

The EKATI MONITOR

Issue #1, August 1998

Newsletter of the Independent Environmental Monitoring Agency

Progress for Environmental Management at Ekati

Over the past year, improvements were made in some parts of BHP's environmental work at the Ekati mine, but the Independent Environmental Monitoring Agency found that other improvements are still required if environmental management at the mine site is going to be effective over the long term.

In its first annual report issued on June 24th, the Monitoring Agency called for 18 specific changes in the environmental management of the Ekati diamond mine. Most of the recommendations were directed toward BHP,

but both Department of Fisheries and Oceans and the NWT Water Board also received recommendations from the Monitoring Agency. Under the terms of the Environmental Agreement, both BHP and the regulatory agencies are obliged to respond to recommendations made by the Monitoring Agency.

This first issue of our newsletter describes some of the highlights of the past year and the critical issues that developed.

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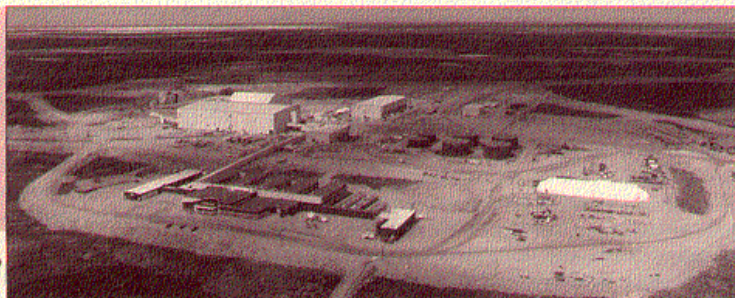
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Who Are We?

The Independent Environmental Monitoring Agency, a public watchdog for environmental management at Ekati Diamond Mine at Lac de Gras, was created as a condition of the Environmental Agreement signed by BHP, Canada and GNWT January 6th, 1997. The mandate of the Agency is spelled out in Article IV of that

Agreement. The Independent Environmental Monitoring Agency Society consists of BHP, Canada, GNWT, Kitikmeot Inuit Association, Dogrib Treaty 11 Council, Akaitcho Treaty 8, and North Slave Metis Alliance. Directors appointed to the Agency are:

- Red Pedersen (Chairperson) appointed by Kitikmeot Inuit Association
- Tony Pearce (Vice-Chairperson) appointed by Dogrib Treaty 11 Council
- Francois Messier (Secretary-Treasurer) appointed by BHP/Canada/GNWT
- Fikret Berkes appointed by North Slave Metis Alliance
- Peter McCart appointed by BHP/Canada/GNWT
- Kevin O'Reilly appointed by Akaitcho Treaty 8
- Bill Ross appointed by BHP/Canada/GNWT

Administrative and management services are provided by:

- Hal Mills (Manager)
- Matt Bender (Monitoring Coordinator)
- Alan Ehrlich (Monitoring Coordinator)



The Operating Environmental Management Plan... The Key to the Future at Ekati

The Monitoring Agency has found the Operating Environmental Management Plan, one of BHP's most important plans, to be acceptable if certain major improvements are made in the future.

BHP, in accordance with the Environmental Agreement, was required to submit an Operating Environmental Management Plan six months before Ekati goes into production. This plan is the key to environmental management for the life of the mine. It specifies the requirements for the environmental protection and management of the Ekati Diamond Mine during its operating phase. The plan provides specific instructions, procedures and details for mine personnel to deal with environmental issues which may arise during the operating phase of the mine. Included in the environmental management plan are many supporting documents that add substance to the plan. These include the Aquatic Effects Monitoring Plan and the Wildlife Effects Monitoring Plan.

Part of the mandate of the Monitoring Agency is to review and comment on the environmental management plan. In early June, the Agency provided BHP with its comments. The Agency found the plan to be acceptable as an initial plan, provided that certain substantial modifications are made in future versions of the plan.

*We believe that
orderly, planned and
environmentally responsible
mineral development
can be compatible with
our traditional culture
and economy.*

Felix Lockhart
Federal Environmental Assessment Panel Review
of BHP Diamonds Inc.
NWT Diamonds Project
Public Hearing Lutsel K'e, Northwest Territories
January 29th, 1996

General comments made by the Agency included such things as:

- the lack of specific detail with respect to the Environmental Management System of the Ekati mine.
- the lack of detail regarding mitigation measures that relate to new exploration and expanded development activities on the remainder of the property
- the requirement for a section in the plan that describes the detailed plans for the tailings management system and waste rock management.

