August 29, 2002

Luciano Azzolini
Environmental Assessment Officer
Mackenzie Valley Environmental
Impact Review Board
P.O. BOX 938
YELLOWKNIFE NT X1A 2N7

Dear Mr. Azzolini:

Re: SNAP LAKE DIAMOND PROJECT ENVIRONMENTAL ASSESSMENT

Please find attached the Third Round (b) Supplemental Information Requests from
Indian and Northern Affairs Canada for the Snap Lake Diamond Project.

If you have any questions or concerns regarding these Information Requests, please
do not hesitate to contact me at 669-2587 or Tamara Hamilton at
669-2616.

Sincerely,

Fraser Fairman
Environmental Scientist
Environment and Conservation Division

Attachment

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

Information Request - Round Three
August 30, 2002

Dept. Indian and Northern Affairs and Northern Development Information Request
Information Request No.

Baseline Environmental Quality Conditions

Source: Don MacDonald, MESL;
                 On behalf of Indian and Northern Affairs Canada

TOR Line:

To: DeBeers Canada Mining, Inc.

Preamble: To support the determination of baseline environmental quality conditions,
                 DeBeers Mining Canada Inc. (DMCI) compiled information on the water
                 quality of Snap Lake, associated inflow streams, outflow streams, small lakes,
                 and a reference lake. These data are important for evaluating the effects of
                 mining activities on receiving water systems within the Lockhart River
                 drainage basin.

Request: a)   Describe how the baseline water quality data will be compared with
                 the results that are obtained during mining. More specifically,
                 describe how the limited data from various sites within a lake will be
                 compiled and used to determine if water quality conditions have
                 changed over time in response to mining activities. In this description,
                 it is important to discuss the statistical power for determining
                 differences that are provided by the existing baseline data (i.e., are the
                 existing data sufficient to distinguish a 20% difference in cadmium
                 concentrations in Snap Lake with a 95% level of confidence).
            b)   Also, how will less than detection limit results be treated in the
                 analyses of temporal variability in water quality characteristics and
                 what is their influence on the statistical power of the existing data?

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

Information Request - Round Three
August 30, 2002

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Information Request No.

Baseline Environmental Quality Conditions

Source: Don MacDonald, MESL;
On behalf of Indian and Northern Affairs Canada

TOR Line:

To: DeBeers Canada Mining, Inc.

Preamble: To support the determination of baseline environmental quality conditions, DeBeers Mining Canada Inc. (DMCI) compiled information on the biological characteristics of Snap Lake and a reference lake. These data are important for evaluating the effects of mining activities on receiving water systems within the Lockhart River drainage basin.

Request: Several questions emerged regarding the application of the baseline data on the biological characteristics of Snap Lake and the reference lake for determining if changes have occurred in response to mining activities. More specifically:

a) Was there significant spatial (i.e., within lake; between open water and nearshore sites) variability in the abundance and structure of phytoplankton, zooplankton, benthos, and fish communities? If there was significant within lake spatial variability in the biological characteristics of these lakes, how will the baseline data be used to evaluate the effects of mining on aquatic organisms within the Lockhart River drainage basin (i.e., how will the data from multiple sites be used to assess impacts)?

b) Were there significant differences between lakes in the abundance and structure of phytoplankton, zooplankton, benthos, and fish communities? How will differences between Snap Lake and the reference lake be addressed in the subsequent evaluations of environmental effects? How will the suitability of the reference lake for use in the long-term AEMP be assessed?

c) What is the statistical power of the existing data in terms of being able

to detect changes in the phytoplankton, zooplankton, benthos, and fish communities (i.e., are the existing data sufficient to distinguish a 20% difference in phytoplankton abundance in Snap Lake with a 95% level of confidence)?

d)   With only one year of data for most variables, how will inter-annual differences in biomass, relative abundance, and other variables be assessed?

e)   With the limited data set, how will seasonal differences in benthic invertebrate community structure be assessed and factored into the evaluations of the effects of mining activities?

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

Information Request - Round Three
August 30, 2002

Dept. Indian and Northern Affairs and Northern Development Information Request
Information Request No.

Derivation of Site-Specific Water Quality Benchmarks

Source:	Don MacDonald, MESL;
	On behalf of Indian and Northern Affairs Canada

TOR Line:

To: DeBeers Canada Mining, Inc.

Preamble: Appendix IX.8 of DCMI (2002) describes the procedures that were used to derive site-specific water quality benchmarks for chemicals of potential concern (COPCs) at the Snap Lake mine site. These procedures generally followed the methods that have been recommended by the Canadian Council of Ministers of the Environment. However, more information is needed to fully understand the procedures that were used and the associated results.

Request: The following questions and information needs emerged from the review of Appendix IX.8:

a)   The CCME has applied the aquatic community risk model approach to the derivation of Canadian WQGs for only one substance (i.e., ammonia). The associated procedures have not yet been described in the protocol for deriving water quality guidelines for the protection of aquatic organisms. Given that this approach has not yet been formally adopted by the CCME, please describe why the aquatic community risk model approach was considered to be relevant for defining site-specific water quality benchmarks. Also, please indicate why the procedures that are described in the CCME protocol document were not utilized.

b)   The CCME methods indicate that site-specific water quality objectives should be derived using one of four procedures, one of which is the recalculation procedure that was described in Appendix IX.8. Using this procedure, the toxicological data set is refined to make it more appropriate to the site under investigation. Then, the site-specific water quality objectives are calculated using the same methods that

were used to derive the Canadian WQGs. Please indicate why the procedures that are described in the CCME protocol document were not utilized for any of the metals investigated.

c) The aquatic community risk model approach was used by the CCME to derive the Canadian WQGs for ammonia. Using this approach, the guideline was derived by calculating the lower 95% confidence limit of the 5th percentile concentration of the aquatic community risk model. However, the site-specific benchmarks that were derived in DCMI (2002) were derived by determining the 5th percentile concentration of the aquatic community risk model. Please describe the rationale for deriving site-specific water quality benchmarks using procedures that differ from those that have been applied by the CCME.