

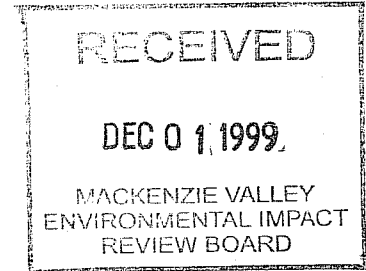


INDEPENDENT ENVIRONMENTAL MONITORING AGENCY

P.O. Box 1192, Yellowknife, NT X1A 2N8 • Phone: (867) 669-9141 • Fax: (867) 669-9145

Website: www.monitoringagency.net • E-mail: monitor@yk.com

November 30, 1999



Gordon Lennie
Chairperson
Mackenzie Valley Environmental Impact Review Board
Box 938
Yellowknife, NT X1A 2N7
Fax-920-4761

**Re: The MVEIRB's Environmental Assessment Terms of Reference for the
BHP Diamonds Inc. Beartooth, Pigeon and Sable Kimberlite Pit Mine Extension**

Dear Mr. Lennie:

The Independent Environmental Monitoring Agency (The Agency) has reviewed the draft Terms of Reference for BHP Diamonds Inc.'s proposed Beartooth, Pigeon and Sable Kimberlite Pit Mine Extension Project. The Agency was established under the Environmental Agreement associated with the approval of Ekati as a public watchdog in order to ensure the mine's environmental management is effectively carried out according to the terms of the Agreement and associated authorizations. Consequently, the Agency has gained considerable experience with respect to the Project and its environmental impacts. We are pleased to offer the following comments on the draft Terms of Reference (ToR):

1.1 PURPOSE OF THE TOR

In *lines 28-29*, BHP is requested to demonstrate its capacity to undertake the proposed development "in an environmentally safe and sustainable manner." A definition of "environmentally sustainable" from the MVEIRB, or more detail about what is being sought here, may assist BHP in more precisely meeting the intent of the request.

PUBLIC CONSULTATION (SEC. 1.2):

In *lines 42*, the Agency suggests that the affected communities be named in order to avoid any changes or confusion as to what is considered a "pick-up" community.

TRADITIONAL KNOWLEDGE (SEC. 1.3)

It would be helpful if there was a definition of Traditional Knowledge in the ToR. There should be a requirement for BHP to discuss, if and how the project design, the evaluation of alternatives and proposed monitoring were altered, as result of TK.

2 SCOPE OF DEVELOPMENT

WATER MANAGEMENT (SEC. 2.3):

The receiving environment should be identified as a discrete component of the project's scope.



TRANSPORT (SEC. 2.4)

There should be some discussion of how the winter road will be affected by the proposed development, including care and maintenance procedures

ACCIDENTS AND MALFUNCTION (SEC. 2.6.3):

In addition to discussing the probability of an accident or malfunction, it is recommended that the description of the hazard; type of failure and consequences of failure are included in order to provide a more meaningful, risk-based approach to the assessment of the accidents and malfunctions associated with each component. Additionally, proposed contingency plans for each identified hazard should be included.

CLOSURE (SEC. 2.6.4)

Line 151 would be clearer if the word "ecologically" was added to 'productive landscape'.

3.1 ENVIRONMENTAL ASSESSMENT

The scope of the environmental assessment, as presented in the ToR, is quite extensive and covers all aspects of the Project and its extension. Given that the proposed project draws heavily on the present environmental management of Ekati, the Agency is wondering whether the number of impacts to be assessed could possibly be narrowed down to those that are expected to influence decision-making. A thorough scoping exercise should ultimately reduce the number of impacts in order to provide a more manageable focus to the assessment. Perhaps results from BHP's current management and monitoring programs could provide direction as to which items may be of potential concern, in addition to the stakeholder consultation.

Many of the provisions described in *Section 3.1: EA Methodology* discuss content of the impact assessment as opposed to the methodology. It may be useful to clarify this section and *Section 3.2: Impacts* in order to avoid duplication and confusion (in particular 3.1.5, 3.1.6).

