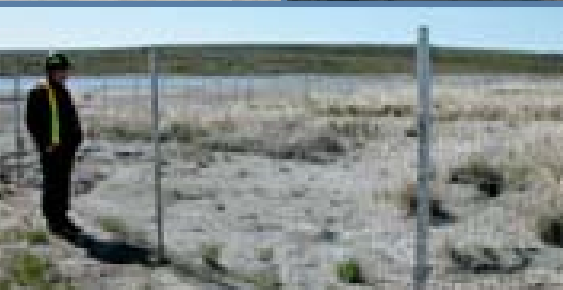
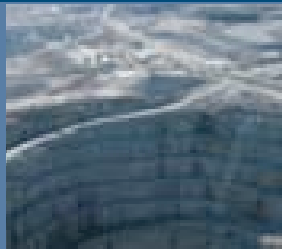




A PUBLIC WATCHDOG FOR ENVIRONMENTAL MANAGEMENT AT EKATI DIAMOND MINE™

Independent Environmental Monitoring Agency



• PLAIN LANGUAGE ANNUAL REPORT •

2005-2006

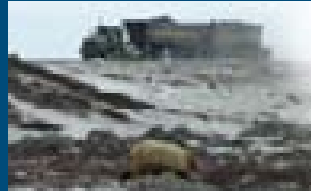
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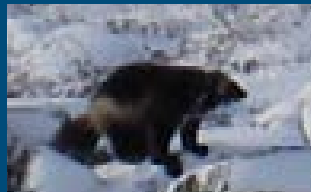
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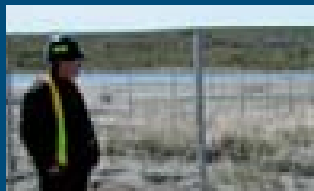
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COVER PHOTO: WEK'ÈEZHII LAND AND WATER BOARD

Regulators

DFO - Department of Fisheries and Oceans

DIAND - Department of Indian Affairs and Northern Development

EC - Environment Canada

ENR - GNWT's Environment and Natural Resources (previously known as RWED or Resources, Wildlife and Economic Development)

GNU - Government of Nunavut

GNWT - Government of the Northwest Territories

MVLWB - Mackenzie Valley Land and Water Board

WLWB - Wek'èezhii Land and Water Board

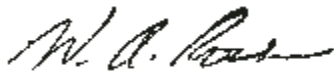


Message from the Chairperson

I am pleased to present to you the 2005-2006 Annual Report of the Independent Environmental Monitoring Agency (the Agency). We prepare two versions of our annual report each year. You are currently reading the plain language summary version. This report explains our activities over the past year and what happened at the Ekati™ Diamond Mine in terms of how BHP Billiton (BHPB) has operated the mine to ensure the environment is protected. The technical version of our report contains more details about the issues raised here. We hope that you will find both of our reports to be useful.

Over the last year we have been busy resolving a disagreement between ourselves and BHPB over our work plan activities and budget and looking into BHPB's plan to reclaim the mine after the diamonds have been removed from the ground. While BHPB is not planning on shutting down the mine anytime soon, it must begin to develop the details on what the rock piles, pits, *tailings* area and roads will look like when they are cleaned up. The company must also take the time to consider what the Aboriginal Peoples have to say about mine closure and *reclamation*. Monitoring the water and wildlife reports prepared by BHPB remains an important part of the work we do as well.

Please feel free to pass on your comments to us about protecting the environment at Ekati or about the job we are doing to keep our Aboriginal Society Members up-to-date with activities at the mine. ■



William A. Ross, Chairperson
March 31st, 2006



Agency Activities

The Independent Environmental Monitoring Agency (the Agency) was formed in 1997 to act as a watchdog for environmental management of Ekati. We are made up of a board of directors, some appointed by our Aboriginal Society Members and others appointed jointly by BHPB, DIAND and GNWT. We have two staff and an office in Yellowknife where we meet regularly. We also meet once a year in one of our Aboriginal Society Member communities.

BHPB provides all of our funding so we can carry out our work. We are able to host special events like workshops or public meetings on issues specific to Ekati and we invite representatives from our Aboriginal Society Members to attend. We make a special effort to try and bring in translators if needed and to provide information in a way that everyone can understand.

