

The EKATI MONITOR

Issue #5, December 2000

Newsletter of the Independent Environmental Monitoring Agency

Update on the Sable, Beartooth and Pigeon Expansions

As we reported in our last newsletter, BHP is proposing to mine three new pipes (Sable, Beartooth, and Pigeon) just north of the existing EKATI™ operation. The proposal is currently under review by the Mackenzie Valley Environmental Impact Review Board, and the company has submitted an environmental assessment report to assist the Board and interested parties in the review of the project. The Agency has reviewed BHP's report, and submitted comments to the Board in writing, and at a public meeting held September 26th, 2000, in N'dilo. Our submission included eight recommendations summarised below;



September 26th, 2000 Public Meeting in N'Dilo
Photo: Mackenzie Valley Environmental Impact Review Board

Summary of Agency recommendations to the MVEIRB

Air Quality...

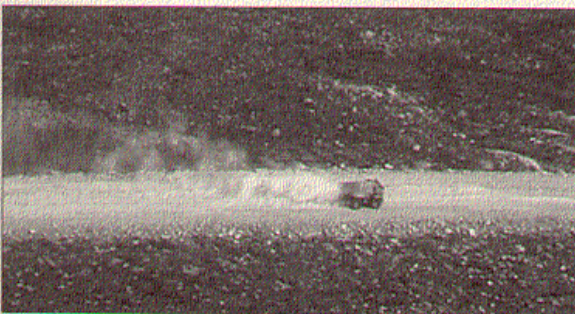
The potential for airborne contaminants to move onto the surrounding landscape and affect caribou habitat and water in the vicinity of the mine is a concern continually expressed by aboriginal people. There is now some information from BHP's monitoring work that indicates that dust from the mining activity is carrying some metals and other contaminants some distance from the actual operations. In reviewing the company's air quality and snow monitoring programs, the Agency is concerned that the programs are not designed to identify the sources of the various airborne materials that may

be escaping. The programs need to be expanded to allow for a proper analysis of the chemical and physical properties of the potential sources of airborne substances. As a result, the Agency recommended to the Review Board that regulators involved with monitoring and permitting airborne emissions should ensure these additional tasks become part of BHP's future monitoring programs.

Waste Rock Storage...

In reviewing the geochemistry testing that BHP used to predict the quality of water that will drain the waste rock piles at the new pipes, the Agency found that the work was in need of improvement if it were to be used effectively to make such predictions. As a result, the Agency recommended to the Review Board that BHP ought to be required to complete the necessary geochemistry testing program, and submit the results prior to the Board's approval of the proposed project or as part of its subsequent application for a water licence.

BHP proposes to control any undesirable drainage from the future waste rock dumps by constructing frozen-core berms around the dumps. The idea is that the berms will prevent any drainage from escaping the dumps, and that permafrost will eventually develop inside the dumps so



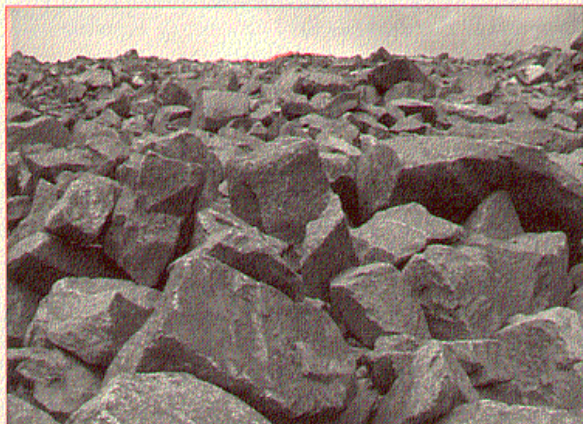
Haul Truck on Misery Road
Photo: Independent Environmental Monitoring Agency

* All other references to Ekati in this newsletter represent EKATI™

Update on the Sable, Beartooth and Pigeon Expansions

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that drainage through the dump will be minimal. The Agency has concerns that the frozen-core berms are an unproven technology for this purpose and also that the



Waste Rock Pile

Photo: Independent Environmental Monitoring Agency

technology, given present global warming trends, may not represent an environmentally sound long-term solution to control adverse drainage. We therefore recommended to the Board that it undertake an independent evaluation of the applicability of frozen-core berms to permanently control waste rock drainage at the earliest opportunity.