A substantial number of comments were also included with respect to specific sections and supporting documents of the plan. These include:

- improvements to the Traffic Management section.
- a suggestion to initiate a Specific Effects Monitoring Program that examines the impact of nutrient and organic loading on Larry Lake, Little Lake and Leslie Lake.
- more details on the Environmental Awareness Training Plan.

The Monitoring Agency will be looking for these improvements in revisions of the plan.

The Environmental Agreement was a condition for approval of the Ekati mine. It is legally binding and enforceable. Its signatories are BHP and the governments of the NWT and Canada.

The Environmental Agreement requires the involvement of the Agency with Aboriginal organizations in respect to the environmental management of the mine. It also requires BHP to monitor effects on air quality, aquatic effects and wildlife, and to take into full consideration both traditional and scientific knowledge.

Highlights from the First Annual Report

The Monitoring Agency released its first Annual Report at the Annual General Meeting on June 24th, 1998. The Annual report is 80 pages long and sections of it are quite technical. The following is a summary of the key issues discussed in the report, plus a complete listing of recommendations made in the Annual Report.

Key Issues

Aboriginal & Community Issues:

In June 1998 the Monitoring Agency published a report on issues and concerns about the Ekati project, as identified by Aboriginal communities during environmental assessment and NWT Water Board hearings in 1996. The report, entitled "Aboriginal and Community Issues at Ekati Diamond Mine - A Progress Report," also comments on the present status of the issues. The report will be used to focus efforts of the Monitoring Agency in working with Aboriginal communities on issues that remain important to them. We will be consulting with communities this fall and developing a follow-up plan of action.

Traditional Knowledge:

The Environmental Agreement requires BHP to use available traditional knowledge in its environmental plans and programs. To facilitate this, BHP is to complete traditional knowledge studies through Aboriginal organizations. The Weledeh Yellowknives Dene have completed a study, and the Kugluktuk Hunters and Trappers Association project is in its final stages. Studies through other organizations have been slow in starting, resulting in little success in using traditional knowledge in current environmental management at the mine. The Monitoring Agency has identified an urgent need to define such issues as what constitutes traditional knowledge, what methodologies are appropriate, and how one incorporates traditional knowledge into management practices. Annual workshops are recommended.

Northwest Territories Water Board:

The Water Board is the independent regulatory body which issued the Class A water licence for the purpose of water uses and waste disposal at Ekati. It has authority for reviewing and approving the aquatic effects monitoring program. The Monitoring Agency notes that the Water Board needs to conduct its review

of critical documents in a more timely fashion so that BHP can implement approved plans and programs in an effective and efficient manner. As well, the Water Board should provide a clear explanation of water licence requirements, especially where they differ from advice provided by the Technical Advisory Committee.

Regulatory Complexity:

BHP's land use and environmental activities are governed by a wide array of authorizations from the federal and territorial governments. Hence, BHP has to focus on meeting legal obligations to diverse regulators, more so than on getting information needed for good adaptive environmental management. Further, it is sometimes difficult to tell which regulator is responsible for dealing with a particular issue. It is important to improve both communication and co-ordination of the many parties involved in environmental management of Ekati.

BHP's Environmental Management System:

An environmental management system is the means by which a company allocates resources necessary to meet environmental objectives. In this case it includes implementation of the Operating Environmental Management Plan. BHP has stated that it has such a system, but the Monitoring Agency finds BHP's description of its management system to be inadequate. We asked BHP to supply additional information and to review the adequacy of the system in terms of internationally accepted standards.

BHP's Approach to Research:

The Monitoring Agency is concerned about the way BHP fragments environmental work into environmental management programs that are designed and carried out by separate consulting companies, making it difficult to ensure an integrated approach. As well, there has been poor document control, with different versions of documents issued to different regulators.

Improvements in Process and Consultation:

There has been general improvement in the performance of BHP and its regulators with regard to environmental management at Ekati over the course of the year. BHP and government agencies have jointly taken several positive steps that improved communications, monitoring programs, and environmental management capabilities.

Highlights cont...

Wildlife and Aquatic Effects Monitoring:

The most significant improvement over the past year has been the upgrading of both the wildlife and aquatic effects monitoring programs. These programs, if properly administered by BHP, will make it possible to understand how the project is affecting wildlife and fish in the vicinity of the mine. We found important shortcomings in the 1997 programs. However, workshops held in February 1998 (with participation from Aboriginal organizations, environmental groups, government agencies, and the Monitoring Agency) resulted in major improvements. Similar workshops are recommended on an annual basis.

