of caribou skins.

Tony: Mentioned that he had little to report, but asked for an update on the Agency site visit and if there were any outstanding issues and concerns. The other Directors briefed Tony and specifically noted that the Misery road was not very elevated from the surrounding tundra and concluded that it shouldn't pose much of a problem to migrating caribou, but noted that the traffic on the road might. The PDC, waste rock toe berm, and reclamation work at cell B were all visited on the site visit.

Bob: Noted that since this is his first board meeting and that he was recently appointed, he did not have anything significant to report. He did ask for an update on seepage and acid rock drainage and if there were outstanding concerns. The other Directors gave an update on this issue and noted that BHP Billiton has adapted its waste rock management plan by placing more active rock types (e.g. kimberlite) inside the centre of the waste rock piles and away from the edges where they will freeze more quickly. BHP Billiton is reporting that the waste rock piles at both Panda and Misery are super-cooling and this will result in a smaller outer-edge 'active layer'. Kimberlite rock is still an ARD concern and more studies are required. Seepage monitoring is continuing and the fall seepage survey will have this year's results and analysis in it.

Tim: Noted that he has met with both the Yellowknives Dene and Lutsel K'e recently and intends to meet with both groups often to effectively relay their questions and concerns to the Agency. Tim then posed the question relating to how influential the Agency has been on the environmental management at Ekati™? The other Directors replied by noting that the responses from BHP Billiton have been mixed. In some situations (e.g. Dissolved Oxygen in Kodiak Lake) BHP Billiton has been quick to respond, and in other cases (e.g. Agency annual reports) the response has sometimes been slow. The company, regulators and government do listen to the Agency and our relationship with these groups

has been steadily improving with time. Inter-Agency Coordinating Team (IACT) meetings have also been a good setting for sharing information and concerns.

Staff Update

Zabey: Briefly summarized the detailed staff activity report that was provided to the Directors, which described the activities of the staff since the last board meeting. Zabey went into further detail on some of the items on the report including: the drafting of the sixth issue of the Agency newsletter, the website update, and professional development.

Directors briefly reviewed and discussed the action items arising out of the last board meeting and the following was noted:

- The operating environmental management plan (OEMP) updates are available on CD.
- The book produced by the monitoring agency for the Island Copper mine is at the editors.
- Sable road application is still being reviewed by the MVLWB at this time.
- Notifying BHP Billiton personnel as to which specific developments at the mine site are of interest or concern before the meeting seemed to be helpful for both parties.

Treasurers Report

Francois, the secretary treasurer, reported that for the financial period of April to late August approximately 32% of the budget was spent. This expenditure pattern is consistent with what was predicted. Mention was also made that the budget money is still invested in GIC's and that BHP Billiton is aware of the over contribution of funds that was made last year.

François reminded the Directors that in the workplan and budget, 18 days for travel and meetings plus an additional 18 days for other Agency work (e.g. drafting of annual report, technical reviews, etc...) are allocated per Director. He encourage that all Directors continue to follow this guideline as set out in the annual workplan.

It was also noted that Zabey, the manager, could assist the newly appointed Directors with their expense forms and the importance of correctly allocating time spent on various activities (e.g. community consultation) was stressed.

Staffing (In camera)

The board of Directors had a brief in camera session to discuss performance appraisal and remuneration package for the manager.

The Directors agree in their views that the manager is working effectively and very satisfactorily. The board received similar comments from regulators and BHP Billiton.

The Directors agree on a new remuneration package for the manager, which will be conveyed via letter from the treasurer.

Out of In Camera

Fox Amendment update

Zabey briefed the Directors on the Fox amendment and noted the following:

- The MVLWB has approved the amendment of the current class ‘A’ water licence to allow for the dewatering and decanting of Fox Lake.
- There were still a number of outstanding issues and concerns regarding the mining phase of the Fox amendment (e.g. waste rock management plan, water quality). The MVLWB issued an information request to BHP Billiton dealing with water quality impacts for Long Lake tailings facility.
- BHP Billiton has recently submitted a response to the MVLWB’s information request and it will be circulated for review to interested parties.
- No additional land use permits are required for this development.