Pit Reclamation...

As part of its proposal BHP intends to place a portion of its processed kimberlite in the Beartooth pit, and states that any effects on water quality downstream of the new pit lake will be negligible. The Agency recommended that the environmental feasibility of the approach be looked at in greater detail including a look at the results of testing of water and slurry from Long Lake (where processed kimberlite is currently deposited), and tests already performed on the effects that they may have on fish and other aquatic organisms.



Wolf Prints

Photo: Independent Environmental Monitoring Agency

Wildlife and Habitat...

The Agency is concerned about the impacts to caribou through the development and use of the Sable pit haul road. The Agency recommended that the MVEIRB seek the following specific terms and conditions for vehicle operation in order to prevent impacts on caribou movements and distribution;

- traffic volume per day should be recorded and reported to regulatory agencies.
- traffic volume per day should not exceed a specific limit e.g. 200 one-way trips during caribou migration periods.
- road development should not take place during caribou migration periods (due to the high volume of traffic during construction).
- road design should be "low profile" as much as possible.

Fish and Aquatic Habitat...

In its Environmental Assessment Report BHP stated that four of the lakes that would be impacted (Beartooth Lake, Big Reynolds Pond, Sable Lake and Two Rock Lake) did not constitute a Fishery. The Agency suggested that the MVEIRB confirm this interpretation of the Fisheries Act with the Department of Fisheries and Oceans.

BHP's report indicated that the streams connecting many of the lakes to be impacted did not contain fish habitat, and therefore were not suitable for the passage of fish. The Agency believes that more field research is required to investigate whether or not fish do actually pass through these streams and what the impacts of destroying the populations of fish in the lakes may be on breeding between lake populations.

To address some of the Agency's concerns on the loss of fish habitat, and how it could be recovered, the Agency recommended that a "no net loss" plan be required as a part of the company's application for a water license.



Fish Studies

Photo: BHP Diamonds, Inc.

Macleod Evaluation Report

Summary of Macleod Institute's Recommendations for Change

- The Agency should initiate discussions with Society members to explore Agency's role in new mining projects.
- The Agency should work collaboratively with aboriginal communities to improve communications.
- Discussions should be initiated with Society members for improving the establishment of core budgets funded by BHP.
- The Agency needs to be more constructive in its monitoring and advisory roles.
- The Agency should take a broad view of environmental management in order to ensure that the appropriate level of cumulative effects is addressed.
- The Agency should work with all Society members to help BHP integrate appropriate Traditional Knowledge into its environmental management and monitoring programs.
- The Agency needs to develop, in consultation with its members, a strategic plan to help achieve its mandate.
- The Agency should develop a clear communications and delegation policy to ensure "one voice" and efficiency.
- The Agency should have clear indicators to review Management performance.

At the request of the Monitoring Agency, the Macleod Institute conducted an evaluation of how well the Agency was carrying out its mandate under the Environmental Agreement. The Institute looked at the operations of the Agency, talked to 29 people involved in some way with the Agency's activities, and made nine recommendations on how the Agency could improve its overall performance.

A meeting was held in June 2000 with the members of the Agency to discuss the recommendations made in the evaluation.

The Agency was commended for its willingness to both undertake the evaluation and to share the results. The members generally felt that the Agency could benefit from implementing the recommendations. The Directors plan to address the recommendations in the near future or when the work-plan for the next year is developed.

Chair in YK

In response to a recommendation made in the Macleod evaluation - that increased effort in community and government agency communication is required - the Agency is making arrangements for the Chair of the Agency Board, Red Pedersen, to spend more time in Yellowknife and the communities.



