



Annual Report
2002-2003

**Independent Environmental Monitoring
Agency**



Presentation Outline

- Annual Report and Recommendations
- Mine Progress
- Achievements
- Focus for future

Annual Report 2002 - 2003

“The Monitoring Agency shall report annually.....to BHP, the Minister, and the GNWT. All reports of the Monitoring Agency shall be made available to the Aboriginal Peoples and the general public.”



35th Agency Board Meeting at Ekati



Annual Report 2002-2003 Structure and Contents

Plain English

- The Agency at work
- Mining at Ekati
- Additions to the mine
- Traditional Knowledge
- Consultation and Communications
- Minimizing Impacts
- Cumulative Effects and Regional Monitoring
- Wildlife
- Water and Fish
- Air Quality
- Mine Wastes
- Reclamation and Waste Management
- Watching Ekati and its Regulators
- Recommendations

Technical

Same chapters as the Plain English plus:

- Additional assessment chapters
- Additional mine waste chapters
- Mine Expansion and Amendments
- Special Effects
- Financials and 2003-05 Workplan
- Glossary



Listening to Our Members

- Throughout the year our Directors and Staff have met with communities frequently.
- We brought all Society Members together to discuss Traditional Knowledge in March 2003
- We place a great deal of emphasis on communicating with our members
- Let us know if you feel there are ways we can improve communications; we will respond to your needs



Elders at TK workshop



Some of our Meetings...

- *April 2002* Agency presented its submission to the MVLWB at the Sable, Pigeon and Beartooth mine expansion public hearing.
- *October 2002* The Agency hosted its AGM and received guidance from Society Members on Traditional Knowledge.
- *November 2002* The Agency attended the Regional Monitoring Agency workshop in Yellowknife.
- *December 2002* Staff attended a consultation meeting for Society Members hosted by DFO on its fisheries authorization for the Sable, Pigeon and Beartooth mine expansion.
- *February 2003* Directors and staff attended the BHPB annual environmental workshops in Yellowknife.
- *March 2003* The Agency hosted a three-day Traditional Knowledge workshop attended by Society Members.



Traditional Knowledge

- BHPB has increased its efforts to move beyond site tours towards acting on advice of community members, e.g. caribou monitoring on Misery road, Inuksuit lines to redirect caribou
- We note that not enough awareness exists of Phase II TK studies that have been completed
- We believe the unanimity of the Aboriginal caucus recommendation at the IEMA/EMAB TK workshop to be a very positive step



Community Representatives at TK workshop



Traditional Knowledge Recommendation

The Agency Recommends that:

- BHPB, the Government of Canada and the GNWT should support the concept of a regional TK panel, as recommended by the Aboriginal representatives at the TK workshop co-hosted by the Agency.



Minimizing Terrestrial and Aquatic Impacts

- BHPB's Land Use Permit for the Sable Haul Road states that:
 - “The Permittee shall minimize damage to wildlife and fish habitat in conducting this land use operation.”

Minimizing Terrestrial and Aquatic Impacts

Directors
atop the
Pigeon
Culvert



- We feel this is not an example of conservative environmental management by BHPB



Minimizing Terrestrial and Aquatic Impacts

- The culvert was designed to avoid the requirement of a fisheries authorization from DFO
- The culvert will likely have one of two effects:
 - The structure will be an impediment to caribou migration , or
 - The caribou will use the culvert extensively and affect fish habitat
- The plans for the culvert once the mine closes, are unknown.

Minimizing Terrestrial and Aquatic Impacts Recommendation

The Agency Recommends that;

- BHPB should adopt a more balanced design for haul roads and stream crossings in its attempt to minimize impacts on both aquatic and terrestrial environments. Regulators who approve haul roads and stream crossings should also ensure that a balanced assessment has been done, and that impacts both to aquatic and terrestrial environments are minimized.



Wildlife Effects Monitoring Program



Caribou near Misery Pit

- Mining appears to be having little effect on wildlife
- Wolves may be starting to use mine infrastructure to aid in hunting
- A small number of loons were lost when they were captured in nets used to fish out lakes that are being prepared for mining
- The lack of carnivore incidents is a complement to BHPB's improved waste management practices
- No scent station monitoring of wolverines this year; but improved snow track surveys



Wildlife Recommendations

The Agency Recommends that;

- RWED, in partnership with the Nunavut Department of Sustainable Development, should publicly report the number of wolverines harvested in the North Slave and West Kitikmeot Regions in order to determine the total number of wolverines removed from the wildlife study area



Wildlife Recommendations

- DFO, in consultation with the Canadian Wildlife Service, should consider revisions to the criteria used to conduct fishout studies to reduce the potential for *by-catch* of birds

Aquatic Effects Monitoring Program (AEMP)

- So far, downstream effects from Ekati have not been serious.
- The potential toxicity of nitrate (used in blasting) is a concern that BHPB is looking into.