BHPB produces a lot of technical reports each year. Probably the biggest job we do is to review these reports and make helpful comments to BHPB or to the government regulators to improve environmental management at Ekati. We have a web site and library and produce an annual report and a brochure we mail to communities affected by the mine in the NWT and Nunavut. We host an annual general meeting each year, five or six board meetings in Yellowknife and tour the mine. We also attend meetings hosted by

BHPB or the government regulators.

Below we have described our other main activities from last year:

- **Commenting on the new BHPB Water Licence**

BHPB received a new water licence in 2005. This is the key environmental approval for BHPB that allows the company to use water for the purpose of mining. The old licence was getting out of date and needed many revisions. Our main comments were on the detail that should be found in BHPB's mine closure and *reclamation* plan, how clean the water should be before it can be released into lakes downstream and how the reports BHPB submits need to be used to improve how the mine is operated. A lot of the comments we sent in were used in putting together the new licence.

- **Closure and Reclamation Workshop**

We invited some experts in the field to assist us in coming up with ideas about *reclamation* of pits, roads, waste rock piles and the *tailings* pond. We invited our Aboriginal



The Agency board of directors and staff



Members' staff to come in and listen to the experts as well.

• **Participation in the closure and reclamation plan working group**

Two of our directors joined a committee that is helping the WLWB review an interim closure and reclamation plan that is due in 2007.

• **Negotiating with BHPB**

After a lengthy disagreement with the company over our work plan activities and budget, a mediator was brought in to help create a deal. The Agency will retain its independence to act as an environmental watchdog of the mine and the amount of money provided by BHPB to do the Agency's work is agreed for future years. The government will also be more involved in helping make decisions related to the *Environmental Agreement*. Details on the agreement can be found on our website.

We welcome comments from our Aboriginal Society Members at any time. Please feel free to contact us through our office in Yellowknife or one of our directors. ■

Agency Mandate

To Meet its Mandate in 2005 the Agency



Review, report and make recommendations on BHPB and government reports and plans.

- Reviewed and provided comments on closure planning, waste rock, tailings management and other reports from BHPB.



Make recommendations on use of Traditional Knowledge in environmental management at the Ekati mine.

- Sent letter to DIAND to support funding for Aboriginal participation in public hearings and other meetings about the environment at Ekati.



Participate in regulatory processes.

- Agency participated in a working group to look at what should go into the closure and reclamation plan and provided other comments to boards and government.



Provide a place to store environmental information on the project.

- Maintained a library and website on the project and the environment.



Provide information to Aboriginal Peoples and the public about the Ekati mine and the environment.

- Held a board meeting and open house in Dettah, NWT in September 2005.
- Directors and staff went to communities upon request.
- Held our annual general meeting and sent a plain-language flyer through the mail to everyone in the communities affected by the mine, made a plain language and a technical annual report.
- Invited Aboriginal member staff to a reclamation workshop put on by the Agency.



Bring the concerns of the public and Aboriginal peoples to BHPB and governments.

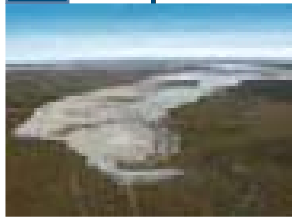
- Held meetings with Aboriginal members to get concerns that were then shared with BHPB and governments.



Mining at Ekati Diamond Mine

BHPB is mining diamonds using large open pits and underground tunnels to remove the kimberlite rock that contains the diamonds. The mine is located on the tundra north of Lac de Gras in the NWT.

1



DON HALEY/BEA ENGINEERING LTD.

