

***Independent Environmental Monitoring Agency
45th Meeting of the Board of Directors
Yellowknife and Ekati, NWT
June 10-13, 2005
Summary of Discussion***

Revised: July 14th, 2005

Directors

Tim Byers	Jaida Ohokannoak (via teleconference for morning of June 13)
François Messier	Tony Pearse (present for meeting on June 13)
Dave Osmond	Bill Ross

Staff

Sean Kollee
Kevin O'Reilly

The Board and staff arrived at the Ekati mine site on June 10, 2005. BHPB staff on a variety of topics including a mine overview, reclamation and other matters made several presentations. June 11th was a full day of visiting various parts of the mining operation including the Panda Diversion Channel Outlet, Misery camp and waste rock piles, Fox pit, atomization site, AN building, waste management sites, and other facilities. The formal board meeting began at the mine site on June 12th and concluded in Yellowknife on June 13, 2005.

Information updates

In addition to ongoing work related to review of BHPB reports and Agency internal communications:

Dave – contributed to the annual report and review of related correspondence.

Tim – visited Lutsel K'e with Kevin after receiving an invitation from the Wildlife, Lands and Environment Committee and met with approximately 15 people. They discussed the LLCF process, water licence status and recent personnel changes at BHPB. Following the meeting a summary of the discussions was distributed to the Agency. He has also been invited to deliver a presentation on the Agency in Goose Bay, Labrador in August.

Francois – reported on his resignation from the Agency due to his increased workload at the University of Saskatchewan and appreciation for the time spent with the organization.

Bill – met with BHPB officials and representatives of the two governments to discuss the Agency mandate and unresolved budgetary issues. He also delivered a presentation based on Agency work in Boston at the IAIA conference.

Kevin – assisted the accountant in conducting the annual audit and delivered draft financial statements. He mentioned that annual report progress has been more rapid than in previous years. Staff attended a DIAND financial assurance seminar along with the Chair.

Sean – met with BHPB and GNWT and received new photos of wildlife at the site in order to gather content for the annual report.

MEETINGS WITH OTHERS

DIAND (Julian Kanigan)

Bill introduced the Board and staff to Julian and mentioned the good working relationship the Agency has had with past Ekati inspectors. Julian mentioned his intention to meet the Board and to learn about the role of the Agency compared to that of EMAB, with which he is more familiar. (Julian is also the inspector for Diavik.) He is looking forward to working on the large and complex Ekati site, although unsure how long he may be on this project. He is willing to provide a presentation of future Ekati inspections to the Agency. A brief discussion about the differences between IEMA and EMAB took place.

Julian mentioned that while on site, there was a call to look at the LLCF discharge point (new pumps had been installed) when a pipe had burst that led to some turbidity from drainage back into cell E. The potential for poor quality water entering the pumps and subsequent discharge to Leslie Lake was mitigated through quick BHPB actions.

Problems with wolverine at Ekati were discussed. Julian reported that waste management looked good at his recent site inspection and it appears that the company is doing what it can to avoid wildlife problems.

An air quality discussion occurred related to incineration. It was noted that an air scrubber on the new incinerator could result in a new stream of wastewater, up to 1000 litres per day.

BHPB has constructed new sedimentation ponds around Panda Pit to ensure proper water management during underground operations. The latest company plan to avoid nitrate seepage into Kodiak Lake is construction of a sump (moat) around the perimeter of the AN building. This appears to be a good short-term measure. DIAND has approved a new ‘zone S’ at the Fox waste rock pile for rock contaminated with hydrocarbon.

The Directors noted that the draft water licence for Ekati requires the solids fraction of kimberlite to be permanently contained in the LLCF. They asked Julian if dusting onto other land or water would be interpreted as a non-compliant event. Julian advised the directors that he would examine this issue and report back.

MVLWB (Sarah Baines)

Sarah provided an update on draft 3 of the Water Licence process:

- Comments received on June 17th will be received and forwarded to Gartner Lee. Changes may be made to draft three and then the MVLWB will review the licence, potentially July 15th. If there are changes recommended by Gartner Lee they will be reviewed in concert with the executive director and legal counsel.