Following Zabey’s briefing there was a brief discussion on the regulatory process and procedural fairness. General discussion also took place on the amendment application and BHP Billiton’s response to the information request and the following was noted:

- Cell A of the Long Lake tailings facility is going to be used.
- Data inconsistencies have been noted in the two Long Lake water quality reports, and need to be resolved before the accuracy of the reports can be assessed..
- As no predictions on pH were made in the two reports, the ability to accurately predict future concentrations for a select number of metals will be difficult due to solubility issues.
- Fox pit mine water data has to be incorporated into the model for Long Lake water quality as soon as it is available to make the model as accurate as possible.
- Concerns with water quality specifically relating to the toxicity of coagulants & flocculants and the relatively high percentage of mine water in the LLCF influent.

Action Item #8

Directors and Staff to review the responses from BHP to the MVLWB information requests regarding the amendment to the class ‘A’ water licence (mining Fox pit) and attached reports relating to the current and future operation of the Long Lake Tailings Facility.

General discussion on the process of mine water treatment.

Action Item #9

Zabey or Robin to ask BHP Billiton at the next IACT meeting for clarification on how mine water is processed at the mine site.

Seepage Survey update

Zabey briefed the Directors on the spring seepage survey and noted the following:

- The spring report contains only data and no real analysis has been done at this time. The fall report is to contain additional data plus detailed analysis.
- The spring report that was submitted to the MVLWB had to be copied for a \$1.00 per page. The cost of copying such large documents is becoming an issue and an

information sharing solution is required (e.g. BHP Billiton copying us directly or copying deal with the MVLWB).

Directors discussed the potential of BHP Billiton seeking an extension from the MVLWB for submitting the fall seepage report and the implications it may have on the Agency as far as available review time.

Action Item #10

Robin to review BHP's spring seepage survey that was provided to the MVLWB and present a summary report to the directors before BHP submits the fall seepage survey report which is to include a more detailed analysis by their consultants.

Cost Variance report and meeting update

Zabey gave a brief update to the Directors on the status of the cost variance report and meeting and noted the following:

- John Brodie, DIAND's reclaim consultant is reviewing BHP Billiton's cost variance report and reclamation model. He is comparing BHP Billiton's chosen Monte Carlo model with his Reclaim model. DIAND's review has been delayed, as John Brodie is not allowed to visit the mine site due to the ongoing (DFO) court case where John Brodie is a crown witness. Be certain of these facts. Check if in doubt.
- Once DIAND finishes its review, a meeting will be held to discuss the reclamation liability and security requirements. DIAND, GNWT, BHP Billiton and the Agency will be involved.
- Security can be attached to environmental agreements, Water licences and now land use permits as well. This is important for the Sable, Pigeon and Beartooth development and meetings are scheduled between DIAND and the MVLWB to discuss how security will be attached.

Misery Land Treatment update

Zabey briefed the Directors on the Misery Land treatment issue and noted the following:

- An updated wastewater and processed kimberlite management plan was submitted by BHP Billiton and included land treatment. This plan, specifically the land treatment section has been reviewed by the Agency and others (e.g. Environment Canada, DIAND). The MVLWB concluded that BHP Billiton would have to apply for a type 'B' water licence in order to perform land treatment at Misery.
- It is essentially the same proposal as was proposed for the Fox pipe. The land treatment would operate for approximately 3 months (2 summer and 1 winter) and is being referred to as a polishing step by BHP Billiton.
- Throughout the review, concerns have been noted by the MVLWB, and various government agencies. The Agency has supported the application with the condition of intensive baseline and monitoring studies.

Following Zabey's update, the Directors discussed the Misery land treatment application and some of the numerous concerns expressed throughout the review period were noted.

- The potential for high salinity problems on vegetation and soil has been expressed by the MVLWB numerous times, but appears to have received little attention from BHP Billiton.
- Concern over the volume of water and snow being deposited and the potential impacts on plant growth and the growing season.
- Directors are still in favour of having BHP Billiton carry out small field trials with careful management and rigorous monitoring.

Preliminary screening of Carrie and Desperation update

Zabey updated the Directors on the status of the preliminary screening for Carrie and Desperation ponds and noted the following:

- The Agency reviewed the document: Preliminary Screening – Desperation and Carrie Ponds prepared by Dillon consulting for BHP Billiton and offered a number of comments to DFO such as the need for more complete information and for DFO to have a screening process that has more public involvement.
- DFO responded to the Agency’s letter and provided a copy of the No Net Loss (NNL) plan and noted that it would attempt to have a more transparent screening process.