1. Tailings Pond

The *tailings* pond, called the Long Lake Containment Facility by BHPB, holds the crushed wet *kimberlite* that remains after diamonds are removed. It is a chain of former lakes. It is split into five sections by dykes so the *tailings* can settle. Water is eventually released into lakes downstream. (Photo: cell B at the north end of Long Lake)

2



2. Main Camp

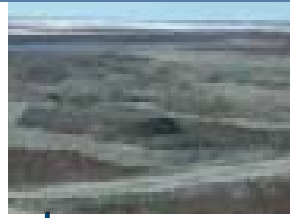
Located at the main camp are an accommodation building for hundreds of workers, a power plant, truck shop and a processing plant where the diamonds are removed from the *kimberlite*. (Photo: Ekati main camp complex)



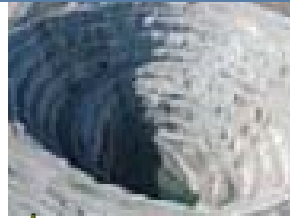
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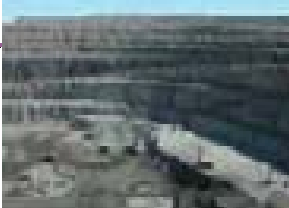
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BHP BILLITON DIAMONDS INC.

3. Beartooth Pit

BHPB continues to take ore from this area. *(Photo: Beartooth Pit)*

4. Waste Rock Piles

Rock that does not contain diamonds is piled in layers up to 50 meters above the tundra floor close to each of the pits. *(Photo: Panda/Koala Waste Rock Pile)*

5. Panda and Koala Pits

Open pit mining has finished here and underground mining has begun. *(Photo: Panda Pit)*

6. Underground Mining

BHPB has built one large underground tunnel and conveyor belt system to provide access to the bottoms of the pits. *(Photo: Koala North)*

7. Panda Diversion Channel

This is a man-made stream that diverts water that would otherwise flow into the pits. Fish use it for spawning. *(Photo: Panda Diversion Channel)*

8. Haul Roads

BHPB has built all-weather roads to connect the pits to the main camp. *(Photo: Haul trucks on Misery Road)*

9. Fox Pit

This will be the biggest pit at Ekati and most mining activity in 2005 happened here. *(Photo: Mining within the Fox Pit)*

10. Misery Site

BHPB mined at Misery in 2004 and plans to close the pit for a long time.

JIRI HERMANN/BHP BILLITON DIAMONDS INC.



Environmental Management at Ekati and Assessing BHPB

The Agency is not just a watchdog of how well BHPB protects the environment. We also monitor how the government regulators work together to make the permits that the mine must follow and conduct the inspections that show us that the water, land and wildlife are not being harmed.

There are a lot of government regulators that play different roles in environmental management at Ekati. They are responsible for different rules that BHPB must follow to make sure all aspects of the environment

are protected. Below we have described who the regulators are and what they do for this project.

Wek'èzhii Land and Water Board (WLWB) – As of February 2006 a new board called the WLWB has now taken over permitting of Ekati from the Mackenzie Valley Land and Water Board (MVLWB). The MVLWB issued a new water licence for Ekati in 2005 that allows BHPB to use and dispose of water when mining. In our view the process for coming up with the new water licence was very time consuming for our Aboriginal Society Members. The MVLWB committed to making changes to allow it to be more efficient in the future. With the WLWB now in charge of permitting Ekati, there will be a new board made of directors appointed by governments and the Tlicho. We wish them good luck in facing the challenge of reviewing applications from BHPB and we will be happy to work with them and assist where necessary.

Department of Indian Affairs and Northern Development (DIAND)

– DIAND manages security deposits and land leases and it comments on issues related to land and water through its staff. The DIAND Minister has the authority that allows BHPB to mine and can direct BHPB's activities. DIAND also comes up with policies on how to clean up closed mines and monitor water quality in lakes and streams. In our view, DIAND did not do enough inspections of the mine last year but DIAND staff did a good job providing helpful comments on *reclamation* and permitting.

Government of the Northwest Territories (GNWT)

– GNWT has a mandate to oversee wildlife as well as air quality (jointly with EC). The GNWT has been active in caribou and wolverine monitoring and providing suggestions to BHPB to improve how it monitors air quality and dust at the mine.

Department of Fisheries and Oceans (DFO)

– DFO is in charge of ensuring fish and fish habitat are not damaged by mining. If damage to lakes and streams must occur so that



a mine can be built, then the company must compensate for lost habitat in the form of newly created habitat somewhere else. We would like to see DFO provide more guidance to BHPB if the empty pits are to be made into lakes and streams and are reclaimed as fish habitat when mining is done.

