

Environmental Management at Ekati

Who Watches the Ekati Mine: the Role of the Agency

The Agency serves as a public watchdog of BHPB's environmental performance at Ekati, those agencies that watch the mine, and of the work under the Environmental Agreement. Agencies that have a role in the conduct of environmental management at Ekati include:

- Department of Fisheries and Oceans (DFO);
- Department of Indian and Northern Affairs Canada (DIAND);
- Environment Canada (EC);
- Government of the Northwest Territories, Department of Environment and Natural Resources (ENR) (formerly Resources, Wildlife and Economic Development or RWED); and
- Mackenzie Valley Land and Water Board (MVLWB)

In 2004-5 these agencies together played a part in the good environmental management at Ekati.

The Agency would like to encourage DIAND to:

- hold more frequent meetings of IACT (Inter-Agency Coordinating Team, where the regulators, company and others meet to share information about the mine) and that such meetings need not interfere with regulatory proceedings;
- continue to coordinate workshops on the issue of mine closure over the next several months;
- build its ability to do research and technical reviews. The Agency had hoped that there would have been stronger participation at the water licence public hearing;
- conduct more mine site inspections over the next year as the mine changes; and



Caribou tracks in tailings

- appoint new Agency directors in a more timely fashion.

The Agency would like to encourage ENR to:

- continue to work on regional caribou monitoring; and
- work towards more timely appointments of new directors to the Agency.

The Agency would like to encourage the MVLWB to:

- provide better direction to staff so the board can make more effective and timely decisions;
- provide stronger direction on the issue of water quality and where to measure this downstream; and
- continue to build their ability to do technical reviews of the information submitted.

Environmental Management by BHPB

Environmental performance at Ekati this past year continues to be good. No major impacts have been identified, although there were problems at the mine. The company learned from these problems and changes have been made.

BHPB has started some research to look at the future of the Panda Diversion Channel, the effects of the chemicals used in blasting on young fish and



fish eggs, and the accidental draining of Bearclaw Lake. BHPB involved our Aboriginal members and other stakeholders in the review of options for the management of the Long Lake Containment Facility (LLCF) where the *tailings* are put.

During the year, BHPB found unexpected increases in some chemicals in the waters being released from Long Lake where the *tailings* are kept. While there is no immediate concern, the reasons for the increases are not known.

BHPB also began a new wolverine monitoring program as recommended by the Agency in our report last year

and again in March 2005 during the environmental workshop. This work may also help the company understand why they had wolverine problems around the mine site in 2004. It will be important for BHPB to work with the GNWT Department of Environment and Natural Resources (ENR – formerly RWED) to deal with the wolverine problems.

While we thank BHPB for their good work mentioned above, there were some problems that are concerns for the Agency. These problems seem to be related to and a result of having too few staff to do the job (many environmental

positions being unfilled for long periods of time), delivering many reports late, submitting a *reclamation* and closure plan (Interim Abandonment and *Reclamation* Plan) that was not accepted, and the accidental draining of Bearclaw Lake. We have noted the company does not appear to be communicating well with our Aboriginal Society members. We know BHPB can do better.

We believe it important for BHPB to focus on the following issues. First, *reclamation* and closure should be the main focus. This will allow the company to better plan the mine with fewer problems. Second, changing

how the *tailings* are put into Long Lake is a high priority to avoid problems as the mine operates and closes. Third, understanding what is causing changes in the numbers and types of very small water creatures downstream of the LLCF. Fourth, better communications with Aboriginal communities is needed, not only for licences and permits required by the mine, but because of the strong interest in the land and wildlife from communities. It is very important to have the approval and agreement of those affected by the mine.



Waste oil site in the waste rock pile



Agency directors at the mine site



Working with Communities

The Agency believes it is very important to work closely with Aboriginal communities. This includes consulting regularly with communities on environmental monitoring programs and results, and using Traditional Knowledge (TK). If these things are done, good environmental management can be made better.

Under the *Environmental Agreement*, BHPB, GNWT and the Federal Government, agreed to fully consider both TK and other scientific information when

dealing with environmental matters at Ekati. The *Environmental Agreement* was also set up to help Aboriginal Peoples participate in environmental

management at the mine. BHPB is also required to provide the results of its monitoring programs and activities through written reports and public meetings. The Agency's job is to help make sure all of this happens, and if not, to make recommendations for improvement.