Photo: Independent Environmental Monitoring Agency

Annual Report 1999-2000

The Agency's Annual Report was released in June, 2000. The report provided comments on BHP's activities and reports throughout the last year, and provided details on the activities of the Agency's Directors and staff.

The annual report detailed 16 specific recommendations for BHP and government regulators. Under the terms of the Environmental Agreement, BHP and the government must implement the recommendations, or give reasons why they will not.

Annual Report Recommendations

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 environmental management at the mine.

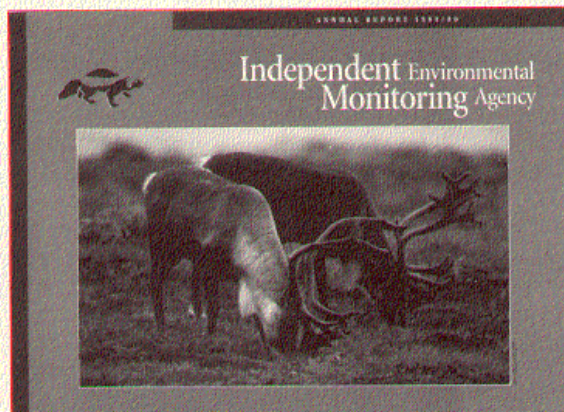
2. Future annual reports should also include an updated, consolidated and comprehensive summary of the mine development schedule, as currently planned, over the lifetime of the project, not just for the next year.

3. BHP should develop and institute quality control 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.

4. BHP should set up a process for evaluating the results of the separate environmental monitoring plans and programs at the mine. 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.

5. 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.

6. The Agency recommends that BHP document the views and comments of Aboriginal people who meet with BHP personnel at the project site. Information they provide to BHP, the way the information is incorporated in the environ-



Cover of Agency's Annual Report 1999-2000

mental management of the mine, as well as other observations and recommendations put forward by them during the site visits should be recorded in the BHP's reports.

7. The Agency urges BHP to fully consider the concerns of elders in its wildlife monitoring program, especially the effect of mine dust on caribou food and the effect of haul roads on caribou movement and behaviour.

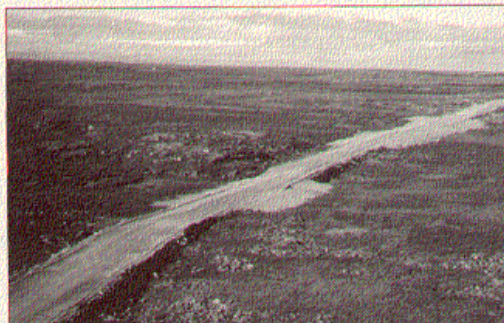
8. The Agency recommends that the monitoring of change in habitats (direct and indirect habitat losses, habitat reclamation) in the BHP claim block be based on the Landsat Imagery Habitat Classification System in order to keep a common approach from year-to-year and among other industrial developments.

9. 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 Operational Environmental Monitoring Plan.

10. The Agency recommends that BHP initiate a study to determine relative contribution of nutrients and contaminants from various potential sources. BHP suggested abandon-

ing sampling sites in Lac de Gras at the Aquatic Effects Monitoring Program Workshop, February 2000. The Agency recommends that sampling in the lake continue, possibly modifying the sampling program to better assess the effects of BHP's mine separately from those of the up-coming Diavik Project.

11. The Special Effects Monitoring Program for Kodiak Lake is



Caribou crossings on Misery Road
Photo: Indian & Northern Affairs Canada

Annual Report 1999-2000 ...continued

scheduled to end with the 1999 studies, after which Kodiak Lake will, presumably, join the ranks of lakes included in the Aquatic Effects Monitoring Program. 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.

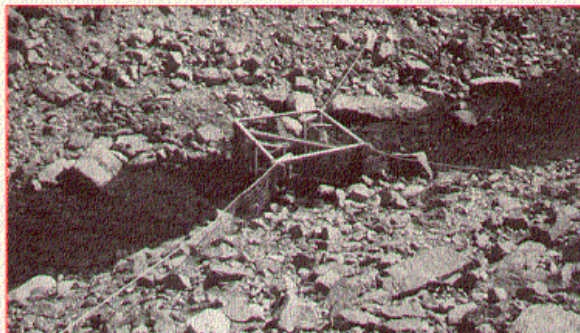
12. DFO should analyse and report on the results and significance of the fish-out studies it required of the company.