Environment Canada (EC) – EC has a mandate to look into water pollution particularly into lakes and streams. It also has a lot to offer BHPB with regard to air quality monitoring (along with GNWT).

Assessing BHPB

We believe that BHPB is generally doing a good job of protecting the land and water around Ekati. There were no major events last year that would make us believe that the environment is at risk today. Over the past few years we have noticed that BHPB often has a tough time meeting its deadlines for finishing reports and conducting the studies that tell us what needs to be done to make the mine continue to perform well. We have commented to BHPB that we think it could use more staff to do this work.

BHPB did a good job last year when it agreed to include the comments of the Aboriginal Peoples in planning a large group visit and meeting at Ekati. This meeting was held to discuss the environmental effects of Ekati over the last three-year period and since the mine opened. BHPB has also made improvements to its camps to avoid problems with wolverines and makes a big effort to stop animals from being attracted by garbage. It is also improving efforts to look into possible effects on caribou from mining at Ekati.

We provided some comments to BHPB on how to make the closure and *reclamation* planning process more inclusive of the Aboriginal Peoples. We think BHPB could use more expertise in building relationships with the Aboriginal Peoples as well.

Last year we had a dispute with BHPB over our work plan and budget. This was resolved and a new agreement signed. We look forward to working with BHPB next year and will report back on how major events like planning for closure and *reclamation* are being handled by the company. ■

Regional Environmental Monitoring and Cumulative Effects

We have heard the serious concern from our Aboriginal Society Members about the reduced numbers and health of the Bathurst caribou herd. We are pleased that BHPB is changing its caribou monitoring program to study a larger area and its support for regional studies to be conducted by the GNWT.

We support monitoring programs from the various mines in the area that produce information that is comparable. Another monitoring agency (for the Snap Lake Mine) is now operating and we hope to build a good working relationship with them.

Part of BHPB's new water licence is a requirement for the company to consider if Ekati could contribute to a cumulative harmful effect on Lac de Gras. This could be due to contaminants from mining at Ekati. We think the activities mentioned above will provide some good information about regional environmental effects.



Caribou from Bathurst herd



Working with Communities

Under the *Environmental Agreement*, BHPB, GNWT and the Federal Government agreed to fully consider Traditional Knowledge (TK) and other scientific information to manage environmental effects at Ekati. The *Environmental Agreement* was also set up to make sure that the Aboriginal Peoples could better participate in

environmental management of Ekati. In the past we have often commented that BHPB has been slow to report on Aboriginal involvement at Ekati and from comments heard by its staff during mine visits by Elders. We are pleased that a lot of progress has been made in this area and we now have a report called "Caribou

and Roads: Implementing Traditional Knowledge in Wildlife Monitoring at the Ekati Diamond Mine Inc., NWT". The report contains information on Elder visits to Ekati from 2002-2004 to observe caribou behaviour in relation to roads. The main concern of the Elders was preventing injury to caribou passing through the mine. Their advice included:

- Shutting down roads no longer used for mining as soon as possible;
- Building gently sloped access ramps on existing roads so caribou can cross easily;
- Using aerial photos and truck driver observations to find the best location for caribou access ramps;
- Knocking down of high rock berms in areas that could be hard for caribou to cross;
- Using inokhok to deflect caribou away from parts of the mine that could be dangerous such as pits and possibly using people to divert caribou in key areas; and
- Dogs or wolf decoys or scent may be useful to divert caribou away from Ekati.



Ekati site tour by the Yellowknives Dene

Figure 1:

Consultation Initiatives of the Agency

Date and Location	Purpose and Issues
May 2005 – Lutsel K'e	Director and manager visit Lutsel K'e to meet with the Wildlife, Land and Environment Committee (WLEC) to discuss management of the Long Lake Containment Facility and the <i>reclamation</i> planning and consultation process.
June 2005 – Yellowknife	Dr. Chris Johnson (University of Northern British Columbia) is sponsored by the Agency to visit Yellowknife and deliver a presentation on regional monitoring of wildlife.
August 2005 – Fort Reliance	Director attends Lutsel K'e youth fish camp to discuss the effect of mining on fish.
September 2005 – Dettah	Agency board meeting in Dettah and a visit to Kaw Tay Whee school followed by a community open house.
October 2005 – Yellowknife	Agency hosts our Annual General Meeting to discuss recommendations from 2004-2005 and receive direction from the Society Members on Agency activities.
November 2005 – Lutsel K'e	Director attends BHPB's community meeting in Lutsel K'e where <i>reclamation</i> of Ekati was discussed.
January 2006 – Yellowknife	Director attend North Slave Métis Alliance meeting with BHPB where <i>reclamation</i> of Ekati was discussed.
February 2006 – Yellowknife	Agency hosts a workshop with experts related to mine <i>reclamation</i> and Aboriginal Society Member representatives attend the final day.



