

**Inter-Agency Coordinating Team (IACT) for the Ekati Diamond Mine
Summary of Discussion
March 31, 2011**

Revised: April 21, 2011

In Attendance

Lionel Marcinkoski (INAC)
Jennifer Potten (INAC)
Jason Brennan (INAC)
Velma Sterenberg (INAC)
Keith McLean (BHPB)
Eric Denholm (BHPB)
Charity Clarkin (BHPB)

Helen Butler (BHPB)
Bruce Hanna (DFO)
Kevin O'Reilly (IEMA)
Monica Krieger (IEMA)
Jane Fitzgerald (EC)
Erika Nyysönen (GNWT-ENR)

Meeting commenced 1:30pm.

INTRODUCTIONS AND SELECTION OF CHAIRPERSON

Round-table introductions were given. Lionel Marcinkoski was selected to serve as chairperson for the meeting.

REVIEW AND APPROVAL OF PREVIOUS MINUTES

The minutes of the December 6, 2010 meeting were reviewed and accepted by consensus.

BHPB UPDATE ON EKATI ENVIRONMENT AND PERMITTING PROJECTS

➤ **PANDA DIVERSION CHANNEL (PDC) SLOPE ENHANCEMENT PROJECT**

Keith noted that this winter's efforts have concentrated on the western section. Most of the drilling and blasting has been completed on the west side, with about 7-8 days work left to access granite for backfill. Work will start on the east side in 7-10 days and continue through the soil section. Very low snowpack and warm weather are affecting accessibility and significant melting is happening, but BHPB is trying to finish 400 m on both the east and west sides. The project plan was to work until around May 1, but a progressive clean-up approach is being used in case freshet happens rapidly and/or if there is not another cold spell.

Bruce clarified that silt curtains were installed in case of sedimentation issues, and Eric has been keeping DFO up to date. INAC is also conducting regular inspections. Jason noted that an ice lens was encountered during the work. Keith clarified it is moist silty material, ranging from 1-2 m thick and about 15-20 m wide. It hasn't been disturbed yet as BHPB wants to keep the material frozen. EBA Engineering has designed a plan to deal with this issue. As the work comes back towards the lens on the west side, some material will be excavated out and a thermal barrier (likely granite) installed to prevent melting in the summer.

Jason mentioned there was a small spill on the west side of the channel. About 10 litres of hydraulic fluid fell on the blast material and was mucked out and then placed in Zone S for contaminated materials on the waste rock pile. This was not a significant quantity of fluid so was not a big concern, but he was happy that BHPB chose to report it because it was close to a waterbody. He also noted there was a new and improved drill on site.

➤ **WATER LICENSE RENEWAL (AUGUST 2013)**

Charity stated that although BHPB's current water license does not expire until August 2013, the company has initiated their pre-application engagement process. Lionel noted the previous water

license renewal process was very good, with a workshop format to review the draft license application. BHPB's requested changes were outlined and rationale provided, and technical consultants were available to answer questions. Kevin agreed that the process was good although there was not a lot of community involvement. He suggested that since this might be the last water license before the mine closes, BHPB should put more effort into community engagement.

Charity responded that during the last renewal, a community session was also held where the draft license was reviewed. Eric added that helicopter flights for community members were also conducted. He noted that BHPB has consultation sessions planned for prior to submission of the renewal application, and that the Wek'eezhii Land and Water Board (WLWB) will also likely have its own review processes and/or workshops once the application is submitted.

Jason stated that this is the time to suggest improvements to the current water license, including for effluent quality criteria. He also agreed the last license renewal was a good process.

➤ **WASTEWATER AND PROCESSED KIMBERLITE MANAGEMENT PLAN (WPKMP)**

Eric discussed the company's goal to maximize the use of cells A, B and C in the Long Lake Containment Facility (LLCF) and postpone or defer the use of cell D for processed kimberlite (PK) deposition as long as possible. Within a couple of years, cell B will be full and it will be awkward to keep dealing with just cells A and C. There are viable options including the use of Beartooth pit, which would not be large enough for the rest of mine life but could be used in combination with expansions on the south sides of cell C and possibly cell A. Final internal risk assessments are being completed, and the option chosen will be filed with the WLWB as a revision to the WPKMP. Lionel asked if a Multiple Accounts Analysis would be conducted, similar to the last LLCF revisions in 2004-05. Eric responded this is not likely. At that time, several strategies were being investigated for management of the LLCF but at this stage in mine life options are limited.

