



July 24th, 2003

The Honourable Robert D. Nault, P.C., M.P.
Minister, Indian and Northern Affairs Canada
MINISTER'S OFFICE
10 Wellington St. North Tower
Hull, P.Q. K1A 0H4

Dear Minister Nault:

**Re: De Beers Canada Mining Inc. Report of
Environmental Assessment and Reasons for Decision**

It is my pleasure to convey the Mackenzie Valley Environmental Impact Review Board's Report of Environmental Assessment and Reasons for Decision on the proposed De Beers Canada Mining Inc. Snap Lake Diamond Project for your attention. The Mackenzie Valley Environmental Impact Review Board (Review Board) has recommended that this development proceed to the regulatory phase of approvals, subject to a number of recommended measures to mitigate the residual environmental impacts of the proposed project. The Review Board's decision was taken in accordance with paragraph 128(1)(b)(ii) of the *Mackenzie Valley Resource Management Act*.

The preparation of this Report of Environmental Assessment would not have been possible without the commitment and effort of each Board member, Board staff and its consultants. I also wish to acknowledge the contributions of DeBeers Canada Mining Inc., the intervenors and all participants to the environmental assessment process. Recognition is also due to Regional Indian and Northern Affairs Canada staff whose active participation was essential in producing a thorough and timely assessment. The Review Board appreciates the collective efforts of all those involved in producing this report.

We look forward to your response to this Report of Environmental Assessment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gordon Why', written over a circular stamp or seal.A second handwritten signature in black ink, written to the right of the first signature.

Gordon Why
Chair of the DeBeers
Snap Lake Diamond Project
Environmental Assessment

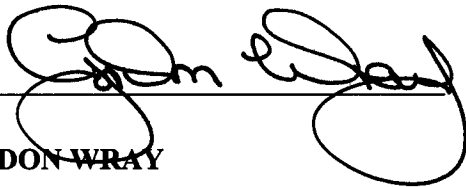
Attachment

Review Board Environmental Assessment Decision

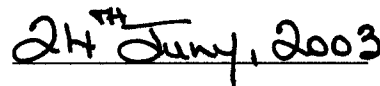
To make its decision in this Environmental Assessment (EA), the Mackenzie Valley Environmental Impact Review Board has relied upon all the information on the Public Record. Having considered this evidence, the Review Board has made its decision in accordance with Section 128 of the *Mackenzie Valley Resource Management Act* (MVRMA).

It is the Board's opinion that without additional mitigation, the proposed development, considered as a whole, would be likely to cause a significant adverse impact on the environment. In order to prevent this significant adverse impact, the Board has recommended a number of measures in this report.

The Board has concluded, pursuant to subparagraph 128(1)(b)(ii) of the MVRMA that with the implementation of the measures recommended in this Report of EA and the commitments made by De Beers during the course of the EA (see Appendix D), the proposed development will not likely have a significant adverse environmental impact and should proceed to the regulatory phase of approvals.



GORDON WRAY
Chair of the DeBeers
Snap Lake Diamond Project
Environmental Assessment



DATE



Summary: Report of Environmental Assessment

Introduction

De Beers Canada Mining Inc. (De Beers) submitted applications for a Class A Land Use Permit and a Class A Water License for the proposed Snap Lake Diamond Project (SLDP) to the Mackenzie Valley Land and Water Board, for the development of a 3,000 tonne per day underground diamond mine with an operating life of 22 years. The proposed SLDP is approximately 220 kilometres northeast of Yellowknife, NWT and is situated on Snap Lake at the headwaters of the Lockhart River drainage system (Figure A). The mine footprint will house up to 350 people and will have infrastructure including a camp complex, mining related buildings such as a process plant, a paste plant, an explosives factory, various storage buildings, a water treatment plant, waste disposal systems, power plant and airstrip. Outside of the mine footprint are winter roads for access to the site and an esker south of the mine site that will be used for quarrying purposes.