General discussion by the Directors on the preliminary screening for Carrie and Desperation followed Zabey’s update and outstanding concerns and issues were noted:

- Directors are pleased that DFO is attempting to make the screening process more transparent and complete by sending out of the NNL plan with the preliminary screening, but noted that the draft NNL that was sent seems to be incomplete.
- Fish habitat compensation should be “like-for-like” and the limiting factors for fish growth (e.g. spawning or foraging habitat) should be replaced. Enhancing a habitat type that is not limiting will not be effective compensation (e.g. dumping rocks in deep part of a lake to create rearing habitat or over-wintering habitat is not appropriate when grayling spawning habitat has been lost and is the limiting habitat type).
- Desire to have grayling habitat replaced within the same drainage where the development is taking place.
- Review will continue once the complete NNL and compensation package have been received. The Agency is also looking forward to reviewing the draft fisheries authorization.

Action Item #11

Zabey to contact Julie Dahl (DFO) regarding the draft authorization, draft no-net loss plan, information requests made to BHP and the compensation package for the Carrie and Desperation water bodies associated with the Misery development.

General discussion on the NNL policy of DFO and how effective it has been in the past.

OEMP update

Zabey gave a historical description of the OEMP review and noted the following:

- The OEMP (February 2000) was sent to MVLWB and subsequently sent back to BHP Billiton to be updated following its review by government, regulators and other agencies.
- Five management plans required under the class 'A' water licence were updated and submitted by BHP Billiton.
- Regulators and other agencies have reviewed these updates and few comments have been made, as the plans have not changed that significantly and the major comments sent back to the company earlier on in the review were incorporated.
- The OEMP will be of more interest when they are updated to include the Sable, Pigeon and Beartooth development.

Sable, Pigeon & Beartooth update

Zabey briefed the Directors on the Sable, Pigeon and Beartooth application and noted the following:

- BHP Billiton has submitted applications for land use permits and a class 'A' water licence for the Sable, Pigeon and Beartooth development and the MVLWB has sent out the applications for review.
- The Agency's review should include a reiteration of the recommendations made to the Mackenzie Valley Environmental Impact Review Board (MVEIRB) for consideration as licence conditions.
- The next step of the regulatory process once the applications have been reviewed will be a public hearing and the Agency can also become involved at that time.

Action Item #12

Directors and Staff to review BHP's class 'A' water licence and land use permit application plus the MVEIRB's Environmental Assessment report for the Sable, Pigeon & Beartooth development to determine appropriate recommendations for licence conditions for the consideration of the MVLWB.

MVEIRB Draft Guidelines

Zabey notified the Directors that the MVEIRB has drafted two documents titled: 'Guidelines for Environmental Impact Assessment in the Mackenzie Valley' and 'Rules of Procedure for Environmental Assessment and Environmental Impact Review Proceedings' respectively.

It was noted that rules of procedure have already been accepted for the Snap Lake project, but comments are still being accepted for the third round of edits.

Directors discussed the two reports and noted outstanding concerns they had regarding MVEIRB's public registry and environmental assessment process.

- Concern that the MVEIRB can only offer recommendations on impacts it determines to be significant. It appears that other potential impacts cannot be commented on at

all by the MVEIRB and passed down to the MVLWB for consideration as licence or permit conditions.

- Concern over what significant public concern actually means and how is it measured. Noted that substance of concern and not just the number of people is important.
- The MVEIRB accepted BHP Billiton's conclusions during the environmental assessment even when stakeholders expressed concern about the rationale for those conclusions, but were not able to provide additional data or evidence to support other conclusions. This approach does not allow for smaller agencies or groups with significant concerns to be effectively heard due to a limited financial capacity to hire consultants in support of a counter-argument. Directors agreed that a brief review of the two draft documents for this type of approach is warranted.

Action Item #13

Bill to briefly review the MVEIRB's guidelines for environmental impact assessment in the Mackenzie Valley and rules of procedure for environmental assessment and environmental impact review proceedings.

CIRL-DIAND interviews on project specific Environmental Agreements

General discussion regarding the upcoming interviews and resulting discussion paper carried out by Steve Kennett of the Canadian Institute of Resource Law (CIRL) on the future suitability of project specific Environmental Agreements (EA).

Directors agreed that it is appropriate and necessary for the Agency to participate in the interviews and they noted why project specific EA's are useful and important.

- EA's fill in 'gaps' of the regulatory process and provide an additional tool for the protection of the environment (e.g. requirement for monitoring programs).
- EA's can allow for site-specific requirements that are unambiguous.
- There is no reason why project specific EA's couldn't make reference to a regional monitoring agency.

