



Mackenzie Valley Environmental Impact Review Board

Our File EA01-004

October 29, 2002

Robin Johnstone
Senior Environmental Manager
De Beers Canada Mining Inc.
702 - 5201 50th Avenue
Yellowknife, NT S1A 3S9

Re: De Beers Snap Lake Diamond Mine EA - Review Board Information Request (IR) No. 4

Dear Mr. Johnstone:

Earlier in the De Beers EA process, the Review Board's consultants prepared questions on the topic of wildlife and wildlife habitat. Inadvertently, these questions did not get included in the IRs that were later issued to De Beers.

During preparations for the technical sessions, it was decided that the Review Board would send these questions to De Beers as IR No. 4 and provide the company the choice of either answering the IR in writing prior to the technical sessions or waiting to answer it during the technical sessions. It was felt that this approach would be preferable to having De Beers just becoming aware of the questions at the technical sessions and trying to answer them without any preparation.

If you have any questions, please contact Louie Azzolini at (867) 766-7053 or lazzolini@mveirb.nt.ca.

Sincerely,

A handwritten signature in cursive script that reads "Joe Acorn".

Joe Acorn
Environmental Assessment Officer

**De Beers Canada Mining Inc. (De Beers)
Snap Lake Diamond Project**

Review Board Information Request No. 4

- 4.1 Reference: EAR, Section 10.4.1.1, page 10-116
- ToR Line: 414-417
- To: De Beers Canada Mining Inc.
- Preamble: It is stated that qualitative information on wildlife species was collected prior to 1999. The presence and distribution of wildlife was based on observation by exploration staff. However, the collection of information was not standardized, making comparison and interpretation difficult.
- Request: How is this information going to be used and to what capacity is it expected to contribute to baseline data?
- 4.2 Reference: EAR, Section 10.4.1.2, page 10-116
- ToR Line: 414-417
- To: De Beers Canada Mining Inc.
- Preamble: The LSA and RSA were selected to capture the maximum zone of influence.
- Request: Please explain how the zone of influence was delineated.
- 4.3 Reference: EAR, Section 10.4.1.2, page 10-116 to 10-117
- ToR Line: 414, 415
- To: De Beers Canada Mining Inc.
- Preamble: The LSA and RSA were selected to assess direct and indirect effects of the mine on individual animals and wildlife habitat. The LSA included the project footprint and a 500-meter buffer zone. To assess the validity of individual study designs, a brief explanation of criteria associated with LSA and RSA is required.

- Request: Please provide the following information:
- a) Explain the biological relevance of the criteria used in the delineation of the LSA. Specifically discuss the biological relevance for choosing a buffer zone of 500 meters?
 - b) Wolf denning habitat was included as a criterion for the RSA; however bear, wolverine, and raptor habitats were not. Please explain the reason for this.
- 4.4 Reference: EAR, Section 10.4.1.2, page 10-117
- ToR Line: 414-417, 428-429
- To: De Beers Canada Mining Inc.
- Preamble: In 2000, in order to provide additional coverage during caribou surveys, the number of transects was doubled within a 11 km radius of the mine.
- Request: Please provide the following information:
- a) What are the implications of increasing search effort over only part of the survey area?
 - b) If search effort differs between the two areas, is it appropriate to pool or compare the two?
 - c) How will this affect overall survey results?
- 4.5 Reference: EAR, Section 10.4.1.3.2, page 10-119
- ToR Line: 414-417, 428-429
- To: De Beers Canada Mining Inc.
- Preamble: During caribou surveys within the RSA, the distance between transects was 8 km. The maximum transect width was approximately 2-3 km. It has been suggested that the maximum distance that observers are able to locate wildlife from a helicopter using the naked eye is about ½ km. A skilled observer may be able to extend this to 1 km.
- Request: Please provide the following information:
- a) During aerial surveys of the RSA, what distance were observers expected to be able to accurately locate, identify, and enumerate caribou?

- b) Was this distance verified in any way prior to the start of the surveys?
Please explain.

4.6 Reference: EAR, Section 10.4.1.3.2, page 10-122

ToR Line: 414-417, 428-429

To: De Beers Canada Mining Inc.

Preamble: Long-term data on the home range, migration routes and calving grounds of the Bathurst caribou herd are available from RWED. There is mention that this information was used during the 1999 and 2000 survey period. However it is unclear whether this information was used during the interpretation of overall survey results.

Request: Was RWED's historical data on long-term caribou movement used to supplement DeBeer's survey data? If so, how was this integrated into the survey data?

4.7 Reference: EAR, Section 10.4.1.3.3, page 10-122

ToR Line: 414-417, 428-429

To: De Beers Canada Mining Inc.