13. 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.

14. The Mackenzie Valley Land and Water Board should not amend BHP's Class A Water License to accommodate



Seepage monitoring from waste rock
Photo: Indian & Northern Affairs Canada



Fish Trap
Photo: Indian & Northern Affairs Canada

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 license.

15. BHP should fulfill its commitment to implement the Operating Geochemical Testing Program as outlined in its Revised Waste Rock and Ore Management Plan (July 31, 1998). If an alternative program is developed in the future, it should fully meet the current programs objectives and the rigour of its methodology.

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

Annual Meeting

In late June 2000, the Agency held its Third Annual General Meeting in N'dilo. Delegates included representatives from all of the Society members, the Agency's Directors and staff.

Discussion included the Agency's future role in the monitoring of new projects and cumulative effects, as well as presentations on the Agency's activities over the last year.

Corrections

In our last newsletter, it was incorrectly stated that the addition of the new pipes will increase the mine-life from 18 to 25 years. The addition of the new pipes, and the deletion of Leslie pipe from the mine plan, will set the mine-life at 18 years.

The Environmental Assessment Report was submitted on April 27th, 2000, not May 1st, 2000 as previously stated.

Traditional Knowledge and Environmental Management – Voicing the concerns of our Members

In June 2000 Dr. Fikret Berkes, then a Director of the Agency, met with community members and elders of Lutsel K'e. At this meeting BHP's monitoring and management plans, particularly in regards to caribou were discussed.



Traditional Knowledge meeting in Lutsel K'e
Photo: Jeannette Lockhart, Lutsel K'e Dene First Nation

The elders made some recommendations for BHP, which were forwarded to BHP in a letter from the Agency on September 12th, 2000. The recommendations included:

1. The site visit should take place during the fall caribou migration;
2. The visit should take place over a three to four day period, ideally one week; not just one day.
3. The elders would like to see for themselves if the caribou are able to cross the Misery road
4. The elders would like to see their observations and recommendations documented and used by BHP.

Fox Amendment

BHP has made an application to the Mackenzie Valley Land and Water Board to dispose of Fox Lake water and Fox pit water by land treatment. Land treatment is a process in which water is discharged onto the tundra in a number of places where it is believed that removal of any contaminants will take place naturally by having the water filter through soil and vegetation.

BHP has hired a specialist (Andre Sobolewski of Microbial Technologies) in wetlands treatment processes to assist the company in designing a workable scheme for discharging Fox water on land.

Sobolewski has conducted preliminary fieldwork at the site and has determined that the project is technically feasible and should work. His preliminary design modifies BHP's earlier "over-land" discharge to a "mixed" concept that would involve a submerged or "wetlands" environment to remove metals and restore water quality.

Sobolewski is preparing a final report on design feasibility, and BHP has stated they will submit this report when available to the Mackenzie Valley Land & Water Board (MVLWB) as part of its application.

On August 3rd, 2000 BHP held a site visit for government regulators to view the proposal, Tony Pearce (an Agency Director) also attended. It was felt by those in attendance that the report being prepared by the consultant will considerably help in understanding the feasibility and impacts from the proposal.



Director Tony Pearce
Photo: Independent Environmental Monitoring Agency

BHP's 1999 Annual Environmental Report

BHP's 1999 annual report, produced to satisfy requirements of both the Environmental Agreement and Water License, was reviewed by the Agency in June of this year, and a letter outlining our findings was submitted to the Minister of DIAND. The Agency found the report to be generally satisfactory in its coverage of environmental management activities at the mine-site.

However, the letter outlined the Agency's concerns that more information is required from BHP on how monitoring

programs have influenced the mine's environmental management.

