



Independent Environmental Monitoring Agency

Website: www.monitoringagency.net Email: monitor@yk.com

***Independent Environmental Monitoring Agency
31st Meeting of the Board of Directors
Yellowknife, Northwest Territories
December 8th to 9th, 2002
Summary of Discussion***

Directors

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

Staff

Sean Kollee
Carol Mills (December 8th)

Sunday December 8th, 2002

Meeting called to order by Chair at 8:30.

Agenda reviewed and accepted.

Information Updates

Red: The KIA has been dealing with the loss of prominent community members in tragic accidents. He introduced Carol Mills as the new Agency manager to the directors and announced her start date as February 3rd, 2003.

Bill: He is close to completing his book chapter on EIA follow up and a draft copy has been made available. The IAIA Western and Northern Canada affiliate will be holding a conference in Yellowknife on March 6th and 7th as well as its annual general meeting. He also attended the Regional Monitoring Agency (RMA) workshop in November 2002.

Tim: Has been working for the Yellowknives Dene on the De Beers Snap Lake project and attended the technical pre-hearing sessions over the past two weeks. He had a copy of a report on nitrate in the Flathead valley by Don Macdonald, published in 1987 and sent to the Agency resource library. He informed the Lutselk'e Lands and Environment Committee of the arrival date of the new manager and the Lutselk'e are interested in having Carol attend a future consultation with Tim. He discussed De Beers' perspective



on cumulative effects, and Anne Gunn's concerns about the baseline work done on Caribou in the Snap Lake study area.

Pete: Reviewing the Panda Diversion Channel data synthesis was his main area of work and he deferred further discussion of it until later in the meeting.

Bob: Has been planning the joint (IEMA and EMAB) TK workshop and has attended the RMA workshop and De Beers Snap Lake technical pre-hearing sessions. He surveyed the leaders of aboriginal groups and received unanimous approval to getting aboriginal people to get together to discuss TK incorporation in the impact assessment and monitoring of diamond mines. The workshop is not anticipated to occur before February and he noted that the current fiscal year is important to initiate the project for budgetary reasons. He mentioned the DFO consultation process for Sable, Pigeon, Beartooth expansion and the upcoming meeting the DFO has scheduled for Dec. 17th, 2002.

François: He participated in Regional Monitoring Agency workshop and attended the interviews for the new manager. He reviewed the wildlife effects monitoring program for Diavik and will discuss it later in the meeting.

Sean: He listed a variety of events relevant to the Agency:

- Misery Land Treatment: reasons for decision and re-application by BHPB.
- Bearclaw engineering drawings for the dam.
- First Nation consultations linked to new diamond projects.
- Panda Diversion Channel meeting with Dillon.
- Dinner arrangements with the former Manager.
- Open house schedule of events.

The directors offered to hire assistance in the office during the period when no manager is available and Sean agreed he would ask for assistance if necessary.

Red officially welcomed Carol Mills and gave her an opportunity to discuss her interest in working for the Agency. She mentioned working with the communities, the reduced responsibility to access government funding, and work on technical issues relative to diamond mines. She has past experience with BHPB while employed at the Dene Nation. The directors added that Zabey would be available for two full days of assistance in assisting Carol into her new role.

The website was discussed because it is not working as well using the Netscape browser as the Explorer browser. Sean will look into the problem.

Proper minute protocol was discussed and Sean was instructed in providing the right level of detail. The procedure for minute approval was changed based on Agency bylaws from Red to François as the signing director.

Action Item #1 Update the Display Shelf incoming correspondence log.

Action Item #2 Discuss methods of ensuring Netscape functions properly with the website and the functioning of the directors computer with Tamarack Computers Ltd.

Action Item #3 Re-do the website Hit Counter analysis in the new year to ensure a proper analysis.

Action Item #4 Have a stamp prepared with François' signature on it for approving minutes.

Sable, Pigeon and Beartooth:

The Agency may consider asking authorities to verify the results of Kincheloe et al. paper because the nitrate toxicity issue has wide ranging implications beyond Leslie Lake. The effects of nitrate on eggs and alevins of fish could show dramatic differences among species; no testing has occurred for northern arctic species. There may be a shared responsibility for research linked to deleterious substances between DFO and Environment Canada.

Pete mentioned isolation of fish would occur once construction of the Bearclaw dam is complete because the interchanges from downstream will be shut off. Movement of individuals between populations is more important among small populations to ensure genetic health.

Action Item #5 Consider asking authorities to verify the results of the Kincheloe et al. paper as this has wide ranging implications beyond Leslie Lake.

ISO certification:

ISO 14001 was discussed by the directors in terms of the ability of the certification process and continued participation of BHPB in it to improve environmental management of the mine. The directors felt ISO guarantees BHPB a better environmental management system and the feedback necessary to achieve continuous improvement. ISO 14001 was thought to be more rigorous in terms of target setting than the previous BHPB environmental management system. The directors are eager to review the auditor's report if it becomes available.