Preamble: Esker surveys were conducted to collect information on carnivores. Little detail is provided with regards to choice of study design and the skill level required of observers.

Request: Please provide the following information:

- a) What training was provided to observers in order that they would be able to effectively differentiate between canid and bear dens during aerial surveys?
- b) Given the available information on the selection and use of denning habitat by the barren-ground grizzly, why were surveys not conducted off eskers in addition to on eskers?
- c) Was the current literature consulted in this regard? If not, how was the information integrated into the design of the survey design? If not, please explain why.

- 4.8 Reference: EAR, Section 10.4.1.3.3, page 10-122
- ToR Line: 414-417, 425
- To: De Beers Canada Mining Inc.
- Preamble: During esker surveys, helicopters landed to verify potentially active bear den sites. Clarity regarding definition of terms and field procedures related to this methodology is required.
- Request: Please provide the following information:
- a) What level of training was provided to observers in order that they were able to effectively identify a bear den during aerial surveys?
 - b) What criteria were used to denote whether a den was “grizzly bear” den, or to denote whether a den was “active”?
 - c) When did a “den” warrant landing the helicopter to verify its status? Was a formalized set of criteria used?
 - d) Were all potential dens ground checked or only those that were known or suspected to be bear dens or fulfilled certain criteria?
- 4.9 Reference: EAR, Section 10.4.1.3.4, page 10-123
 EAR, Section 10.4.1.4.3, page 10-142
- ToR Line: 414-417, 430
- To: De Beers Canada Mining Inc.
- Preamble: There is a general lack of detail in the methods section, 10.4.1.3.4 and the results section, 10.4.1.4.3. A better understanding of the wolverine track survey is required to appropriately review the document.
- Request: Please provide the following information:
- a) Did De Beers use supplementary information (RWED, Ekati) on wolverines to help design the survey?
 - b) In order to effectively find, discern, and read snow tracks, field workers need to understand wolverine behaviour, be familiar with the terrain and be able to identify snow tracks. To what degree or how were field workers familiar or trained in these areas?
 - c) Ability to locate existing tracks is imperative in snow tracking surveys. What speed did the snowmobiles travel during the surveys? What was the visibility criterion for surveys?
 - d) Were tracks distinguished between individuals? According to sex or

age? If so, how?

- e) What was the biological relevance for the distance and path chosen for the survey route?
- f) Why was there a difference of approximately two weeks between surveys?
- g) At least one survey was conducted 17 days after the last snowfall. To what degree were surveyors confident that they were able to still discern snow tracks after this time?
- h) Four individual wolverines were observed opportunistically during other ground and aerial surveys. Specifically, what kind of surveys were being conducted at the time these wolverines were observed? When and where did these surveys/observations occur?

4.10 Reference: EAR, Section 10.4.1.3.6, page 10-126

ToR Line: 414-417, 425, 435

To: De Beers Canada Mining Inc.

Preamble: During both years of the raptor study, surveys were conducted in May and July. In 2000, an intensive aerial survey of all suitable raptor nesting habitat within a radius of 11 km from the mine site was also conducted.

Request: Please provide the following information:

- a) What were the exact dates of the raptor surveys?
- b) What was the biological significance of choosing the 11 km radius for the intensive survey?
- c) The EAR states that "if nest searches could not be located quickly...". Please explain what denotes "quickly"?
- d) How much time was allotted for search effort?
- e) Was time/search effort standardized for all searches?

4.11 Reference: EAR, Section 10.4.1.3.6, page 10-126
EAR, Section 10.4.1.4.5, page 10-145

ToR Line: 4414-417, 425, 435

To: De Beers Canada Mining Inc.

Preamble: Raptor surveys were conducted during aerial surveys of eskers for carnivore dens. Consequently, surveys were not standardized or based on raptor biology. As well, there seems to be a difference of terms used between the methods and results sections. A better understanding of terms

and study design will assist in effectively reviewing the document.

Request: Please provide the following information:

- a) What is the justification for not performing a systematic search of raptor sites?
- b) How will biases be accounted for or interpreted?
- c) How confident is De Beers that impact prediction for raptors are accurate?
- d) Please distinguish between an active nest site and occupancy and provide the criteria for both.
- e) Why was there no survey for fledglings performed in 1999?

4.12 Reference: EAR, Section 10.4.1.3.7, page 10-128

ToR Line: 414-417, 425, 435

To: De Beers Canada Mining Inc.

Preamble: During waterfowl surveys, lakes were divided into lakes that were located within 10 km of the mine site, and lakes that were located at a distance greater than 11km. Surveys of the 10 closest lakes were then repeated. More detail pertaining to design parameters are required in order to assess the effectiveness of the approach and validity of the results.