Issues related to the new draft water licence were discussed, particularly Reclamation and Closure Plan (R&C Plan) requirements. Directors wondered if the way the licence deals with the R&C plan was a way to give people more time to deal with the situation and if staff draft the R&C plan ToR. Sarah replied that this was the case and that Gartner Lee would provide assistance. The reclamation research plan will likely form a section of the R&C Plan ToR.

The Directors asked if the Phase 1 tailings containment area has not already been reclaimed so would not need to be in the new licence. Sarah replied that BHPB requested the item be left in to ensure its numbering scheme is not disturbed. They also asked Sarah to what extent the Board developed the content of the draft water licence. She replied that it had no input on the draft.

Chris Johnson (UNBC) Presentation on regional cumulative effects on wildlife

Chris Johnson delivered a presentation on regional environmental assessment for sensitive arctic wildlife. The cumulative effects from human activities in the Slave Geological Province were analyzed using caribou, wolf, grizzly bear and wolverine satellite collar monitoring data. This work was published jointly with Mark Boyce, University of Alberta.

Chris suggested that to better manage cumulative effects, more information is needed on the basic ecology of caribou and other important species. This will help in developing hypotheses that can then be tested, especially related to disturbance and demographics. There are not enough data at this point to look at specific disturbances. Further work on the modelling would allow variability of various disturbances or isolating the effects of specific developments. Fire could be included too but was not analyzed as summer data were used and generally consisted of locations above treeline. The model is currently being written up for publication and possible use by others including resource managers.

Following the presentation Anne Gunn (ENR) described how she and others built on Chris' work by increasing the frequency of caribou location data that allowed for better understanding of the shape of disturbance curves. BHPB aerial survey data were also used. Anne's research showed an avoidance effect of mine sites out to 25 km that amounts to about 10% of the summer range of the Bathurst caribou herd. She suggested that improvements to aerial survey data of caribou to feed data into modelling efforts would assist in cumulative effects research. It was noted that caribou will return to areas of disturbance and that the animals appear to have an internal mechanism that tells them

where time is best spent foraging versus the effort required to get there. She suggested that another important factor for caribou disturbance may be dust.

Ray Case (ENR) noted that there is a need for both an expanded data set for collar locations (more frequent location readings and simply more collared animals) and a longer time scale for collar locations. ENR deployed additional collars (done in March 2005) and the Bathurst herd receives priority for monitoring, partly as a result of Chris's work to assist in identifying zones of influence, functional response, and by habitat type. There are 17 collared caribou and their collars report daily in July and August, otherwise there is a five-day reporting interval. Work on winter range of caribou habitat is being carried out near Inuvik. Winter distribution is important to better manage harvesting.

BHPB (David Scott, Brent Murphy, Jane Howe)

BHPB provided an operations update and several presentations, the highlights of which are reported below:

- New President, Sean Brennan, who has worked on site for the last 2.5 years, replacing Wayne Isaacs who has moved to another BHPB mine in the U.S.
- Regular plant shutdown coming up at end of June for maintenance
- New incinerator installation planned
- Ammonium nitrate building mitigation plan underway
- Dyke C will be raised in preparation for further tailings deposition
- Phase 1 tailings facility reclamation underway
- Heat recovery ventilation system and waste oil heating for underground mining will save a considerable amount of energy and greenhouse gas emissions
- Final ore from Koala Pit expected in September, no current mining in Koala until UG is developed
- Road construction along west side of cell B is planned
- Underground ore conveyor to be commissioned in November 2005
- Ore reached in Panda underground in April 2005, dewatering system under construction
- Mining at Beartooth with expansion to originally planned size
- Waste rock removal at Fox continues, down 110 m, with mining in August or September, Zone S disposal area in use
- Misery stockpile will continue to be hauled for another year
- Small diamond recovery pilot project underway using flotation and grease table
- Pumping at Cell E has commenced
- Drilling at Pigeon diversion this summer
- New staff – BHPB is currently suffering unsustainable loss of corporate knowledge. Charlie Morrissey to fill Jim Millard's position
- BHPB commissioned a study with GNWT statistician and found that there is no more capacity in the NWT labour pool to hire more workers for Ekati
- Wolverine genetics program took place in late winter but cost 2 or 3 times as much as expected