Fish Habitat Compensation Agreement:

To compensate for lake habitat lost at Ekati, BHP provided \$1.5 million dollars to DFO for creation of a Fish Habitat Compensation Fund. Department of Fisheries and Oceans, DFO has since requested the Monitoring Agency's assistance in the management of this fund. We reminded DFO of their obligation to consult with Aboriginal communities about how the fund should be used. If they so desire, the Monitoring Agency will assist in preparing guidelines for project proposals, and advising on proposals submitted for funding.

Panda Diversion Channel:

The Panda Diversion Channel is a 3.4 km artificial channel created to divert water around Panda and Koala pits into Kodiak Lake. Construction resulted in unexpectedly high erosion in the channel and sedimentation of Kodiak Lake. BHP attempted to stabilize the problem area over the winter of 1997-98, and it now appears that stabilization efforts have been successful.

Oxygen Declines in Kodiak Lake:

The Monitoring Agency played a key role in identifying a severe winter oxygen shortage in Kodiak Lake by early February of 1998. The low oxygen levels presented a hazard to fish populations. Our subsequent analysis indicated that the problem resulted from a combination of sewage effluent and nutrients from Panda Diversion Channel sediments. To its credit, BHP took prompt action to raise oxygen levels in Kodiak lake as soon as the severity of the oxygen deficit became apparent. No fish kills were evident as a result of the problem, but fish eggs may have been affected.

Tailings Management:

By spring of 1998, BHP had still not resolved at least two possible problems with its planned disposal of tailings (processed kimberlite) into Long Lake. Ekati tailings will be different from typical mines because of large amounts of fine clays in some of the pipes. Instead of settling rapidly when deposited in water, the fine clays will remain suspended in the water column for years. These suspended clay particles in the tailings slurry present difficulties for managing tailings disposal in a predictable way, and also for reclamation at the end of the day. This means that levels of total suspended solids in the discharge from Long Lake may exceed licence limits, or that turbidity in the discharge water may have harmful effects on aquatic life downstream. Further research and tests are required to avoid these problems.

BHP has studied the chemistry of the different rock types to be stored in waste rock dumps, and the kind of drainage that could be produced from the dumps and open pits during operation and at closure. There may be a particular problem with the Misery schist dump, and the Monitoring Agency has recommended further tests to ensure long term safe disposal.

Kimberlite Toxicity:

Tests done to date show some toxicity to fish from waters containing kimberlite. Further tests are being done to gain a clearer picture of conditions under which kimberlite solutions can be toxic. The Monitoring Agency is concerned about the inconsistency of BHP's testing procedures, and has asked BHP to investigate the implications of using different types of samples for of toxicity testwork.

Cumulative Effects:

Cumulative effects are the effects of the Ekati project in combination with the effects of other past, present or future human activities in the region. Aboriginal people have expressed particular concern about cumulative effects in the Lac de Gras area on water quality and caribou. However, present monitoring programs will not be able to detect cumulative effects. The Monitoring Agency recommends that any new development in the area should require a monitoring program to detect cumulative effects such as large-scale migration or population changes to the Bathurst caribou herd.

Recommendations to BHP and Regulatory Bodies

1 Recommendation One:

The Agency recommends that BHP host annual workshops to bring together holders of traditional knowledge, traditional knowledge researchers, scientists, and BHP managers. The aims of the workshops would be to maintain the focus of the Ekati traditional knowledge work, and ensure that the environmental management of the mine reflects the findings of the traditional knowledge projects.

2 Recommendation Two:

The NWT Water Board should ensure that the requirements of its future licences, especially where they vary from the recommendations of its technical advisors, are scientifically rationalized, clearly explained, and complete in their reasons for decision. To this same end, we also encourage the NWT Water Board to place all reviewers' comments on draft licences and related correspondence with its public registry.

3 Recommendation Three:

The Agency recommends that the NWT Water Board examine its review procedures with the objectives of developing a way of prioritizing issues according to urgency and environmental relevance, and of ensuring that reviews are conducted in a timely fashion.

4 Recommendation Four:

The Agency recommends that BHP describe its environmental management system explicitly and in detail, and review the adequacy of this system in terms of the ISO 14001 requirements.

5 Recommendation Five:

The Agency urges BHP to adopt a more rigorous system for the production of documents the company issues for regulatory requirements and environmental review purposes. Conformance to the ISO 14001 standards would be of substantial benefit in this process.

6 Recommendation Six:

The Agency recommends that BHP organize an annual workshop each February, to report on the results of the wildlife monitoring plan carried out each previous year, and to discuss changes in the program for the subsequent year. Participants at the workshop should include Aboriginal organizations, environmental groups, government regulators, and the Agency.