Treasurer's update:

As of November 1st, 2002 (through 7 months of operation) the Agency has spent 45% of its budget. Generally there are more expenses later in the year than earlier; December will be more expensive due to the RMA workshop, advertising the manager position and the extended board meeting and technical workshops. A TK workshop will be a significant use of funds later in February. There will be a slight savings because the Agency is not paying a manager salary for two months, but there will be no manager doing the work either.

TK workshop:

Details of the date and agenda for the workshop remain forthcoming. The workshop could be a costly provision and needs to be part of the Agency work plan. The actual cost of complying with the motion passed at the last Agency AGM may be significantly higher. The earliest the directors predicted the workshop occurring was mid February. March 5th was considered as a back up date for the TK workshop. The directors agreed the Agency needs good representation at the TK workshop to show that it is hosting the event in partnership with EMAB.

Bob mentioned the TK workshop could work similarly to previous workshops where all board members are present but only the aboriginal board members are accompanied by representatives of their communities. The aboriginal participants then have priority for raising issues and have the meeting focussed on addressing their issues.

Regional Monitoring Agency (RMA):

Three Agency directors and both staff members attended the RMA workshop (François, Bill, Red). Bob also attended on behalf of the NSMA. Participants from Nunuvut, who expressed that their interests were inadequately addressed because much of the SGP is on their side of the border, raised major problems with the idea of a monitoring agency of the Slave Geological Province. During the second half of the second day there was a general agreement that DIAND should explore a RMA and come back with a detailed proposal of how it will work. Breakout groups reported back diverse recommendations but it was commonly viewed that the RMA should not be monitoring the diamond mines only. The opinion that the EMAB model of board makeup is predetermined for the RMA was widespread. Bill's presentation on behalf of the Agency focused on board independence and the requirements to create an effective watchdog.

For the immediate future DIAND has suggested joining EMAB, IEMA and WKSS into one larger organization. DIAND was requested to come up with a proposal that would detail what the amalgamation of this joint agency would look like. The role of the WKSS was not discussed in any detail. The RMA will have a watchdog and data collection role for general environmental monitoring. This differs from the WKSS role of collecting baseline data. Some discussion of the De Beers project fitting into the RMA occurred.

Red provided a synopsis on the KIA and NTI presentations. They rejected the idea of a Yellowknife based agency responsible in part for monitoring Nunavut area and making recommendations that could be detrimental to development in their area.

BHPB said it wouldn't contemplate changing its EA until DIAND had implemented section 6 of the MVRMA. DIAND mentioned the RMA would be an advisory, not legislative, board. BHPB previously proposed a modest revision to the EA. If there is a RMA created, BHPB will not be required to pay more than they currently do

François stated that in his opinion the RMA in the Slave geological province would not work because of political and jurisdictional issues. The Mackenzie Valley was suggested as the area of responsibility for the RMA according to one stakeholder at the workshop.

Misery Surplus Water Atomization Project:

Directors discussed the MVLWB's rejection of the application and the re-application by BHPB for a ¼ scale project. They then debated the effectiveness of land treatment in relation to achieving discharge limits at Cujo Lake. They re-iterated their support for the prototype project and their interest in the monitoring program.

Wildlife:

François reviewed Diavik's WEMP on behalf of EMAB, to allow DDMI to refine the WEMP. It is using the same methodology as BHPB by adopting the 1-day survey strategy for caribou that requires more helicopter expense. The same protocol for grizzly, wolverine, and raptor monitoring is used by BHPB and DDMI. The major criticism discussed at the EMAB meeting is the effect of dust on caribou food. Both mines will have to pay more attention to how this monitoring is done. He recommended that EMAB consider endorsing the WEMP. Information on wildlife harvesting was another recommendation put to EMAB, to help determine population reductions for "rare" species (e.g., wolverine, grizzly bear) caused directly by humans. The Agency should also consider monitoring the relative abundance of wolverines and grizzly bears, rare than a general assessment that these two species still used the claim block. DNA sampling could allow these interpretations to be made.

Directors specifically asked for traffic data collection from May 1st to October 1st (the period where caribou are most likely to be in the area) rather than year round. These data show there is at least as much light truck traffic as haul-truck traffic. This is an issue for caribou because they react more to a fast moving pickup than a slower haul truck. Directors recommend to BHPB that the Sable road construction be done while caribou are not in the area (from December to February). For the Misery road, much of the construction occurred in the spring and early summer.

Action Item #6 Recommend enhanced tracking of wildlife harvesting to aid in wildlife monitoring in the Lac de Gras area.

Action Item #7 Recommend to BHPB that Sable road construction occur mainly in winter.