Agency director in Lutsel K'e



The Naonayaotit Traditional Knowledge Project (NTKP) was another TK project supported by BHPB to create a map of the ecological knowledge of the local Inuit over a vast area of 720,000 km² of arctic tundra. The team including Kugluktuk elders and BHPB staff won an award from the company for the project.

BHPB Consultation Efforts

The projects mentioned above show that BHPB has made an effort to support TK and have Aboriginal involvement at Ekati. In January 2006 BHPB also did a good job holding a planning meeting with many community representatives and interested parties to discuss a

schedule and agenda for reviewing its Environmental Impact Report (a report made every three years to offer a big-picture view of how BHPB is managing the environment). This was the sort of process that allowed our Aboriginal Society Members to contribute to a schedule and agenda that they were comfortable with and could benefit from.

We enjoy reporting good news but we also feel that some of BHPB's recent efforts to communicate with our Aboriginal Society Members have come up short. We have offered to help BHPB communicate more effectively but BHPB has not taken us up on our offers. This is largely related to the process for BHPB's development of an up-to-date mine



Agency directors visit to the Kaw Tay Whee School, Dettah



Students and directors in Dettah

closure and *reclamation* plan. It has appeared to the Agency, as well as to some of the government regulators, that decisions about what kinds of closure options are to be considered have already been made by the company. We think BHPB could have used a better process. For more information on this subject please see Figure 3 in the section on 'Closing the Mine', page 21, where we have created a diagram of our suggested process.

In the near future there will be more projects where joint consultation processes could be useful. We

urge BHPB to conduct these in a similar manner to the process used when organizing the Environmental Impact Report meetings. Our advice to our Aboriginal Society Members is to try and work with the company to come up with suitable consultation procedures and to nominate key individuals to attend all of the meetings on a particular topic or issue. BHPB may wish to provide some funding as part of its consultation process so that individuals who are not salaried employees can continue to participate.

Agency Consultation Efforts

Our directors are very responsive to invitations from the communities to come and meet to talk about the issues related to environmental management of Ekati. We also try and have a board meeting in a member community each year where we hold an open house. We encourage the public and our Aboriginal Society Members to contact us through our office in Yellowknife. For a list of Agency consultation events last year please see the Figure 1 on page 9. ■



Meeting in Kugluktuk



Award ceremony in Kugluktuk



Water and Fish

BHPB monitors the water, fish and small plants and animals that live in the lakes and streams near the mine. It takes many water samples in the lakes and streams downstream of the tailings pond where wastewater and tailings from the mine are deposited. The purpose of all this monitoring is to make sure that water leaving the mine and entering the environment is not causing any harm. So far it seems

like the mine is causing some changes downstream, but not enough change in the quality of the water to harm the fish or other life that live there.

2005 was the eighth year that BHPB monitored the water and aquatic life since mining began at Ekati (for the sampling locations see Figure 2 on

page 14). Samples are taken often in the summer and also under the ice near the end of winter. This sampling under the ice is to find out if there is enough oxygen in the water for the fish or if contaminants get worse



Pumping water from Long Lake into Leslie Lake



when the lakes are frozen over. The results of the water samples are compared to unaffected water from upstream or away from the mine. It is important to sample upstream of the mine because the natural conditions in the lakes can change a lot from year to year. This allows a good comparison to be made and can help prove if the mine is having an effect.

