



# Annual Report: 1999-2000

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Independent Environmental  
Monitoring Agency



# Annual Report Contents:

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*Evaluation Report*
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EKATI™, including *BHP Environmental  
Agreement Compliance Report*
- Key Issues: TK, wildlife, aquatic, waste,  
cumulative effects & project expansion
- Financial Statements & Summary of 2000-  
2001 Core Budget and Work Plan



# Year in Review

Third year: April 1, 1999 - March 31, 2000

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- Second AGM of the Society
- Comments on BHP's Annual Report, Framework for Impact 2000, MVEIRB terms of reference, amendment requests, seepage,...
- Facilitate discussion on TK Working Group
- Provide technical expertise on Fish Habitat Compensation, BHP monitoring programs and TK
- Prepared *BHP Environmental Agreement Compliance Report*
- Hired Macleod Institute to evaluate Agency
- Hired Dr. Kevin Morin to review seepage survey





# Year in Review (Continued)

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- Participate in regulatory process
- Site visit to EKATI <sup>TM</sup>
- Update of website
- *Ekati Monitor* Newsletter continued publication
- Hiring of full-time staff
- Changing office locations
- December Open House



# BHP Environmental Agreement Compliance Report

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"Overall, BHP has responded well to facing the challenges of being the first operating diamond mine in the North. The IACT meetings, annual workshops, regular meeting among stakeholders and Elders' visits have contributed significantly to meeting these challenges, especially related to aquatic effects and wildlife.

More opportunities exist for creating better partnerships with Aboriginal Peoples, especially with respect to incorporating traditional knowledge into environmental plans and programs. The Agency would welcome the opportunity to interact with the TK Working Group, should it be created."



# Assessment of the Regulators

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- Better communication is developing between regulators, especially as roles are better understood
- IACT meetings and BHP environmental workshops are important and productive
- More systematic tracking and implementation of management plans is needed avoid delays in obtaining needed information
- The Agency looks forward to positive working relationships with the new Mackenzie Valley Boards (MVLWB, MVEIRB)



# Recommendations on BHP's 1999 Annual Report

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- 1. BHP's future annual reports should provide a more considered discussion of the findings of its monitoring and research programs, the significance of the results for environmental management, and describe how lessons learned have modified and will modify the individual programs and/or the Environmental Management System.*
- 2. Future annual reports should also include an updated, consolidated and comprehensive summary of the mine development schedule, as currently planned, over the lifetime of the project, not just for the next year.*
- 3. BHP should develop and institute QA/QC procedures for the collection of aquatic baseline data to ensure consistency and quality of data collected by different consultants. A review of past baseline surveys should also be made to demonstrate that they have been conducted under equivalent protocols.*



# On BHP's Operating Environmental Management Plan

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- 1. BHP should institute a process for evaluating the results of the separate plans and programs that comprise the Operating Environmental Monitoring Program. The evaluations could be conducted at regular intervals (say, every three years), and should be conducted by an independent evaluator. The results of the evaluations should be published in the annual report.*





# Traditional Knowledge

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- **Phase II Studies**- various stages of completion:
  - **KIA**- completing computer mapping for land-use planning;
  - **Lutsel K'e**-collecting knowledge for computer mapping;
  - **Yellowknives**- *Weledenh* report being revised;
  - **NSMA**- negotiation of study agreement; and
  - **Dogrib**- vegetation mapping.



# Traditional Knowledge (Continued)

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- Application of Traditional Knowledge in BHP's environmental management-
- e.g., Elder visits - road, airstrip, fish-out, wolverine studies
- TK Working Group- still in creation stage



# Recommendations on Traditional Knowledge

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1. *The Agency recommends that aboriginal organisations and BHP continue to collaborate in establishing an EKATI™ Traditional Knowledge Working Group. The Agency will assist and coordinate, as requested, with such initiatives.*
2. *The Agency recommends that BHP document the input of Elders and Lands and Environment Committees who collaborate with BHP personnel at the project site. Information provided to BHP from the Elders, the way the information is incorporated in the environmental management of the Mine, as well as, the comments, observations and recommendations put forward by the Elders during the site visits should be recorded in the management plan reports.*





# Wildlife Effects

- Elders' input and traditional knowledge is being used to develop wildlife-friendly roads and airstrips
- Increase assessment of potential impacts of haul roads and habitat assessment
- Assessing cumulative effects of the Bathurst caribou herd should be a coordinated effort, with GNWT as the lead.



Overall, the Agency believes WEMP must be implemented consistently to be effective in order to assess immediate impacts of the mine on wildlife. Analysis of data needs to be presented clearly.