The North Pile will be the most noticeable mine site feature and is the surface containment feature for processed kimberlite and potentially acid generating waste rock. A landfill, landfarms to treat any hydrocarbon contaminated soils, and three granite quarries will be located within the North Pile footprint. An engineered ditch will surround the North Pile and other laydown areas to collect water that drains from these features. This water will be directed to settling ponds and then to the water treatment plant before being released to Snap Lake. Approximately half of the processed kimberlite that is produced each year will be mixed with cement and then pumped back into the mine for permanent storage as backfill material. The remainder of the processed kimberlite will be pumped to the North Pile for permanent storage.

Almost all the water that comes into contact with the SLDP during construction and operation will be treated before being released into Snap Lake. Water for the SLDP will be taken from Snap Lake for diamond processing and for domestic use at the camp.

For shipping of major supplies, such as fuel, to the site, the SLDP will use the Tibbitt-Contwoyto winter road, plus a winter access road between the proposed mine site and the Tibbitt-Contwoyto winter road.

EA Process

The proposed SLDP was referred to the Mackenzie Valley Environmental Impact Review Board (Review Board) on May 23, 2001. The approach that was taken for this EA has been to resolve technical issues throughout the process and to develop an understanding of positions between the Parties of the EA and the De Beers. It is the Review Board's view that this approach has facilitated a thorough understanding of the SLDP. The EA process for the SLDP has included 2 major stages: 1) an issues focusing stage; and, 2) an issues evaluation stage.



Report of EA and Reasons for Decision on the De Beers Snap Lake Diamond Project

The issues focusing stage included:

- Completion of a Terms of Reference;
- Submission of the developer's (De Beers) Environmental Assessment Report;
- Completion of the Conformity Analysis;
- Completion of four rounds of Information Requests (IRs) for a total of 433 IRs; and,
- Ten days of Technical Sessions.

The issues evaluation stage included:

- Completion of Technical Reports by the Parties of the EA;
- Completion of a Pre-hearing Conference;
- Completion of a five-day Public Hearing; and,
- Completion of the Review Board's Report of EA and Reasons for Decision (this document).

The next stage in the EA process is the review of the Review Board's Report of Environmental Assessment and Reasons for Decision by the Minister of the Department of Indian Affairs and Northern Development as required by the *Mackenzie Valley Resource Management Act* (MVRMA). Following the review, the Minister will issue a decision with respect to this report that will either authorize the project to proceed or to undergo additional assessment.

All of the information generated during the EA process has been filed on the Review Board public registry. A total of 16 parties consisting of federal and territorial departments, aboriginal organizations and communities, and non-governmental organizations were registered as Parties to the EA for the assessment of the Snap Lake Diamond Project.

The Review Board makes recommendations only where there is a likelihood or potential for significant adverse impacts. Under section 130(5) of the MVRMA, "*a first nation, local government, regulatory authority or department or agency of the federal or territorial government affected by a decision made under this section shall act in conformity with the decision to the extent of its authority*". Suggestions are offered where potential significant adverse impacts are not predicted, but in the opinion of the Board additional measures should be considered by regulatory authorities to ensure effective long term management of issues over the life of the mine.

Environmental and Socio-economic Impacts Analysis

This report considers the impacts of the SLDP and is organized to include:

- Summary of the developer's (De Beers) submission;
- Summary of responses from the Parties to the EA;
- An analysis of key issues;
- Conclusions; and,
- Recommendations or suggestions.



Report of EA and Reasons for Decision on the De Beers Snap Lake Diamond Project

The Review Board narrowed its consideration of the issues for purposes of this Report of EA to those matters which, in the Board's opinion, required additional discussion, analysis and, in some cases, action by responsible Ministers. The Review Board considered all information on the public record in its deliberations.