Specific concerns were also raised regarding the lack of data reporting on waste-rock testing proposed in previous reports; and statements with regards to metals concentrations in Kodiak lake.

Impact Report 2000

On July 14th, 2000 the Agency provided comments on BHP's Impact 2000 report. This report, required every three years, outlines the impacts that the development of the mine has had on the environment.

The Environmental Agreement requires BHP to prepare a report every 3 years, which describes the environmental impacts of its project. The year 2000 Impact Report, submitted in April of this year, is the first such report. BHP stated that generally none of the observed impacts appear to be greater than predicted (in the 1995 EIS).

The Agency reviewed BHP's report, and made the following comments:

1. The Agency appreciates BHP's efforts to make the report understandable to the general public.
2. The effectiveness of the report would be greatly increased if BHP had attempted to identify environmental trends at the site.
3. The combined effect of increased nutrient loadings and total metals concentrations throughout the Koala drainage, as well as acidic waters near the waste rock piles warrant greater analysis in the report.
4. In many areas of the report, monitoring data do not support the conclusions by BHP about the observed effects and negative impacts. For example, certain metals concentrations in Kodiak lake have at times exceeded levels considered to be safe for fish; this should be considered an uncertain impact.

Looking Ahead

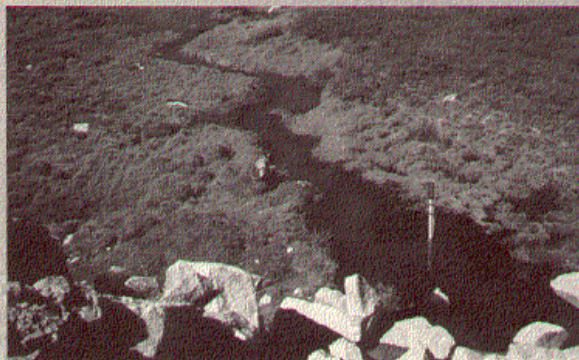
Later this fall BHP will be releasing its year 2000 seepage survey results regarding the quality of water draining the waste rock piles at the mine site. The Agency will be looking at these results carefully, as they should confirm the cause of the acidic waters that were detected in the 1999 surveys.

The Agency will continue to monitor the progress of the expansion application, which may include providing recommendations to the Mackenzie Valley Land and Water Board as to terms and conditions that should be attached to any permits or licences.

Directors of the Agency will continue to be available to provide technical assistance to the members; do not hesitate to contact the Agency's Manager if your community

has any comments or questions or would like the Agency to make a presentation in your community.

Agency staff will continue to monitor the progress of the Fox pipe proposal for on-land water disposal.



Seepage Survey Station
Photo: Indian & Northern Affairs Canada



Director Marc Stevenson
Photo: NSMA

New Appointments

Director appointed by North Slave Metis Alliance – Dr. Marc Stevenson (replaces Dr. Fikret Berkes)
Manager – Zabey Nevitt
Communications Assistant – Robin Staples

Reports Mentioned in this Newsletter and Available from the Agency Office

- Independent Environmental Monitoring Agency Annual Report 1999-2000: June 2000
- BHP's Environmental Assessment Report for the Beartooth, Pigeon and Sable pipes: April 2000
- Independent Environmental Monitoring Agency Evaluation Report, prepared by Macleod Institute: March 2000
- Impact 2000 Report, BHP; April 2000 and Agency comments July 2000
- BHP's Annual Environmental Report 1999; March 2000 and Agency comments June 2000

Directors

Chair

Vice-Chair

Treasurer

Red Pedersen

Bill Ross

François Messier

Marc Stevenson

Tony Pearse

Pete McCart

Vacant

(Kitikmeat Inuit Association appointee)

(BHP, Canada and GNWT appointee)

(BHP, Canada and GNWT appointee)

(North Slave Metis Alliance appointee)

(Dogrib Treaty 11 Council appointee)

(BHP, Canada and GNWT appointee)

(Akaitcho Treaty 8 appointee)

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