ALTERNATIVES (SEC.3.1.1):

At a conceptual level, the environmental benefits of an "all-underground" approach to diamond mining are significant compared to the proposed open pit operation. The ToR should explicitly set forth a requirement to properly assess an "all-underground" approach to mining the three pipes or BHP should be required to demonstrate in a technically robust way that underground-only options are either uneconomic or technically unfeasible. The importance of determining the environmental viability of underground mining is extremely important not just for this project, but for the cumulative effects of future expansions on this property and beyond.

Furthermore, BHP should discuss the economic risk and uncertainty associated with exploiting the resources in question. They should give the rationale for why they have chosen the proposed project as the next step for Ekati from the various options, including pipes such as Leslie and Fox. The options should be evaluated in the context of the market supply and demand, as well as, projected trends facing the diamond industry.

SPATIAL BOUNDARIES (SEC. 3.1.3):

Lines 223-224 are a bit confusing. Spatial boundaries should be established for the likely maximum zone of influence of the project for each of the VEC's that are to be assessed.

IMPACT PREDICTION (3.1.5):

Line 235 states that "the methodology shall describe predicted environmental impacts after mitigation" (*emphasis added*). It is important that predictions about impacts "before" mitigation are

also described in order to understand the full implications of the Project and properly assess the effectiveness of the mitigation measures proposed.

IMPACT DESCRIPTION (3.1.6):

In *line 245-246*, "a risk assessment of the reliability of planned mitigation measures and consequences (environmental impacts) of potential failure" is requested. This wording is a bit confusing since consequences are inherently part of risk assessment. It also implies that for impacts where no mitigation is planned, no risk assessment has to be done. This provision could be strengthened by stating that a risk-based approach to the impact assessment should be used. Specifically, for each predicted impact, the assessment should identify [a] the hazard posed, [b] the type of potential failure, [c] the probability of failure occurring, and [d] the consequences of failure, and [e] preventative and the emergency measures, should failure occur.

3.2 ENVIRONMENTAL IMPACTS

Generally, throughout the ToR, where lists of topics are presented, it might be worthwhile to state that these lists are illustrative rather than exhaustive.

AIR QUALITY AND CLIMATE (SEC. 3.2.1)

If air quality is indeed a large concern identified in the scoping exercise for the project, other greenhouse gases, including NO_x should be included in *line 287*.

TERRAIN (SEC.3.2.2):

This section appears to have a number of duplications in the list of components to be examined. For example, part (III), (IV), (V), (IX), (X), (XVI) all describe changes in permafrost, thermal regime and ground stability as a result of activities related to mining operations and construction.

WATER QUALITY AND QUANTITY (SEC. 3.2.4):

Part (I)- "in particular nitrogen" should be added.

Part (IV)- Nutrient loadings (in particular, phosphorus) should be added to the list of parameters to measured, as well as, waterbodies downstream where significant changes may occur (i.e. greater than background variation).

Line 374- "nutrient passage" should be changed to "nutrient loading".

Line 375- "spoil" should be clarified or changed to "waste rock runoff and pit water."

GENERAL WATER (SEC.3.2.4.3):

Part (IV) requires an assessment of kimberlite toxicity on aquatic wildlife. This is important since it is proposed to deposit barren kimberlite in the waste rock dumps at the new pipes and, hence, in new watersheds. Past studies of kimberlite toxicity (Environment Canada's and BHP's) indicate there is some toxicity associated with effluent from these rocks, although the exact causes are not yet precisely identified. There is on-going research in Long Lake aimed at finding the answers to this. It would be valuable for the MVEIRB to request that the proponent summarize the findings of all work done to date on this subject and provide a status report of what needs to be done (or is being done) to resolve the toxicity issue.

AQUATIC ORGANISMS AND HABITAT (SEC. 3.2.5):

Part (III) should read "all lakes likely to have a significant change to the fisheries resources of, but not limited to, Two Rock, Beartooth, Ulu, Sable, Upper Panda, Fay Bay¹, Exeter, Bearclaw, Pigeon Pond, Horseshoe and streams associated with these lakes."