The environmental and socio-economic impacts analysis considered:

- Geotechnical issues associated with the North Pile;
- Impacts on groundwater quantity and quality;
- Impacts on hydrology (surface water quantity);
- Impacts on surface water quality;
- Aquatic organisms and habitat (including fish);
- Impacts on geology and terrain, including permafrost from mine site and off-site development; such as the esker for quarrying purposes;
- Impacts on vegetation and biodiversity;
- Impacts on wildlife and wildlife habitat;
- Impacts on air quality and contribution to greenhouse gases from mine emissions;
- Impacts from mine site noise;
- Economic impacts;
- Socio-cultural impacts;
- Impacts on resource use, including the Tibbitt-Contwoyto winter road;
- Environmental health;
- Biophysical and socio-economic cumulative impacts;
- Effects of the environment (e.g. unusual weather events, earthquakes, climate change) on the mine development;
- Accidents and malfunctions at the proposed mine site and on the Tibbitt-Contwoyto winter road;
- Project alternatives and opportunities for mine development;
- Abandonment and reclamation, including progressive reclamation; and,
- Follow up monitoring programs including adaptive management.

One of the larger issues raised during the Public Hearing for the SLDP was the lack of sufficient environmental and socio-economic baseline information. These information deficiencies were most noted for Surface Water Quality, Aquatic Resources, Wildlife, Economics and Socio-cultural topic areas. In some instances, De Beers did not gather sufficient environmental baseline information to provide the Review Board with assurances that the uncertainties around EA predictions were reasonable. In these instances, the Review Board has developed specific recommendations, as provided in this report, to address these deficiencies.



Report of EA and Reasons for Decision on the De Beers Snap Lake Diamond Project

Review Board's Conclusions

The Review Board developed conclusions regarding the significance of impacts related to all of the areas considered in the impacts analysis. For environmental and socio-economic areas where the Board considered that there are likely or potential significant adverse impacts, recommendations were developed to mitigate such impacts. The following lists those areas for which recommendations were developed:

- Mine groundwater discharge quality;
- Aquatic effects monitoring program;
- Total Dissolved Solids in Snap Lake;
- Conflicts between carnivores and mine site development;
- Completion of a Socio-Economic Agreement;
- Caribou population and movements;
- Carnivore mortality, population, behaviour and movements; and,
- Regional cumulative effects program for the Slave Geological Province.

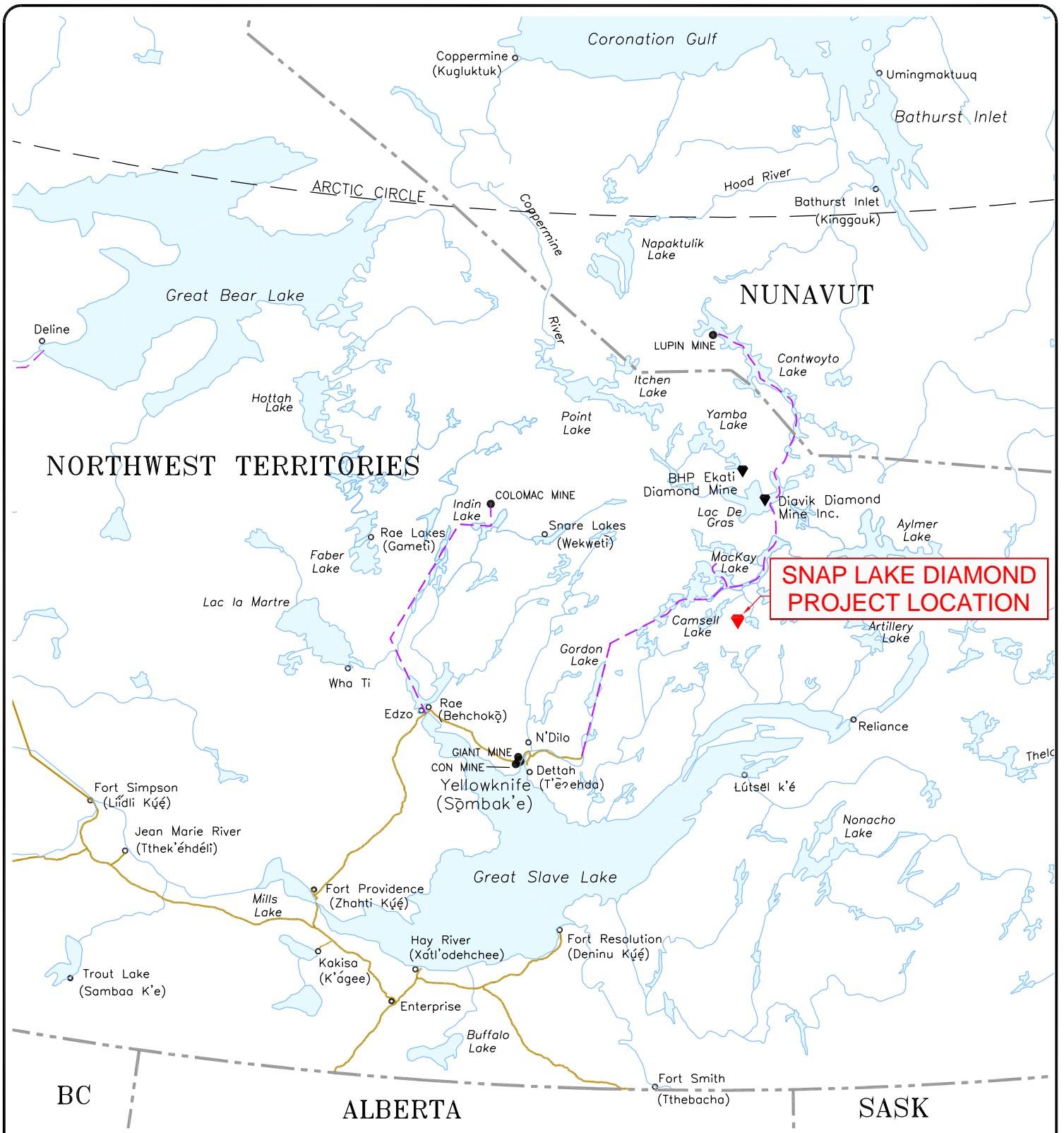
The complete recommendations for each of the areas summarized above are provided in Section 2 of this report and are compiled in Appendix C.