Jason noted that the original 1996 environmental assessment proposed the deposition of PK into Panda and Koala pits. Eric agreed that the placement of PK into the pits was always contemplated, but the bigger pits have been unavailable because of underground work. There may still be a need to use cell D in the future, as the Life of Mine plan and amount of PK may change. Kevin suggested it would be helpful if BHPB provided other parties with their internal analysis, or a summary of options considered and the rationale for the final choice. Eric replied this will be included as part of the package submitted with the WLWB application.

Jason asked whether Beartooth would still be a pit lake at closure if it was used for PK deposition. Eric replied yes, it would still be a pit lake and therefore would only be filled with PK to a certain elevation. Otherwise, if it was completely filled a permanent diversion channel similar to the PDC structure would need to be constructed to move water around the pit. He clarified that mining in Fox pit will not be completed until 2016 according to the current Life of Mine plan, and this timing makes it unsuitable for PK deposition.

Robertson Geoconsultants, Rescan (Clem Pelletier), and EBA Engineering (Don Haley) have been involved with the LLCF design from the start and continue to offer their expertise. Technical supporting documents will be included with the WLWB application (date of submission unsure).

➤ **INTERIM CLOSURE AND RECLAMATION PLAN (ICRP)**

Helen discussed the ongoing revisions to the ICRP, with an amended version scheduled to be submitted to the WLWB in August 2011. BHPB met with WLWB staff on March 30th to discuss reclamation objectives for the pit lakes. It was a positive discussion, and BHPB will be submitting a letter to the WLWB in mid-April to clarify the new objectives. Kevin requested that BHPB copy IEMA on any correspondence with the WLWB and when documents are submitted. Helen

responded it is up to the WLWB to further distribute correspondence including posting it to their website.

Helen discussed the Reclamation Research Plans (approximately 40 in the ICRP). Consultants are working on these plans, especially those which are important in the next couple of years. She feels that the current plans related to revegetation are somewhat repetitive and redundant, and Harvey Martens is working to address this. Grouping the plans into similar land use types (i.e. riparian for channel edges and pit lake edges, upland for camp pads and laydown areas, etc.) is anticipated. There will also be a distinct revegetation plan for the PK containment area, as well as research on developing closure criteria for revegetation. Harvey will be working throughout the summer, and this reorganization will make research more useful and help consultants to set up the scopes of work on site each year.

➤ 2010 ANNUAL MONITORING REPORTS

Keith stated that all 2010 annual monitoring reports are currently being reviewed internally. All are on target and scheduled for release by the end of April 2011. BHPB does not consider these reports as drafts, but as final versions.

➤ MISERY PUSHBACK PROJECT

Eric discussed the Misery pushback project, currently in the final stage of BHPB internal approvals. Pre-approval for capital expenditures was given last year, so that rock trucks and other equipment could be brought up on the winter road, but a commitment of money for pre-stripping work is still required. Pre-stripping is scheduled to begin in summer 2011 but could be fall, depending on when the camp is re-established and employees are on site. A new maintenance facility for rock trucks and heavy equipment is being constructed, as well as a new wildlife fence around the camp. All existing Ekati safety and environmental protocols apply, with some modified for Misery-specific issues.

In preparation for hiring additional operators for pre-stripping, BHPB recently conducted a series of community human resources trips to identify potential candidates for the program. Three to four visits were conducted to each community, including demonstration of the Cat simulator for haul trucks and resumé writing/job application seminars.

Keith mentioned that the pre-stripping program will last about three years. Misery has good quality ore, and the southern lobe will be intersected early in the process although the ore value at that point is unclear. Helen added that yellow diamonds have also been found there.

Charity noted that she is working with the communications team on an external publication for the Misery project in general, which should be released in the next couple of months. It will be a newsletter-type format in non-technical language that is widely distributed. Information will include what the Misery project will look like on the ground, environmental implications, and human resources/employment aspects. Eric added there is no real permitting for this project on the technical side so not a lot of information has been circulated, and BHPB wanted to get some communications out to the public. Keith said the Misery project is a good news story, with large capital expenditures and an additional 100-125 jobs created.

➤ 2011 MONITORING PROGRAMS

Keith discussed BHPB's current and proposed 2011 environmental monitoring programs. For the **wolverine DNA sampling** project being conducted in conjunction with Diavik Diamond Mines and GNWT-Environment and Natural Resources (ENR), very low snow cover has made it a challenge to carry out the program safely. In consultation with GNWT-ENR, sampling sites have been modified to make posts more accessible (e.g. along waterways) so that staff do not have to travel with snowmobiles over boulders. The program is targeted to wrap up by April 21st but may

be shortened depending on the weather. Therefore, there may be only one set of samples instead of two.