Panda Diversion Channel Fish box

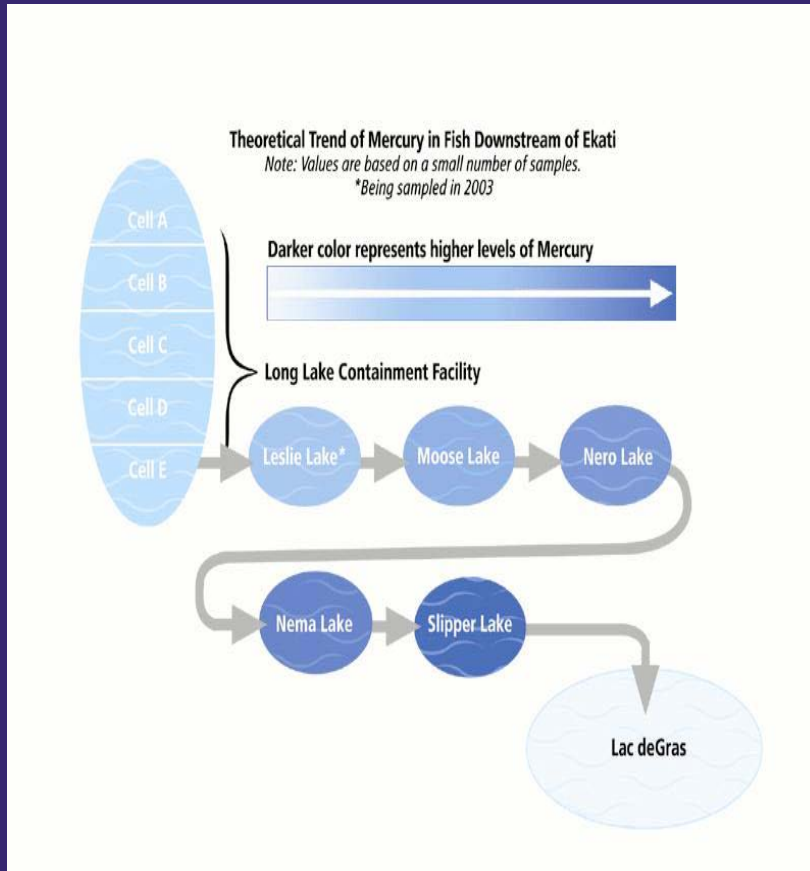


AEMP



- We are concerned about a possible decline in the zooplankton community.
- Zooplankton are a major food source for fish.
- BHPB is conducting additional zooplankton studies to look at this.

AEMP



- We are looking more closely at the levels of mercury in some fish.
- Changes in mercury levels may not be related to the mine.
- BHPB is conducting additional studies to look at mercury.

AEMP Recommendation

The Agency Recommends that:

- DFO should conduct studies to further assess the potential toxicity of nitrate to local fish species.



1 tonne bag of explosive ammonium nitrate



Air Quality

- We reviewed BHPB's Air quality monitoring program and suggested a number of improvements to it
- RWED and EC also submitted similar comments to BHPB



Road dust along Misery haul road



Air Quality Recommendation

The Agency Recommends that;

- A new air dispersion modelling analysis be conducted by BHPB, and be used as the basis for future air quality monitoring work, including the siting of sampling locations.



Waste Rock

- Excellent program of monitoring seepage from the waste rock piles
- The granite waste rock is currently not producing water quality impacts
- There are concerns with ammonia in several locations



Seepage from the Waste Rock Pile

Waste Rock



Main waste rock pile, Panda Pit in Background

- Several seeps require close monitoring due to poor water quality
- Drainage from waste rock piles is redirected towards LLCF
- Areas containing significant amounts of kimberlite do not appear to be frozen



Waste Rock Recommendation

The Agency Recommends that;

- BHPB should assess the long term, i.e. post closure implications of poor quality seepage from the coarse kimberlite storage area



Reclamation



Revegetation plot on processed kimberlite

- BHPB is to be commended on its research in reclamation to reduce the impacts of the mine
- Growth of seedlings in processed kimberlite is a positive sign
- A workshop attended by all parties to discuss reclamation and closure criteria would be beneficial
- Pit infilling needs close consideration to make it compatible with the often changing mine plan