Request: Please provide the following information:

- a) What was the basis for performing a second survey on only the closest 10 lakes?
- b) Were survey results pooled over both surveys for the 10 closest lakes?
- c) Were these results comparable to those lakes surveyed only once?
- d) Were observations made on the ground or by helicopter?

4.13 Reference: EAR, Section 10.4.1.4.1, page 10-129

ToR Line: 414-417, 428-429

To: De Beers Canada Mining Inc.

Preamble: Caribou surveys were conducted in 1999 and 2000. During the second year, the design of the caribou surveys changed. Due to the small number of surveys, the data that were collected were sparse. Making predictions based on only two field seasons is difficult.

- Request: Please provide the following information:
- a) How confident is De Beers that predictions are reasonable and/or appropriate?
 - b) In terms of assessing impacts, how will the uncertainty be dealt with?
- 4.14 Reference: EAR, Section 10.4.1.4.1, page 10-134
- ToR Line: 414-417, 428-429
- To: De Beers Canada Mining Inc.
- Preamble: The distribution and density of trails through the RSA were used to present a historical view of caribou movements throughout the area. Based on this presentation of historic trail use, De Beers concluded that most caribou move north and west of Snap Lake during the southern migration.
- Request: Were other sources of long-term data such as RWED surveys used to supplement trail density data?
- 4.15 Reference: EAR, Section 10.4.1.4.1, page 10-139
- ToR Line: 414-417, 428-429
- To: De Beers Canada Mining Inc.
- Preamble: The number of caribou observed during the Northern and Southern migration in 1999 and 2000 are presented in Table 10.4-1. The table lacks detail with regards to specific survey parameters.
- Request: Please provide the following information:
- a) The number of surveys that were conducted for each season in order to arrive at the final number of caribou.
 - b) What was the average amount of time required to complete an individual caribou survey?
- 4.16 Reference: EAR, Section 10.4.1.4. 2, page 10-139
- ToR Line: 414-417
- To: De Beers Canada Mining Inc.
- Preamble: Grizzly bear sign was observed within the RSA, however it is unclear

whether these were incidental observations or as part of a systematic survey. Also there is mention of black bears being observed on several occasions within the RSA. If black bears were observed on a regular and frequent basis, a reassessment of their status as a VEC may be warranted.

Request: Please provide the following information:

- a) Was a systematic survey conducted in order to gather information about the presence of grizzly bear signs within the RSA?
- b) If so, what were the parameters of the study design?
- c) How many times were black bears observed within the RSA? Within what timeframe?

4.17 Reference: EAR, Section 10.4.1.4 2, page 10-140

ToR Line: 414-417, 425, 435

To: De Beers Canada Mining Inc.

Preamble: In 2000, wolf dens were discovered during spring carnivore surveys. However, in July 2000 no previously discovered dens were found to be occupied. There could be a variety of reasons for this; however it was assumed that the wolves left the study area.

Request: Please provide the following information:

- a) Was the timing of the second survey too late to capture occupancy?
- b) If not, what is the reasoning behind this assumption?
- c) What criteria was this assumption based on?

4.18 Reference: EAR, Section 10.4.2.2 2, page 10-153

ToR Line: 414-417

To: De Beers Canada Mining Inc.

Preamble: A list of mitigation measures is provided for minimizing the effects of the project on wildlife habitat. In order to understand the potential effectiveness of the proposed mitigation options, more detail is required.

Request: Please provide the following information:

- a) As per the 10th mitigation measure listed on page 10-153, will water be applied on the airstrip and roads for 6 months of the year for the

entire life of the mine?

- b) In reference to the 12th mitigation measures listed on page 10-153, specifically, what other dust control measures will be implemented?
- c) Were potential impacts of proposed and alternative dust suppressants on the environment considered? If so, what are the potential impacts?

4.19 Reference: EAR, Section 10.4.2.2.3, page 10-154

ToR Line: 414-417, 425, 435

To: De Beers Canada Mining Inc.

Preamble: In the discussion on the home ranges of raptors within the area, studies of raptors in Alaska and Scotland were referenced and discussed. While these studies may share some similarities, they cover vastly different geographical areas, and likely have very different study objectives and design. For comparison sake and a more effective understanding of results, it would be helpful to know whether studies or monitoring programs that were conducted under the similar developmental and geographical conditions were also researched. This information could help reduce the uncertainty associated with the home ranges of raptors with the study area.

Request: Were other studies that were more relevant to the study area and design of the DeBeer's project available? If so, how were they referenced or researched, and how were they integrated into the study design?