Workplan and Budget planning:

There is a new focus for the Agency on monitoring the effect of dust on water, vegetation and animals. Reclamation and re-vegetation issues should also be part of the revised workplan over next two years. The Agency is now spending more time dealing with new initiatives such as mine expansion and there is a new watershed to look at. The

upcoming 2003-2005 budget will likely look similar to previous budgets with a key increase in TK and community consultation.

Action Item #8 Directors should plan on submitting a workplan and budget for early February, 2003.

AEMP/ PDC Review:

The directors discussed Nick Jones' earlier work on slower Grayling growth rates in the Panda Diversion Channel than under natural conditions. Pete recommended BHPB's consultant (Dillon) should revise parts of the draft report to take these data into account. The consultant must also compare Grayling growth rates with adjacent populations, not distant populations, to get real data on survival under local conditions. The directors do not consider data from Alaska as an acceptable basis for comparison. The consultant may also need to address a separate issue on assigning the date of birth of the fish properly.

Annual Report Planning:

The directors discussed components of the upcoming Agency annual report for the period of April 1st 2002 through March 31st 2003. Some components could be an assessment of BHPB's and the regulators overall performance. Security deposit and reclamation activities need commenting on although there is not much new development on this issue. Reclamation of LLCF cannot be commented on without more information from BHPB. A recommendation against construction of huge culverts such as that on the Sable road will be included in the report. The ammonium nitrate storage building was mentioned as another possible comment. The directors agreed on producing a technical and summary annual report based on positive feedback received in 2002. The 2002 summary document was found to be easy to translate by some members.

Action Item #9 For the Agency annual report, the directors should consider the ammonium nitrate storage area contamination issue and the company response to it.

Adjourned at 16:30

Monday December 9th, 2002

The directors discussed their preparation for the meeting with BHPB and information required from BHPB staff such as AEMP, the Pigeon culvert, TK, PDC, and reclamation. Darnell McCurdy was contacted and a verbal update received from him regarding his latest inspection. Darnell mentioned there were no outstanding issues to be resolved from his inspection.

Meeting with BHPB:

The directors mentioned that Carol Mills is starting in February of 2003 as the manager. BHPB stated it appreciates her selection.

Traditional Knowledge (TK).

Chris Hanks discussed the 2002 TK program. It involved looking at road and infrastructure interaction with Caribou. Originally Lutselk'e was the only group participating in the pilot but it was later expanded to include the KIA. One team from Lutselk'e and another from Kugluktuk arrived at the mine in early August after the main migration, to attempt to observe more typical caribou behaviour. Insect interference is high at this time and there are enough animals that one will be reasonably certain to see animals interacting with mine structures. Each community spent one week on site meaning that two different groups of observers collected the data that will be summarized in BHPB annual report. BHPB wanted community people to collect their own data, independently of mine staff. The Lutselk'e group used a video recorder and has since edited the footage to include mainly "limping" animals. The KIA group made extensive use of the expertise of Vivian Banci. Minutes from a workshop will be sent to the aboriginal groups and to the Agency once they are approved. A variety of recommendations will come out of the workshop. Some of these may state:

- The Misery road was not an issue of concern.
- The edge of the waste rock pile, cell B road, ramp to Panda pit and both sides of ammonium nitrate storage building were areas of concern for caribou.

BHPB agreed to deal with caribou access to these locations and try and eliminate caribou from waste rock piles by removing the berms and installing 5:1 slopes. The KIA suggested an Inuksuit line placed on an esker and BHPB might try to construct it. The cell B road is still needed for reclamation purposes so BHPB may use slopes, not berms there. There was a suggestion to use herding dogs by Anne Gunn. Dogs have been used on reindeer in other countries. If it is successful, BHPB may consider including TK into the annual WEMP.

The subject of limping caribou will be discussed further. BHPB believes it is hoof-rot linked to natural causes. BHPB may look at studying caribou before, during and after their passage through the mine to see if the mine has any impacts on their legs.

The TK initiative is not going to be included in WEMP this year because the report is nearly completed; it will be part of the annual environmental report. It was kept to two groups rather than an attempt to include all five members because of its experimental nature. All groups may want to participate in the future.

Injured caribou using the mine as safe areas against predators and for insect relief was briefly discussed.

Chris mentioned that BHPB is responsible for funding Lutselk'e's GIS program as an extension of the company's involvement with the communities.

Mine Update:

John Witteman reported that BHPB is moving towards ISO 14001 registration and will benefit from improved documentation and the creation of compliance and risk registers. It wants to have registration completed by the end of March 2003, and have auditors inspect the site three months later for the official audit. This may offer the Agency an opportunity to investigate BHPB's improved Environment Management System.

It is critical for BHPB to receive Bearclaw dam construction approval quickly to ensure the core is built properly and frozen. BHPB would like the agency to provide comments quickly to aid in approval of this construction. The dam will act as a barrier to water movement, not to increasing the capacity of Bearclaw Lake.