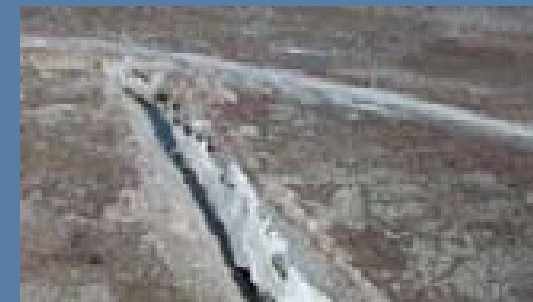
BHPB has a new water licence that controls the amount of contaminants that can be found in the water it pumps downstream. This licence does not control every possible contaminant that could be left over from mining and become dissolved in the water. One new feature of the water licence is that it requires BHPB to come up with a plan to manage



Ekati visitors tour the Panda Diversion Channel fish box

The Panda Diversion Channel

The Panda Diversion Channel (PDC) is a trench or ditch cut into the land that connects the lakes upstream and downstream of four pits at Ekati, three of which used to be lakes but were drained so the company could dig out the diamonds. It has become a useful stream for arctic grayling to lay their eggs and for the young to live until the fall. While the PDC has shown to be a good place for the eggs to hatch, we are not sure if it provides enough food for the small fish to get ready to spend the winter in Kodiak Lake (the main lake where the small fish spend the winter). In 2003 some of these small fish had a bit of their fin clipped. It takes the fish a few years to grow enough to return into the PDC in the summer. The 2006 summer field season will be the first year we think some of these grayling will return to the PDC where they can be counted (identified by their clipped fin) and then released back into the water. We will be interested in reading BHPB's next report on this topic.