Reclamation Recommendations

The Agency Recommends that;

- BHPB should continue to explore the uptake by grazing animals of metals in plants being considered for revegetation of processed kimberlite
- BHPB should improve its reporting of the type and amount of materials stored in waste landfills



Reclamation Recommendations



- BHPB should conduct an analysis of its spill records to determine the reasons and trends for spills as a means of improving its operating and management practices

Cumulative Effects and Regional Monitoring

- We have heard concerns from our Members related to effects of industrial development on caribou migration
- We have consistently supported the formation of a Regional Monitoring Agency; however significant hurdles remain to the actual establishment of such an Agency



Expansions to the Mine

Annual General Meeting 2003



Development of Fox and Beartooth Pits



Misery Land Treatment technical review and approval



Expansions to the Mine

Disposal of Water from Fox Lake

- Agency recommended MVLWB require disposal of Fox water to upper cell of LLCF
- Rapid pace of development outstripped ability of regulators to keep up

Misery Land Treatment System

- Agency supports concept of innovative system to reduce ammonia content of mine water
- Monitoring key to avoid impacts to the tundra ecosystem
- Process may be valid for other sites in the north



Mining Progress Panda Pit



A few years ago.

June 2003

Mining Progress Fox Pit



March 2003



September 2003

Mining Progress Waste Rock Pile - Misery



Mine Progress - Summary

- 1 pit has completed above-ground mining (Panda)
- 3 pits are being mined (Misery, Koala, Koala North)
- 2 pits are being prepared for mining (Fox and Beartooth)
- Underground mining has begun at Panda
- Mine is now scheduled to close in 2014 vs 2021.

IEMA makes recommendations to BHPB:

- In our Annual Report
- In letters and at workshops
- During Board meetings and
- In our Board minutes

Achievements – Landfarm



- flagging tape was added to the landfarm to deter birds
- The landfarm is drained more frequently

Achievements – Garbage Management

- garbage practices changed to deter wolverine at Ekati and Diavik



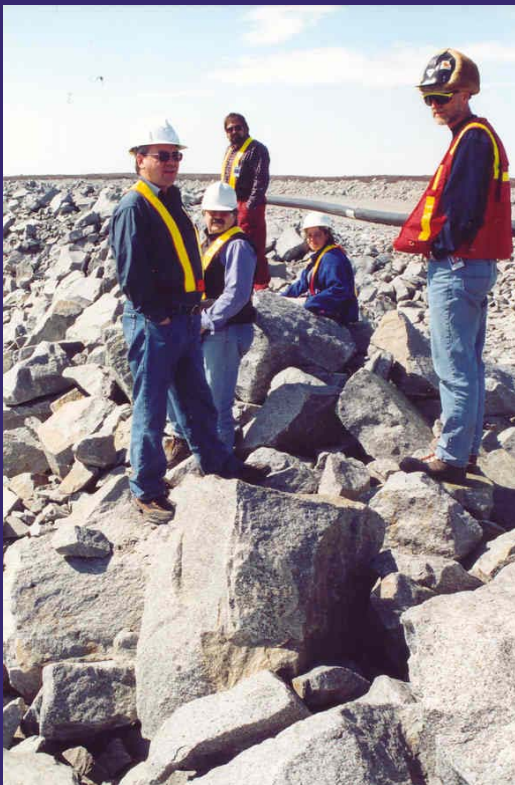
Achievements - # of Trucks



Number of trucks is restricted
during caribou migration

Achievements – Sloped roads

Some roads have gradual slopes



Standard roadside



Caribou friendly roadside

Achievements – Fish Monitoring



- Fish monitoring has increased
- More locations, contaminants and sample numbers were added

Additional Areas of Focus 2003-04

- Water Licence Renewal
- Abandonment and Reclamation
- Regional monitoring
- Improving communications and consultation

Our Perspective on Ekati

BHPB and the regulators continue to work together in a manner that is both protective of the environment and responsive to the Agency and community members.

- We are pleased to see adaptive management practices used by BHPB
- BHPB and others need to look more closely at long-term plans for closure of the mine

Thank You



Independent Environmental Monitoring Agency

Manager: Carole Mills

Environmental Analyst: Sean Kollee

5006 Franklin Avenue (2nd Floor 50-50 Mini Mall, behind Our Place Restaurant)

Telephone: (867) 669-9141 Fax: (867) 669-9145

Email: monitor@yk.com

Website: www.monitoringagency.net