The Review Board made a number of suggestions related to aspects of the impacts analysis other than those listed above. These suggestions are provided in Section 2 of this report and are also compiled in Appendix C.

Review Board Environmental Assessment Decision

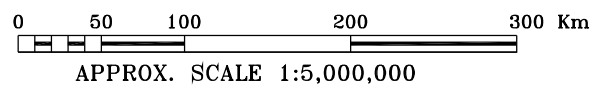
The Review Board relied upon all of the information filed on the public record for the preparation of the Report of Environmental Assessment and Reasons for Decision. The Review concludes that, with the implementation of the measures recommended in this Report of EA and implementation of commitments and mitigation measures proposed by De Beers, the proposed development will not likely have a significant adverse environmental impact and should proceed to the regulatory phase of approvals.





SNAP LAKE DIAMOND PROJECT LOCATION

- LEGEND:**
- ALL-WEATHER HIGHWAYS
 - WINTER ROADS
 - COMMUNITY
 - DIAMOND MINE/EXPLORATION
 - GOLD MINE



SOURCE OF FIGURE:
 FIGURE ADAPTED FROM GOLDER ASSOCIATES FIGURE 1.2-1 TITLED "LOCATION OF SNAP LAKE DIAMOND PROJECT - NORTHWEST TERRITORIES" PROJ. NO. 012-6492 DATED 19/11-01, FOR DE BEERS.

ORIGINAL SOURCE: SELECTED MINERAL DEPOSITS OF THE NORTHWEST TERRITORIES, DEPARTMENT OF ENERGY MINES AND RESOURCES, MINERAL INITIATIVES 1991 TO 1996 REVISED OCTOBER, 1996.



Mackenzie Valley
 Environmental Impact Review Board

REPORT OF ENVIRONMENTAL ASSESSMENT AND REASONS FOR DECISION ON THE DE BEERS SNAP LAKE DIAMOND PROJECT

LOCATION MAP

FILE NAME:
23065-D1-04.DWG

FIGURE NO. **A**