# Recommendations on Wildlife

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- 1. The Agency urges BHP to fully consider the concerns of Elders in adapting its wildlife monitoring program, especially the effect of mine dust on caribou food and the effect of haul roads on caribou migration.*
- 2. The Agency recommends that changes in habitats (direct and indirect habitat losses, habitat reclamation) in the BHP claim block be based on the Landsat Imagery Habitat Classification System in order to keep a common approach from year-to-year and among industrial developments.*
- 3. The Agency recommends that BHP fully implement the monitoring studies to evaluate the impact of major haul roads on caribou migration as described in the 1999 OEMP.*



# Aquatic Effects

- Aquatic Effects Monitoring Program- concentration of metals (i.e. copper & aluminium) may be increasing.
- Snow Chemistry - needs to be studied more effectively.
- Special Effects Monitoring Program-
  - 📁 Panda Diversion Channel Monitoring Studies- fish are using the channel and it was better maintained in 1999.
  - 📁 Kodiak Lake Sewage Effects Study- pumping oxygen in winter is still needed, but it is working to decrease effects of depositing sewage into lake.





# Aquatic Effects (Continued)

- **Fish Out Studies**- DFO needs to analyse data.
- **Lake Habitat Compensation Fund**- project proposals are being assessed by Stakeholder Advisory Committee and DFO. Agency has offered technical expertise.



*Overall, the Agency notices a trend of increasing metals in the Koala drainage system. BHP, the regulators and the Agency will have to watch these levels, snow chemistry and waste rock seepage information closely to ensure metal concentrations will not adversely affect the aquatic environment.*



# Recommendations on Aquatic Effects

- 1. Initiate a study to determine relative contribution of nutrients and contaminants from various potential sources. The Agency recommends keeping the AEMP sampling program and possibly modifying it to better assess the effects of the EKATI™ Project separately from those of the up-coming Diavik Project.*
- 2. The Special Effects Monitoring Program for Kodiak Lake is scheduled to end with the 1999 studies, after which Kodiak Lake will, presumably, join the ranks of lakes included in the AEMP. Our recommendation is that Kodiak Lake be given a special status, and assigned a level of study detail somewhere between these two monitoring programs, especially with regard to studies of nutrient loadings, sediment quality, primary production and fish.*
- 3. DFO should analyze and report on the results and significance of the fish-out studies it required.*



# Waste from the Mine

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## ■ Waste Rock Management-

- Seepage Survey shows acid water near waste rock piles– need more investigation into the cause
- BHP should implement the Operational Geochemical Testing Program

## ■ Tailings Management

## ■ Kimberlite Toxicity Studies





# Recommendations On Waste Rock Management

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- 1. BHP should undertake the necessary further mineralogical and geochemical tests to better define and resolve the emerging water quality issues associated with the development of waste rock piles on site.*
- 2. The MVLWB should not amend BHP's class A licence to accommodate the low pH values currently observed in waste rock seepage at the site. The causes of the poor quality drainage should be properly determined, and the implications for management properly considered, before contemplating an amendment to the licence.*
- 3. BHP fulfill its commitment to implement the Operating Geochemical Testing Program. If an alternative program is considered in the future, it should fully meet the current program's objectives and the rigour of its methodology.*



# Cumulative Effects

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- Potential impacts on the Bathurst Caribou Herd
- Potential impacts on the drainage systems, for example the Coppermine drainage system
- Framework for Managing Cumulative Effects in the NWT- Dec. conference
- Need to design site-specific monitoring to be useful for regional cumulative effects management



# Recommendations On Cumulative Effects

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- 1. The Agency recommends that the Government of the Northwest Territories, in consultation with the Government of Nunavut, plan for a workshop for the development and implementation of a cumulative effects monitoring program for the Bathurst caribou herd.*



# Project Expansion

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- BHP submitted a project description to the MVEIRB for the proposed Beartooth, Pigeon and Sable kimberlite pipes in Nov. of 1999.
- Terms of Reference for the environmental assessment were issued in Dec. 1999.
- The Agency prepared the *BHP Environmental Agreement Compliance Report*, as requested by the terms of reference.
- BHP's environmental assessment document was submitted to MVEIRB in April 2000.



# Summary of Work Plan 2000-2001

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- Greater emphasis on community interaction and public communication;
- Continue tracking environmental issues for making improvements and problem-solving;
- Continue meeting with aboriginal organisations, regulators and BHP;
- Maintain expanding resource library, website & newsletter.
- New project proposals require more resources; and,
- Building relationships with new Boards.