The **Air Quality Monitoring Program (AQMP)** will include snow and lichen sampling in 2011. Helicopters and equipment are scheduled on site in about one week. Kevin noted that Jamie Steele (BHPB) sent an e-mail today regarding proposed changes to the snow sampling protocols, which addressed some issues raised by IEMA but not all. A quality assurance/quality control test was conducted by BHPB to compare results between samples which are melted and those which stay frozen, and results appear consistent with the melted sample actually slightly higher in contaminants. Kevin said that IEMA would like to thank Jamie for his work on this issue. Lionel asked whether Taiga Laboratory in Yellowknife was used for this test, as had been suggested at a previous meeting. Keith responded they were not, as BHPB is contractually obligated to use ALS Laboratories. The 2011 review of the AQMP will likely include rationale for continuing use of the existing snow sampling methodology. The revised 2008 report is currently in draft form and being reviewed, and will likely be issued after all the other annual reports.

Eric mentioned that one elder and one youth from each community are being invited to Ekati in April. Charles Klengenber (BHPB Advisor, Traditional Knowledge) is coordinating this site visit, which will include background on how snow monitoring relates to dust, how sampling is conducted, lichen work scheduled for the fall, etc. Eric asked whether an invitation had been extended to IEMA. Kevin replied that no information had been received yet, although he has been corresponding with Charles about other matters including honoraria rates for community members and setting up an initial meeting to discuss his work.

The **Aquatic Effects Monitoring Program (AEMP)** will include a non-lethal trout monitoring protocol to be identified for 2012, as well as lake sediment sampling in 2011. Results from the coring work conducted in summer 2010 have been evaluated, and the data generated was quite positive. Keith stated they still need to figure out how to reconcile use of the Ekman dredge samplers for the past 15-20 years and ensure results are compatible, but they will likely switch to corers for the upcoming field season with a few Ekman samples for comparison. Dredge samples will still be used for benthic invertebrate samples. Eric added that this comparison study last summer was undertaken after the AEMP 3-year review. The risk is a discontinuity in the data record of monitoring programs when methodologies are switched.

Jennifer noted that other mines have encountered issues with the thickness of the core samples. The thickness of the slice is more important than the diameter, and the smaller the better. Bruce added that Diavik is currently using 1 cm thick core slices, but there was a study on mercury analysis using 0.5 cm slices which still encompassed over nine years due to the low sedimentation rates in the north. Jennifer agreed that because of low productivity in northern lakes, there is a lot of slurry or unconsolidated material on top. There is no point in taking 5 cm core samples because it would go back further than the start of mining.

Charity described the **Panda Diversion Channel** final close-out. Monitoring has been conducted since 1997 and BHPB is working towards completion of this program. Comments received from DFO and IEMA (who commissioned an independent review by Bill Tonn) are being addressed. Work in summer 2011 will involve a few surveys to address any data gaps as well as continuing discussions with DFO, and a final summary report will be prepared. Kevin asked whether the PDC slope enhancement project would require additional monitoring before and after completion. Eric replied that the project may have its own monitoring requirements, but this completion is focused more on the fisheries performance aspect of the PDC as per the compensation agreement. Keith clarified that the slope enhancement project is definitely scheduled for next winter as well, and will be more effective because of lessons learned this winter.

Keith discussed the **Wildlife Effects Monitoring Program (WEMP)**. The final report from the Traditional Knowledge workshop, conducted as part of the diamond mines joint review, was issued. Companies have individually issued a response to the workshops held and the review

process in general. BHPB recently submitted its research permit application to GNWT-ENR for the 2011 WEMP. This year the WEMP will incorporate similar initiatives as the AQMP, with community members contributing to the monitoring programs. An elder and youth from each community will be invited to site, with the youth given specific responsibilities and playing an important role. BHPB hopes that the emphasis on smaller groups and more hands-on monitoring work will enable better sharing of information and knowledge.

ROUND TABLE UPDATES AND DISCUSSION

- *INAC*: Lionel noted that BHPB's comments on the 2009 Environmental Agreement and Water License report were received. Meetings were held over the past couple of weeks to discuss the security estimate for Ekati, including the Irrevocable Letter of Credit (ILOC). This is related to the WLWB decision on Sable-Pigeon-Beartooth and should be resolved shortly. A meeting on March 15th was in regards to securities and cost variance. This was a positive meeting, information gaps were identified and INAC will continue to work with BHPB to resolve issues. The updated ICRP security cost will be done later this year. They are still working on the breakdown of percentage split between land and water related security, and the estimate will need to address progressive reclamation from now until the end of mine life. INAC wants to establish a process that is acceptable to all parties. Lionel will be on leave from late June to September 2011.