Action Item #14

An appropriate individual from the Agency will participate in the interviews regarding the future of project specific environmental agreements.

Sunday September 23, 2001

Website update

Robin briefed the Directors on the website update and the following was noted during the resulting general discussion:

- IACT participants expressed that it is helpful that all outgoing letters from the Agency are being put on the website.
- For communication purposes, a comment regarding the website may be warranted in the annual report if the number of users is deemed significant.

Staff workplan update

Zabey discussed the upcoming staff schedule with the Directors and noted the following:

- The office will be closed the first week of October, as both staff will be out of the office attending workshops. The potential for setting up a future joint answering service with EMAB was discussed for times when both staff are out of the office.
- The sixth issue of the newsletter will be completed shortly and the staff will continue work on those items listed in the staff workplan (e.g. comparison of BHP Billiton's and Diavik's management plans, water quality review, etc...)

Other Business

Bathurst caribou management planning committee:

Directors discussed the potential for a cumulative effects monitoring program for the Bathurst caribou herd and if an update on the follow-up activities arising out of the December 2000 Bathurst caribou management planning committee meeting was available.

It was noted that a draft management plan for cumulative effects monitoring of the Bathurst herd is progressing very slowly and is being developed in most part by RWED. It was also mentioned that the Dogrib communities have not officially signed onto the planning committee, but do support it in principle.

Action Item #15

Zabey to invite RWED (Doug Stewart, Ray Case, Ann Gunn) to the next board of Directors meeting in December to discuss the cumulative effects monitoring program for the Bathurst caribou herd and get an update on the follow-up activities arising out of the December, 2000 Bathurst caribou management planning committee meeting.

Update on cumulative effects management framework:

Bill noted that he would be commenting on the cumulative effects management framework (CEAMF) update provided by DIAND as an Environmental Design professor and not as a Director of the Agency. He is specifically concerned that there appears to be little emphasis on the management aspect of the CEAMF workplan.

Action Item #16

Zabey to invite David Livingstone (DIAND) to the next board of Directors meeting in December to discuss CEAMF in addition to other issues (e.g. regional monitoring agency, future of project specific environmental agreements, slave geological study action plan).

Harmonization of Diavik and BHP Billiton's monitoring programs:

It was noted that previously Ann Gunn, of RWED, has mentioned that the data collection in the Diavik and BHP Billiton monitoring plans is not as harmonized as it should be to allow for effective cumulative effects assessment and monitoring. Directors discussed the need for

compatible data collection and monitoring programs and noted a comparison of the two company's monitoring programs should be carried out.

Implementing Traditional Knowledge (TK):

It was noted that Lutsel K'e and the Yellowknives Dene are still very much interested in the formation of an elder committee or TK working group and would appreciate the Agency following up on it's formal recommendation made to BHP Billiton regarding such a group. They would also like BHP Billiton to formalize the protocols of how TK that is provided to it is being used.

Directors discussed the TK concerns from Lutsel K'e and the following was noted:

- The Agency, in the 2000-2001 annual report, recommended that the aboriginal groups meet to develop a consensus on how and where their TK could be incorporated by industry and then to work with industry to develop better methods to achieve these goals. The Agency committed itself to help facilitate these efforts and could seek an update from BHP Billiton or potentially initiate these meetings.
- There is potential for a joint review on incorporating TK with EMAB and Diavik.
- BHP Billiton was frustrated with the previous process and would want to be more directly involved especially if they are funding the initiative.
- More direct involvement of aboriginal people in monitoring programs is required (e.g. wolverine monitoring).
- Collective participation and discussions on TK may be more useful than meeting with one group at a time, as consensus on specific topics could be reached and disagreements discussed. Elder site visits may be a good opportunity to bring all the groups together at the same time to discuss specific environmental management concerns.
- Other experienced land users are also a good source of knowledge and should be invited to participate (e.g. trappers).
- A central archive of TK may be a useful approach to communicating valuable TK information while observing proprietary intellectual rights.

Lutsel K'e request for BHP employee liaison with communities:

General discussion regarding Lutsel K'e's request and it was noted that BHP Billiton already has this type of capacity to deal with employment or training concerns, but not necessarily for dealing with environmental concerns.

Date of next board of directors meeting: December 13th & 14th, 2001

Meeting adjourned at 11:30am.

Minutes Approved by

- Original Signed by -

Red Pedersen, Chair