BHPP is constructing 90 new rooms in total on A, B and C wings. Those will be ready for the June agency site visit.

BHPB would like to reduce the amount of ammonium nitrate bags required on site but the amount of explosives required will necessitate 2000 more bags in 2003. BHPB plans to store the explosives on the road that leads to cell B and cover them with tarps. Eventually the mine will reach a stage where less explosives and explosive storage will be necessary as part of a 5-year plan. A Sprung structure is still in the plan for the ammonium nitrate storage pad. The pad will be excavated if it is measured to be high in conductivity (a determinant of contamination). This is planned to be completed by April or May 2003.

The inspector had a problem with the location of parts of the Fox pipeline so sections of it are being moved to the other side of the road. The pipe will be used to transport mine water (low volumes of mine water are expected).

Final reclamation of old camp is underway. A bulldozer will fold in the phase 1 tailings pond liner. Waste rock will be put on top of the liner and finally an esker cap will be used to finish it. A large amount of petroleum stained sand was stockpiled and asphalt plant that is used for dam construction will be used to heat the stained sand and burn off the hydrocarbon (the sand is from the bottom of previous fuel tank farm for the exploration camp). It will be excavated, run through the crusher, placed in the asphalt plant to either volatilize or burn petroleum products. The solid carbon material will remain. The residual will be used for landfill cover. No approval is necessary to do this operation although comments will be accepted. A large degree of diesel spillage occurred in the early days, and a quantity estimate of the material will be provided.

The report on air quality has been finalized and should be distributed in early 2003, prior to the February workshops. Dennis Greggor's main finding (based on the truck shop as the centre) is that a zone of influence extends out five km. The dust source can be anywhere on site such as pits, the crusher or other infrastructures. A zone of influence will have to be investigated for the Sable, Pigeon and Beartooth expansion. François

commented that road dust on vegetation is a concern and John replied that research is being done on this subject and the study should also be available in January.

An exploration permit was issued for the remainder of the claim block that will govern exploration work for the next five years.

At the underground mine, no water can be allowed to accumulate as the machinery units operate on the bottom. Large diameter pipelines will be connected to cell C for safety reasons (capacity of a 100 year storm and associated flooding event).

BHPB's Impact 2003 report is being prepared. It has been three years since the last one (coming April 1, 2003). The Agency would like the document to "explain" rather than "analyze" the effects the mine is having on the environment.

Questions from the Agency:

The directors had a number of comments and questions for BHPB such as:

- The rationale for the request to delay the Sable, Pigeon and Beartooth security deposit.
- Will the Sable road be completed before the caribou migrate?
- Where is the engineering "rationale" for the Pigeon culvert?
- If the official version of the OEMP is on the web then who has access to it? What is the web site address?

BHPB responded that \$14.4 million is difficult to get together quickly when the parent company no longer guarantees the amount. The Sable road is planned to be completed within six months. Jane Howe mentioned a lot of the engineers who worked on the project have moved on since. She is currently seeking the engineering response for the Agency.

All 150 documents related to the OEMP will be available on the web but could not be hosted on the parent site. The entire OEMP will be linked to the local site and this will exist early next year.

Misery Surplus Water Atomization Project:

Jane discussed the tight timeline for the manufacturer to be able to deliver the towers using the winter road this season. The proposal for the reduced scale project is at the board today and staff from the MVLWB will be contacting BHPB to let it know the result. BHPB expects the licence to deal with not only the prototype but also the transition to the full-scale project. BHPB also would prefer if the MVLWB stated what the conditions for a successful experiment would be.

BHPB Meeting Follow-up Discussion:

The directors discussed the likelihood of the MVLWB to not only approve BHPB's ¼ scale proposal but also to attach an automatic approval for the full scale operation. Some of the criteria for success of the prototype were estimated to be polishing of discharge water, uptake of nitrogen, proper monitoring.

Three-Year Review:

A comprehensive report every three years is required to be completed by BHPB. The report must discuss longer-term effects of the project and the actual performance of project compared to predictions. It will also evaluate how BHPB's adaptive environmental management approach has performed. The directors mentioned BHPB must consult with the Agency as they compile the information.

The directors discussed what components they want to see in the Agency letter regarding the long-term effects of the mine.

Action Item #10 Investigate predictions made in volume IV of the EIA and deliver to the directors prior to their writing of the 3 year review letter to BHPB.

Next Meeting:

The 32nd board meeting is scheduled for February 1st, 2nd and 5th, 2003. The directors will also attend the February 3rd and 4th BHPB annual workshops.

Tentative dates for the 33rd board meeting were discussed and the end of March (29th to 31st) were agreed to subject to confirmation at the February board meeting.

Meeting adjourned at 15:30.

Minutes approved by

François Messier, Treasurer.