Jason asked whether securities would continue to be held by INAC if devolution occurs and responsibility for lands and resources is transferred to GNWT. Lionel replied that the Crown would likely retain some of the securities. Velma agreed there would likely be some type of grandfathering clause because the Crown held them originally, although it is unclear what the exact division would be. Kevin added that after devolution in the Yukon, the Yukon Government now holds securities. Mirror legislation had to be passed when they took over jurisdiction from the federal government, and there were also provisions in the devolution agreement for contaminated sites. The NWT situation would depend on what the final devolution agreement looks like and the associated legislation for implementation.

Jason mentioned he is looking forward to seeing BHPB's report on the Misery pushback and information on the Misery project in general. He is still conducting inspections approximately once per month. There have been very few recent spills, refuelling stations were constantly kept clean throughout the winter, and his last visit showed zero issues. He feels the Agency's new Ekati timeline website will be very useful, especially for people to access information on the early history of the mine.

- *DFO*: Bruce discussed the Nero-Nema grayling spawning enhancement which is being completed. The Pigeon stream diversion is in the final phases of approval, and there have been many improvements due to meetings between DFO and BHPB throughout the process.
- *IEMA*: Kevin discussed recent activities including a Board meeting and community visit in Kugluktuk from March 15th to 17th. The Agency was very impressed with the community's organization. A public open house was held one evening and Directors gave presentations at local schools, emphasizing what monitoring is about and the importance of staying in school to access employment opportunities. Local community members were used as examples of successes. The Agency also provided advice to BHPB on snow sampling protocols, issued a discussion paper on the Environmental Impact Report (EIR) to improve the focus of future reports, and provided comments on the Misery waste rock pile amendment. BHPB's response to the WEMP workshops and the wildlife research permit application are being reviewed, and a letter will be issued soon. The Agency sent BHPB a letter in May 2010 regarding use of the Ideal Performance Standard (IPS) for nitrate. The Canadian Council of Ministers of the Environment (CCME) recently released new draft guidelines for nitrate, and BHPB has stated they will respond after reviewing this new information. The Agency keeps money in its budget to hire independent expertise when necessary, and recently contracted two revegetation specialists (Dave Polster and David Walker) to conduct a review of literature and BHPB reports on revegetation. This work

will better inform Directors and staff about revegetation sustainability criteria. Reports are expected soon and will be distributed if good quality. The Ekati timeline website is officially online today, and Monica will send out an email with the website link. The Agency's Annual Report writing session is scheduled for May 9-12.

- *GNWT*: Erika noted some upcoming staff changes. Ken Hall is retiring at the end of April, and Harvey Gaukel is Acting Manager. There is a relatively new group set up as the Land and Water Unit with Mary Tapsell in charge. They plan to participate in workshops (e.g. development of water quality effluent guidelines) and be more involved in regulatory matters. In the past GNWT has been largely absent from AEMP discussions, but more ENR input is planned. Gavin More's environmental assessment group (including Patrick Clancy and the regulatory group) will continue to be the main contacts for IACT, and will distribute e-mails to Mary's group as necessary. Steve Matthews will also be retiring this year.
- *EC*: Jane noted that Anne Wilson and Ron Bujold (technician) have conducted a lot of sediment sampling, including the recent core samples at Kodiak Lake, and their expertise and experience should be utilized. Anne will be leaving the Yellowknife office at the end of June to move to the EC office in Edmonton.

DISCUSSION

Velma recommended that if BHPB encounters a large volume of pegmatite at Misery pit, a geochemical analysis should be conducted. There were high amounts of pegmatite previously discovered in the waste rock and at the camp itself. The mineralogy is very interesting, and it would be helpful to the composition of the pegmatite. Eric replied he will suggest this to the geology team.

Kevin asked whether barrel testing was still ongoing at the end of the road by Grizzly. Eric replied it is not and gave some background on this project, which was started a few years ago to provide reactivity information in addition to that generated at the waste rock piles and lab tests. Drums were set up with a different rock type in each and left exposed to precipitation. Water was to be collected from the bottom of the barrels and the information used to better design rock piles. However, this original objective is no longer valid (modelling is considered satisfactory) and the poor results do not justify continued tests. Very little water was coming out of the bottom as it takes a long time to flood all the pore spaces between the rocks. Samples were sitting in the plastic bags for too long before a measurable amount could be collected. The drums are still in place but their usefulness is being reviewed. They may play a role in reclamation research (e.g. predicting seepage quality).

NEXT MEETING

Next meeting to be scheduled for June 2011, possibly June 8th or June 13th.

Meeting concluded 3:30 pm.