7 Recommendation Seven:

We recommend that the Department of Fisheries and Oceans consult with Aboriginal peoples at the earliest opportunity in order to determine how they want to proceed in carrying out fish habitat compensation measures. Then, the Department of Fisheries and Oceans should implement an appropriate program.

continued on next page

8 Recommendation Eight:

Whether the improved habitat of the Panda Diversion Channel will fully compensate for lost stream habitat elsewhere in the development area is still an open question. The Agency recommends that BHP design a monitoring program to answer this question as part of the follow-up work for the diversion channel.

9 Recommendation Nine:

In light of new information about winter declines in dissolved oxygen, the NWT Water Board should reconsider the requirements of the Class A water licence for sewage effluent entering Kodiak Lake.

*Traditional knowledge
can be defined as:
"knowledge and values
which have been acquired
through experience and
observation, from the land
or from spiritual teachings,
and handed down
from one generation
to another."*

GNWT Policy

Recommendations cont...

10 Recommendation Ten:

The NWT Water Board should be more stringent about requiring site-specific studies before licences are granted. Such studies should include an assessment of existing and anticipated loadings of nutrients and organic materials and their possible effects on primary productivity and oxygen depletion both in receiving water bodies and those downstream.

11 Recommendation Eleven:

Water quality sampling requirements set by the NWT Water Board should be adjusted to provide better data on loadings of nutrients and organic materials. First, more frequent sampling is required during the spring freshet when loadings normally peak. Second, the range of parameters should be adjusted to provide the kind of information most useful in assessing the impacts of loading. With regard to the last point, the greatest problem at present is the lack of data describing concentrations of organic substances in discharge other than sewage.

12 Recommendation Twelve:

BHP should establish a threshold level for winter oxygen concentrations in Kodiak Lake below which it will initiate aeration, or some other suitable mitigative measure.

13 Recommendation Thirteen:

If the oxygen problem persists, BHP should, if possible, discharge sewage effluent somewhere other than Kodiak Lake.

14 Recommendation Fourteen:

The 1998 Kodiak Lake Sewage Study should be expanded to include possible impacts in Little Lake.

15 Recommendation Fifteen:

The Agency recommends that BHP prepare an updated, integrated tailings management plan that clearly lays out which of its consultant's recommendations will be adopted, and describes in detail how the facility will operate, with particular attention to the handling of the tailings slurries. Implications for reclamation of the Long Lake impoundment and, hence, changes required in the Interim Abandonment and Restoration Plan, should also be discussed.

16 Recommendation Sixteen:

The Agency recommends that BHP conduct the necessary mineralogical studies to ensure long-term and safe disposal of the schist from the Misery pit.

17 Recommendation Seventeen:

The Agency recommends that BHP investigate the implications of using different types of kimberlite samples for its various test programs, and that the results be evaluated to consider implications for management of kimberlite wastes.

18 Recommendation Eighteen:

The Agency recommends that any new development within the Coppermine drainage, which might interact with environmental impacts of the Ekati mine, require a monitoring program designed to detect cumulative effects on aquatic resources. Such a monitoring program should be a requirement before authorization of the new development.



About Cumulative Effects

What are Cumulative Effects?

The term "cumulative effects" refers to the effects of development (such as mines and roads, for example) that are contributed by many different projects, instead of just by a single project. In a sense, considering cumulative effects means looking at The Big Picture. If each project adds a bit to a certain environmental problem, the total problem can be very serious, even though no single project was solely responsible for the problem. As these effects do not only come from any single project, they can be hard to predict when environmental assessments look only at individual developments. For this reason, the Canadian Environmental Assessment Act makes it a legal requirement for developers to look at cumulative effects when assessing a new project; it is not enough to only watch what's happening "on this side of the fence".

How can Cumulative Effects be monitored?

To track cumulative effects, you have to look at the way the effects of one project interact with the effects of all other projects in the area. This includes not only projects that already exist, but also projects that will soon be developed.

What may be affected by cumulative effects around Ekati?

Right now it is hard to say for certain what could be affected by cumulative effects around Ekati. Aboriginal people are concerned that caribou could possibly be affected by mining activities. Even if developing one mine is not enough to prevent caribou from using the area, it is possible that when the effects of all the developments in the area (such as mines, roads, and exploration camps, for example) are added, the total disturbance from all sources might be enough to change caribou behaviour, possibly changing their migration route.

There are also some concerns about the cumulative effects of developments on water quality. One mine might not cause enough pollution to make any real difference in a river, but if many other projects each cause small amounts of pollution, the end result may be a river that is not good fish habitat, or a river that is no longer a source of clean drinking water.