BHPB's Activities in 2004

The Agency supports the company's approach in involving Aboriginal communities in the review of the *tailings*



Agency director at Lutsel K'e



area (Long Lake Containment Facility (LLCF), see the Mine Waste chapter of this report).

BHPB's Annual Report 2004 does not state if public meetings were held last year on the monitoring programs. We know that BHPB environmental staff visited the community of Kugluktuk in May, but the monitoring program or results were not discussed.

In 2004 BHPB continued to support the Inuit Naoniyatit TK Study and the Lutsel K'e Wildlife, Lands and Environment Committee computer mapping system. Place names maps for the Kitikmeot were released in 2004. Lutsel K'e uses its system to help review development applications. The company continued to work with elders from Kugluktuk who provided instructions on how to build inuksuit to divert caribou away from the active mining during caribou migration.

Community Concerns

In 2004 BHPB received both praise and criticism from Aboriginal members on its consultation activities.

On a positive note, the company has been thanked for the process used for reviewing the operation of the *tailings* area. Aboriginal representatives have encouraged BHPB to adopt a similar approach on mine closure planning.



Agency director at Kugluktuk



Agency director at Kugluktuk



Agency presentation to high school students at Kugluktuk



BHPB publicly agreed to hold community visits to replace the workshop, but we do not see evidence that this is happening. For the one meeting held in Kugluktuk, BHPB did not bring its consultants with them

and did not wish to have the Agency participate, even upon request by the community.

Some of our members have indicated that they do not consider the current form of mine site visits to be

constructive and that they would like to go at a time they choose. Aboriginal Society members continue to express a need for a much stronger role for the Aboriginal Peoples in monitoring environmental effects from the mine.

Agency's Assessment

The Agency encourages our Aboriginal Society members to let BHPB know their expectations on how they want to be consulted. We encourage BHPB to respect the consultation requests it receives, and to enter into a better dialogue with contacts chosen by the communities.

Neither BHPB nor the regulators have made much progress in using TK effectively with western science in the environmental monitoring, management and regulation of Ekati. BHPB does not provide a written record of advice or concerns raised during site visits by



Elders at the reclamation and closure workshop

Comments Made at the 2004 IEMA Annual General Meeting

Monica Krieger (Lutsel K'e)-

Technical assistance from the Agency is very important because each community cannot hire experts to review the large volume of consultant reports.

Chris Hanks (BHPB)- The comments of the Aboriginal members at the AGM show the company that the Agency is working as it should.



Lutsel K'e Community-based Caribou Study

Caribou (from both Bathurst and Beverly herds) overwintering at or near the East Arm of Great Slave Lake provide an important food source for harvester families and the community at large. Over half of Lutsel K'e Dene adults and a quarter of the youth consume caribou meat at least 6 times a week. Reliable annual access to healthy caribou is considered to be a fundamental necessity for the well-being of Lutsel K'e Dene.

Changes in caribou migration routes are thought to be caused by mining and forest fires, with caribou avoiding areas of significant industrial and fire disturbances. Tlicho people say that caribou have a good sense of smell. Caribou would avoid mines as the exhaust smells (especially bad during construction) are similar to smoke from forest fires (from *"Caribou Migration and the State of Their Habitat"*, Tlicho report to WKSS, March 2001). Lutsel K'e people have also observed that forest fires are more frequent and burn larger areas than in previous decades.

Lutsel K'e elders and harvesters believe that roads present unnatural barriers to migration. In the case of the Ekati Mine, they particularly point to the Misery road as being a prominent barrier to westward movement through the Ekati Mine development. They say that all-weather roads are too high (one meter), edged with rocks that are too coarse and jagged

and there are too few ramps for the larger migration groups to access.

In some years there are fewer fat animals coming from the west (Bathurst herd) than from the east (Beverly herd). A general

impression in the winter of 2004–5 was that Beverly caribou were in better physical condition than Bathurst caribou. Some hunters believe that this is a function of more interference with the caribou on the Bathurst range than on that of the Beverly.