- Snow Survey preliminary air model completed
- Freshet occurred on June 5th, gradual onset this year
- Finalizing annual reports
- New DIAND inspector
- Landfill gate construction
- Corporate closure standards workshop attended by Ekati staff
- Closure plan development has passed its first corporate project tollgate. The loss of a key consultant has led to a delay but the Misery chapter is due by the end of June.
- Reports coming include *WWPKMP*, *WROSMP*, *Spill Contingency plan*
- New plans related to water licence include an Adaptive management plan and hydrocarbon management plan
- Health, Safety and Environment Audit to occur June 21-24, 2005
- Clean up day site wide, July 2, 2005; all mine personnel & on-site consultants are involved
- No more juice boxes on site as of September 2005
- ISO audit planned for October 2005, done on a nine month rotation (even though only required annually) to ensure there is seasonal coverage of all operations
- Research on vegetation growth on lake sediments and till underway
- Collaboration with Diavik on vegetation of waste rock areas (storage piles, laydown and pads)
- Sewage sludge SOP for reclamation
- Metals uptake risk assessment
- Vegetation monitoring SOP for sites under reclamation
- Waste management improvements include new bins and separation of batteries to avoid incineration by accident. Backhauled materials include batteries, hazardous waste, chemical, waste oil is burned, glycol, but not tires. Financial incentives for all employees tied to improved waste management.
- Cujo dissolved oxygen monitoring, reading decline resulted in increased monitoring and snow clearing
- Kodiak ammonium nitrate building issues of leakage, mitigation design selected and construction to start, next step is root cause analysis and evaluation of a new building, revise operation or repairs
- Water management plan – identify water management and movement on site (include inventory of all pumps and their maintenance record) and assign responsibility, lead to a plan for entire site. Recognition that improvement required after Bearclaw drawdown and unauthorized pumping from the KPSF.
- Bearclaw lake – improvements made to pumping system, new staff gauge, environment inspections scheduled, alarm if water level is within 50 cm of mark.
- Cell E pump upgrade – issue was Nero and Nema Lake ice dam from water drainage through winter so new pump capacity allows pumping to mimic the freshet to reduce the need for winter time discharge. The electric pumps remove hydrocarbon risk from former diesel pump and storage tank.
- LLCF water quality study – SNP detected increasing trend, implemented specialized sampling program. Long term detailed study to be finalized in fall

- and will be incorporated into revised water balance and water quality prediction model
- Following BHPB corporate policy, reclamation and closure will be treated as a project. The first tollgate was recently passed where corporate approval was given to further define and plan the project. BHPB will require approval of a conceptual plan by 2007 with cost estimates expected to be plus or minus 30-35%. The next tollgate will happen when the plan moves from pre-feasibility to feasibility stage where the cost estimates are expected to be plus or minus 10-15%. BHPB will develop a stakeholder consultation plan and allow for option ranking. November 2006 has been targeted for delivery of an R&C Plan.
 - Exploration – BHPB discussed ongoing exploration work on the mineral claim area.

Site visit follow-up:

The directors thanked BHPB for the valuable meeting and site visit at Ekati, particularly the disclosure on the rigour involved in mine plan development, planning for the next R&C Plan, and information on exploration. The Directors reiterated their support for the atomization project with the condition it be well monitored, and that the water used could be of lower quality than that discharged from Cell E to allow determination of the effectiveness of the technology provided water reaching the receiving environment meets discharge criteria. The Agency offered to write a letter of support for this adaptive management approach to water management. BHPB reiterated its concern that stakeholder feedback on the atomization application resulted in a burdensome monitoring program and the Agency could in particular provide some perspective on how much monitoring is necessary. The resulting water licence was, in BHPB's view, used to regulate this initiative as a full operation rather than a research project.

The Agency offered assistance to BHPB in hosting its environmental workshop in 2006 to make the event as productive as possible. BHPB also noted that the Agency has been used as a conduit between aboriginal members and the company. The Directors assured BHPB that the Agency does not encourage the Aboriginal Members to not discuss their concerns with the company directly. The Agency also does not represent itself as the only source of information about Ekati. BHPB observed that it is currently documenting refusals to its offers of community involvement. BHPB would also prefer to have elders and youth participate in its meetings rather than consultants.