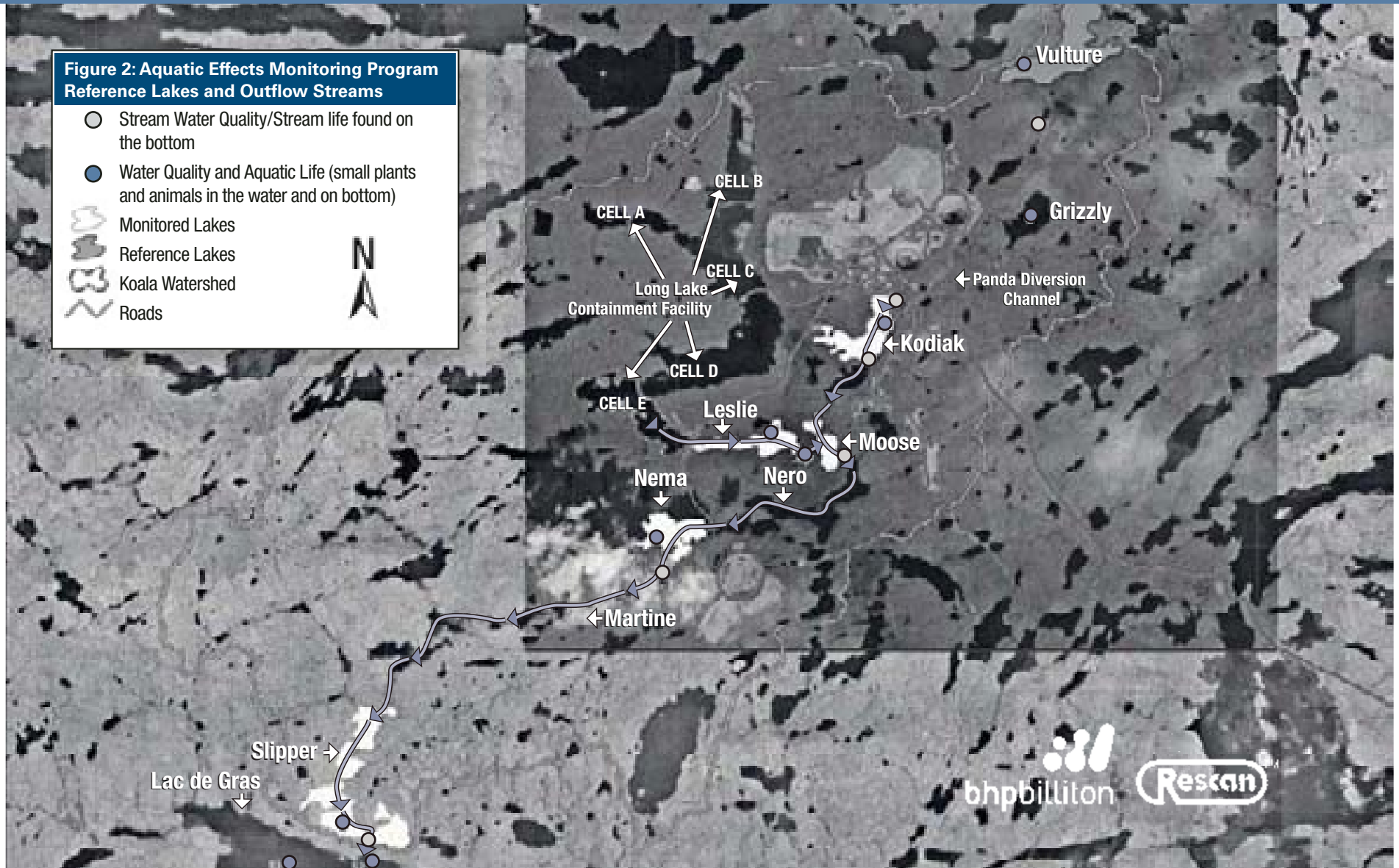


Aerial view of the Panda Diversion Channel



Figure 2: Aquatic Effects Monitoring Program Reference Lakes and Outflow Streams

- Stream Water Quality/Stream life found on the bottom
- Water Quality and Aquatic Life (small plants and animals in the water and on bottom)
- ☁ Monitored Lakes
- ☁ Reference Lakes
- ☁ Koala Watershed
- ⚡ Roads



many of these other contaminants if they begin to increase and take action before harm could be caused to the downstream environment.

Effect of Mining on Lakes and Streams

In 2005 there were no discharges from the mine that contained a level of contaminants higher than were allowed by the water licence. In the first lake downstream of Ekati, two unregulated contaminants (molybdenum and nitrate) have increased to the point where they are



Fish tasting at the Diavik Mine

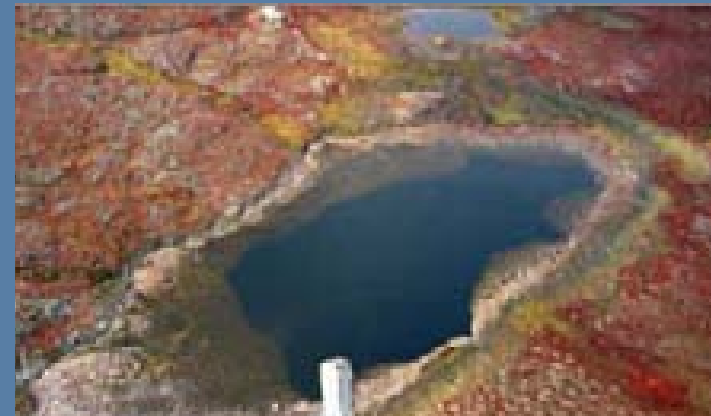
getting close to other government guidelines that are set to protect water quality across Canada. Molybdenum has also increased in the mud at the bottom of the first few lakes downstream. Some other contaminants that were slightly elevated last year have returned to normal levels.

BHPB was not able to deliver its final report on water monitoring to us when we published our report so we cannot discuss the effect of mining on *zooplankton* (tiny bugs that live in water). This is something that we will look into next year.

BHPB is scheduled to review its water monitoring program in 2006. We will work together with the company, the regulators and the communities to discuss possible improvements to the program. One area we are looking to improve, is in how some of the information collected by BHPB is reviewed and shown in the report. We would like to know more about what happens to life in the water when a large number of contaminants, each at low levels, is pumped into the lakes downstream of Ekati. ■

The Bearclaw Lake Drawdown

Two summers ago, BHPB accidentally lowered the water level in Bearclaw Lake after a pump was left on for too long. Some young burbot died as the result of this drawdown. BHPB looked into the possibility that it had caused some long-term damage to the fish habitat in Bearclaw Lake. Water levels recovered soon after the pump was shut off and we are pleased to say that it does not seem like any permanent harm was caused to Bearclaw Lake and its fish.



Bearclaw Lake following the drawdown of water