Lines 409-414 asks the proponent to give an overview of how the principle of No Net Loss will be achieved for the proposed project. After reviewing the *Project Description*, one must wonder if BHP's interpretation of restoring fish habitat meets DFO's requirements under the Policy. The proposed plan for Sable and Beartooth indicates that fish habitat will be restored when the pits have been refilled and fish populations reestablished. This will involve long periods of time, during which there will be no fish production. The Agency has seen nothing to suggest that DFO accepts this view point as a reasonable interpretation of the *No Net Loss Policy*. The Agency recommends that DFO clarify its position before the lake compensation component of the proponent's EIS is finalised.

WILDLIFE AND WILDLIFE HABITAT (SEC.3.2.6):

Part (I) refers to loss of habitat "that was not covered in the 1995 EIS". The incremental loss should be identified, but so also should be the accumulated total loss from baseline conditions. This is particularly relevant for cumulative effects assessment.

Some evaluation of the quality of the lost habitat for the relevant species should be provided, as well as, its significance in relation to the VECs. (For example, if 100 ha of high quality summer foraging caribou habitat are destroyed by the development, what is the significance of this loss to caribou using this area? Are there alternative sources of food readily available? If not, what are the implications?)

Again, there seem to be duplication with respect to habitat "disruptions" and displacement in the list for this section.

3.4 IMPACTS OF THE ENVIRONMENT ON THE PROPOSED DEVELOPMENT

The Cumulative Impact, Abandonment and Restoration and Follow-Up Programs Sections may be more effectively dealt with as stand alone items, instead of sub-headings of this section.

CUMULATIVE IMPACT (SEC. 3.4.1):

It may be useful to provide more explicit criteria, as to which projects to include in the CEA. Although the proposed Diavik project is mentioned in the introduction, it should be explicitly included in the CEA, along with the activities associated with the Tibbitt-Contwoyto winter road.

FOLLOW-UP PROGRAMS (SEC. 3.4.3):

Follow-up programs should focus on addressing any new concerns and environmental management questions that may result from the development. Any follow up programs identified should be very clear about what information they are intended to collect and how that information will be used (and by whom) to manage the Ekati Mine.

BHP should rely as heavily as possible on the actual results from monitoring programs and studies to assess impacts, the effectiveness of mitigation and should suggest monitoring for outstanding issues when suitable.

¹ Fay Bay is a semi-enclosed basin, with only a narrow connection to Exeter Lake. In assessing the potential impacts of the Pigeon pit (especially those related to sediment, nutrient loading and primary production), it should be treated separately from Exeter Lake as a whole.

November 30, 1999

DEVELOPER IDENTIFICATION (SEC. 4.2)

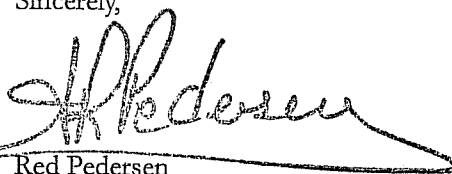
The identities and qualifications of any consultants employed to prepare the EA report should be provided.

REGULATORY REGIME (SEC. 4.6)

If the MVEIRB is intending to ask people other than the proponent to provide additional information needed to assess the proposed project, it might consider making these information requests public at the same time as issuing the ToR.

Finally, we are looking forward to providing BHP "a brief and succinct compliance record" as directed by *line 616* of the ToR. If you have any questions or concerns about these comments, please do not hesitate to call our Manager, Alexandra Thomson, at 669-9141 or email her at monitor@yk.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Red Pedersen". The signature is written in a cursive style with a long, sweeping underline that extends to the left and then curves back under the name.

Red Pedersen
Chairperson

CC: The Agency's Society Members: Yellowknife Dene First Nation, Lutsel K'e Dene First Nation, Dogrib Treaty 11, North Slave Metis Alliance, Kitikmeot Inuit Association, DIAND, GNWT and BHP.