The Directors also thanked BHPB for the opportunity to meet with several of the staff during this visit and the openness around various projects and plans. Waste management practices have dramatically improved. The 2005 WEMP was praised as a particularly good report with thorough analysis and data archived.

BHPB made a number of closing comments:

- Timing of the Agency site visit could be varied. The directors replied that they are flexible and would consider this. The Directors were encouraged to visit more often.
- Agency requested a security deposit spreadsheet and this was supplied by BHPB
- The company is improving at integrating environmental scientists and engineers
- Lacking is a level of business understanding among regulators of its multifaceted and changing economic and engineering conditions
- MVLWB Plans to make changes to the way management plans are written and is advocating policy guidance for the content of management plans to be applied NWT-wide. This will likely take a year for the MVLWB to do this and BHPB is supportive of this endeavour. The Directors expressed some concern with the availability and access to raw data, and the potential for a black-box management approach with less disclosure and adaptive management opportunities.

The Directors provided two key pieces of advice to BHPB highlighted at the site visit:

- Retain more expertise in community consultation.
 - Recommendations to BHPB regarding consultation
 - Involve stakeholders in a process of how they want to be consulted;
 - Use of Colomac-like consultation process recognizing that DIAND had a special obligation to the Dogrib; and
- Develop a more positive attitude toward working with regulators.

Action Item #1 – Agency should offer to assist with BHPB’s efforts to develop a plan for the 2006 environmental workshop.

INTERNAL MEETINGS

Review of Meeting with Governments and BHPB to discuss the Agency Mandate and Budget

This meeting took place the day before the Agency board meeting. Participants included Bill and Kevin (Agency), Chris, Jane and David (BHPB), Lionel Marcinkoski and Lorraine Seale (DIAND), and Dorris Eggers (GNWT). The Agency mandate in Article 4.2 of the *Environmental Agreement* was discussed in detail but Article 1 was not. Areas of different interpretation on mandate between BHPB and the Agency were discussed. These will be documented for the purpose of the next group meeting. Bill expressed the view of Agency that it cannot receive direction solely from a single member. It was also noted that BHPB is of the view, based on the EA responsibilities assigned to it, that it has a special role in dealing with the Agency to develop a work plan and budget. There was also clear agreement that the Environmental Agreement provides the prime direction on what activities the Agency should be involved in. BHPB stated that it is uncomfortable with DIAND giving funding to Agency and that any funds provided should be in the context of the Environmental Agreement and approved work plans. Bill expressed the Agency view that funds from DIAND are for mandated activities that often go beyond the work plan but contribute to the Agency mandate directly. BHPB also shared its concern that as the Agency has become more effective at dealing with Aboriginal Society

members, they seem less willing to meet with BHPB and that creates a problem for the company due to its requirement to engage in consultation with the Aboriginal peoples. A brief discussion of this item followed.

Action Item #2 – During preparation of the 46th Agency Board Meeting agenda, the issue of community consultation should be added as a specific discussion item.

Water Licence

There were extensive discussions on the Agency comments on the substance and contents of comments on draft 3 of water licence MV2003L2-0013, particularly relating to the reclamation and closure section. For a copy of the Agency submission to the MVLWB please view the agency website at www.monitoringagency.net or contact the Agency office.

FINANCE and ADMINISTRATION

Jaida was welcomed to the meeting via conference call. Kevin's performance as manager was discussed and Kevin was informed that his probationary period has been completed and his performance has been of high quality.

The draft financial statements were reviewed and approved subject to the need for some minor corrections and clarifications. The Directors asked Jaida and Kevin to follow-up on several matters with the accountants to answer some specific questions. The management letter was discussed and it was agreed that Kevin would draft a response based on the discussions by the Directors.

Francois agreed to remain a Board member until a replacement is made, subject to the approval of the signatories to the Environmental Agreement.

Next Meeting:

Late September 2005 to be determined in consultation with the Yellowknives Dene First Nation.

Meeting was Adjourned.

Summary of Discussion Approved by,

-ORIGINAL SIGNED BY-

Jaida Ohokannoak, Secretary Treasurer.