Why should the Agency be involved in Diavik?

The Monitoring Agency has informed government that, despite government protestations, it should be involved in aspects of the upcoming Diavik environmental assessment.

The Diavik project is a proposed diamond mine to be located in and around Lac de Gras. This would be close to the Ekati mine, within the same watershed and sharing the same winter access road. The Diavik project is currently undergoing an environmental review led by the Department of Indian Affairs and Northern Development (DIAND).

When the Agency expressed its wish to be involved in the aspects of the review related to cumulative effects, DIAND took the initial stance that it did not want the Agency involved with Diavik. This was stated in a strongly worded letter suggesting that the Agency "set aside" its involvement with Diavik. The issue was raised during the Annual General Meeting of the Independent Environmental Monitoring Agency Society. The Agency then sent a letter pointing out that its mandate includes the review of the cumulative effects of Ekati in combination with other projects in the region.

The Agency has since issued suggestions to strengthen the cumulative effects section of the Diavik environmental review guidelines, and awaits further developments.

*The diamond mines
in the barren lands
are on places where
Dogrib have dwelled...
(T)alking about the land and
sharing information
with the mining companies
and them with us
would be good...
if the mining companies
worked well with us.
Where there are mines upon the land
they should be closely monitored.*

Philip Husky
Dogrib Elder
1996

Independence of the Agency

How independent is the Independent Environmental Monitoring Agency? This question arose recently when the Agency perceived threats to its independence.

In June of 1998, the federal and territorial governments, in conjunction with BHP, issued a letter that included suggestions as to which parts of its legal mandate the Agency should not focus on. This letter also included a reminder of the priorities of the Agency's funding sources. The identical suggestions were made in a telephone call from BHP's lawyer to the Chairperson of the Agency, also delivered with a reminder of the Agency's funding sources.

The Agency responded by stating that its "independence, credibility and usefulness will all be questioned" if it adopts the stance suggested by the federal and territorial governments and BHP, and that it "will continue to function as an independent Monitoring Agency". It also called on the federal and territorial governments and BHP to include Aboriginal organizations in any future interpretations of the Agency's mandate.

Publication Will Help Agency with Community Consultations

The first publication of the Agency, entitled "Aboriginal and Community Issues at Ekati Diamond Mine" was released in early June, and distributed to both members and the general public.

This document provides a summary of issues raised by the different Aboriginal groups during the Federal Environmental Assessment Review Panel Public Hearings for the BHP Diamonds Project. It also includes issues raised at the NWT Water Board hearings held in September and November 1996 on BHP's water licence application. Any action that has been taken on the part of BHP, the Government or any other regulatory bodies has been pointed out.

This publication will be used as a basis for the Agency community consultations planned for this fall. The Agency would like to know if these concerns remain and whether there are any new issues which should be addressed.

Copies of the document are available at the Agency office for interested parties.

Agency Holds First Annual General Meeting

The first Annual General Meeting of the Independent Environmental Monitoring Agency Society was held on June 24th, 1998.

The meeting was attended by six of the seven members of the Society. This was a meeting of the members, and after presentations from some of the directors, the floor was open to concerns. The independence of the agency (see left) and its involvement with Diavik were issues that were discussed.

The meeting was the first opportunity the directors had to speak to the majority of the members together. Overall, it was a successful meeting with valuable input being provided by the members present. Minutes are available through the Agency office.

Looking Ahead...

The Agency has many activities and initiatives planned for the upcoming year, including:

- On-going review of spill reports, land and water use inspections, surveillance network program results under the water licence;
- Improved communications with Aboriginal communities and the public at large through a brochure, newsletters, a web site, and community visits;
- Review of the Abandonment and Restoration Plan;
- Review of the Water Board submissions by BHP;
- Conducting special studies that the Agency deems necessary to better evaluate BHP's environmental management and government performance in relation to the Ekati mine; and
- Agency involvement in cumulative effect aspects of the Diavik comprehensive study.

The public is invited to contact the office of the Independent Environmental Monitoring Agency to pass on concerns about the environmental management of the Ekati Diamond Mine, or to learn about the Monitoring Agency's activities.

How to Reach Us

NWT Communications Centre
#10 5120 - 49th St.
Yellowknife NT X1A 1P8
Tel: (867) 669-9141
Fax: (867) 669-9145

By E-Mail: monitoring_agency@Yellowknife.com
Website: www.monitor.nt.ca

Office Hours: Mon.-Fri.

8:30 a.m. — 12:00 p.m. 1:00 p.m. — 5:00 p.m.