(The above are noteworthy highlights from *"Ni hat'ni – Watching the Land: Results of 2003-2005 Monitoring Activities in the Traditional Territory of the Lutsel K'e Denesoline"* and papers in the journal *"Arctic"*.)





Agency director at Kugluktuk



Agency director at Kugluktuk



Agency director visit to Lutsel K'e

community members. The company should discuss with Aboriginal organizations how the site visits and use of TK can be improved.

Community members have expressed they would like a stronger role for communities and the use of TK in the design and fieldwork for environmental monitoring at Ekati. For example, the elders believe there is something wrong with the caribou and that more monitoring will not fix the problem. They have suggested different studies be done, for example, on caribou food sources such as lichens.

BHPB delivered its 2004 annual environmental monitoring reports even later than in previous years. The company has told us the delays were due to a shortage of environmental staff at the company, and that the company spent most of its time on the water licence process. BHPB should make sure the reports are delivered early enough in the spring to allow review and input from communities and regulators.



Water and Fish

Each year BHPB looks at the water, fish and small plants and animals that live in the water, to see if the mine is affecting them. BHPB samples the water in lakes and streams near the mine and downstream all the way to Lac de Gras in summer and winter. These results are compared to water in lakes and streams not affected by the mine. BHPB has found that mining does change the water downstream of Ekati, but not enough to cause harm to the fish that live there.

Water downstream of Ekati has been monitored for the last seven years. Water released from Ekati is pumped from the Long Lake Containment Facility (LLCF). The LLCF holds the wastewater

and processed kimberlite (tailings) left over after the diamonds are removed. Treated sewage from the camp and other water from the pits and runoff from the buildings at Ekati are also sent to



Fish monitoring program

the LLCF. BHPB can only pump water into the lakes downstream of the LLCF if it does not contain contaminants greater than the limits found in its water licence. The water licence limits are set to ensure that the mine will not harm the fish and plants downstream. BHPB also operates another pit far enough from the LLCF that it has its own lake to contain water from the pit and buildings (called the Misery Pit, which will close in 2005).

Effect of Mining on Lakes and Streams

Once the water is pumped from the LLCF it enters a group of small lakes (called the Koala watershed) that eventually drain into Lac de Gras. BHPB samples the water to determine the amounts of contaminants it contains and to see if there have been any changes to the water quality. In 2004 none of the contaminants measured above the limits set by the water licence.



Grayling found in the Panda Diversion Channel



There were however, six of these contaminants that measured higher than in the lakes located far away from the mine. Contaminants measured higher



Fish monitoring

all the way downstream to Slipper Lake, the last lake that drains into Lac de Gras. BHPB is attempting to learn why some of these are increasing at a rate higher than it predicted in its computer models. At this time, none of these contaminants have increased enough to be considered harmful to the water and fish.

In addition to the quality of the water, BHPB also studies the tiny animals that live in the water. Some of these tiny animals are called *Cladocera* or water fleas. These *Cladocera* form a key part of the diet of round whitefish and lake trout and it appears that their numbers in lakes downstream of Ekati have decreased since the start of mining.

It also appears that the fish are able to switch to other kinds of food although they still prefer to feed on *Cladocera*.

At the Misery Mine located about 30 km from the main camp, there was a notable drop in oxygen levels in the water in winter in Cujo Lake. Cujo Lake is the first lake where water enters the environment from the Misery Mine and the water must meet the water licence guidelines. In order to increase oxygen in the lake, BHPB installed air pumps under the ice. It also scraped the snow off of the ice to allow sunlight to enter (the sun allows small plants to grow that release oxygen into the water).

What the Agency Thinks

We believe that mining is increasing the amount of contaminants in the water but so far the effects have not been harmful. The Agency was pleased to see that when BHPB found unexpected increases in contaminants in the water, stakeholders were told and BHPB began a special study to find out the cause before the contaminants become harmful. Declines in *Cladocera* numbers downstream of Ekati is another area where there is a need for continued monitoring due to the importance of these tiny animals as food for fish.



Fish monitoring



Water pumped from Long Lake to Leslie Lake

