



Mackenzie Valley
Environmental Impact
Review Board

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September 25, 2002

MVEIRB file: EA01-004

Robin Johnstone
Senior Environmental Manager
De Beers Canada Mining Inc.
702 - 5201 50th Avenue
Yellowknife, NT S1A 3S9
Tel: (867) 766-7322

RE: INFORMATION REQUESTS (IR) ROUND 3(b) ISSUED UNDER THE REVIEW BOARD'S AUTHORITY

Dear Mr. Johnstone,

Please find attached a compilation of Round 3(b) Information Requests issued under the Review Board's authority.

Any request for ruling must be filed with the Executive Director. The Executive Director shall ensure that the Request is provided to all parties no later than five days before the Review Board considers the Request to allow parties to respond. A party wishing to respond to a written Request shall provide a written response and supporting documents no later than two (2) days before the Request is scheduled to be heard by the Review Board. The Executive Director shall ensure that all parties are provided with the party's response. Parties may provide a written response no later than close of business one (1) day before the Request is scheduled to be considered.

Please provide the Review Board with responses to the IRs and it will put them on the public registry and distribute the responses accordingly.

Sincerely,

A handwritten signature in black ink, appearing to be 'LA' or similar, written over a horizontal line.

Luciano Azzolini
Environmental Assessment Officer

copy: distribution

4 Supplementary Information Request Round 3(b)

4.1 Department of Fisheries and Oceans Information Requests

4.1.1 Source: Department of Fisheries and Oceans

Reference: EAR Section 3.4

ToR Line: 380, 383-385, 391, 393

To: De Beers Canada Mining Inc.

Preamble: Section 3.4 describes the proposed use of ferrosilicon in the processing of kimberlite.

Request: What is the ultimate fate and contribution to overall water quality in PKC and Snap Lake of iron, silicon, and aluminum in the residual ferrosilicon used during processing?

4.1.2 Source: Department Fisheries and Oceans

Reference: EAR Section 3.4

ToR Line: 337-341, 380, 393

To: De Beers Canada Mining Inc.

Preamble: Section 3.4 refers to the use of flocculent in the processing of kimberlite. Flocculent is known to contain polymers toxic to aquatic life.

Request: How will the entry of residual flocculates entering the PKC be managed to prevent entry into the Snap Lake?

4.1.3 Source: Department of Fisheries and Oceans

Reference: EAR Section 3.5.1

ToR Line: 319-320, 392, 543-545

To: De Beers Canada Mining Inc.

Preamble: Section 3.5.1 states that PAG rock will be mined during the pre-development stage.

Request: Please respond to the following:

- a) What is the possibility of designing the waste rock pile such that this rock type is preferentially used as underground backfill as well as ensuring that this rock type is available for quarrying for backfill later in operations?
- b) Have the potential influences of sulphide-bearing rock been considered in the formulation of the backfill concrete? Can the PAG rock even be used in the concrete backfill?

4.1.4 Source: Department Fisheries and Oceans

Reference: EAR Section 9.3.2.3.2

ToR Line: 369, 377-378

To: De Beers Canada Mining Inc.

Preamble: Section 9.3.2.3.2 refers to the airstrip and roadways crossing low-lying areas that provide pathways for snowmelt and rainfall

Request: Given that disturbance of ground ice and erosion can occur with impoundment of water and that culverts will only be installed in these areas "if required" how will dispersed, surface flow be managed to ensure that the integrity of the ground surface is maintained and that erosion is prevented?

4.1.5 Source: Department of Fisheries and Oceans IR 2.1.5

Reference: EAR Section 9.2.2.4.3 Change in Groundwater Flow
9.3.2.2 Impacts on water levels in receiving streams?

ToR Line: 356-357, 386, 395-397

To: De Beers Canada Mining Inc.

Preamble: Response 2.1.5 included Figure 2.1.5-2, which provided a water balance of groundwater flow, during pre-development, during the last year of mining and during post closure.

Although it is stated that there will be 800 m³/day less groundwater flow from Snap Lake during the mining phase there are apparent miscalculations in the water budget as presented in Figure 2.1.5-2 for the mining phase... Total outflow (9700 m³/day = 7000 m³ + 800 m³ + 200 m³ – 600 m³ + ?).

Request: Please review the Figure to account for the apparent discrepancy.

- a) What are the proportions of water from different sources (lake, groundwater in contact with backfill, groundwater not in contact with backfill) that will constitute stream flow leaving the North Lake during post closure? DFO requires this information to assess impacts to the stream and lake from mine works.
- b) Since the post-closure groundwater inflow into North Lake will have elevated pH that is acutely toxic and high levels of nitrates, describe possible impacts on aquatic organisms in the lake and the outlet stream during the open water and ice covered seasons of the year.

4.1.6 Source: Department of Fisheries and Oceans

Reference: EAR Section 9.3.2.2 Impacts on surface flows

ToR Line: 363-367, 369, 391, 395-397,

To: De Beers Canada Mining Inc.

Preamble: The surface of the waste rock pile cover will be contoured to direct surface runoff to supply sufficient flow to maintain water levels to adjacent small lakes and wetlands at the approximate pre-mining water elevations. (Page 9-140)

Request: What materials will be used to direct these flows? What measures will be taken to reduce erosion, minimize silt deposition and restrict toxic substances from entering these waterbodies?

4.1.7 Source: Department of Fisheries and Oceans

Reference: EAR Section 9.4.2.1.1 General Water Quality Assessment Methods (Page 9-206.)

ToR Line: 395-397, 398-399, 403, 406-408

To: De Beers Canada Mining Inc.

Preamble: A number of studies have indicated that an affect to 20% of an aquatic ecosystem is a threshold, below which the integrity of the aquatic system will be preserved (Suter et al. 1995). Pianka (1978) is also cited, resulting in a statement that a reduction to 20% of the aquatic community is said to not impair the overall function of the ecological system.

Since most of these studies have examined ecosystems with a greater diversity of species than the aquatic ecosystems near Snap Lake, these assumptions may not hold.

Request: Please respond to the following:

a) Please cite studies undertaken in sub- arctic environments that validate the use of this threshold.

4.1.8 Source: Department Fisheries and Oceans

Reference: EAR Section 9.4.2.2.4 Impact Analysis Results, Phosphorus and Chlorophyll a

ToR Line: 398-399, 406-408

To: De Beers Canada Mining Inc.

Preamble: Chlorophyll a could increase by up to 40% and total phosphorus concentration could decrease by up to 60% from baseline conditions.

Request: Since natural sources of phosphorus will essentially be the same and there are inputs from the mine please explain how phosphorus levels will decrease. Most of the mine inputs will occur under ice cover when phytoplankton growth is greatly reduced resulting in reduced chlorophyll a levels. Please describe how chlorophyll a and phosphorus concentrations will change in relation to each other and the seasons.

4.1.9 Source: Department of Fisheries and Oceans

Reference: EAR Section 9.4, page 9-239

ToR Line: 344, 395-397, 400-401

To: De Beers Canada Mining Inc.

Preamble: In the North and Northeast Lake during ice covered conditions, the denser groundwater inflow may not mix effectively with the overlying water column and collect as a thin bottom layer up to 10 to 20 cm thick in up to 10% of the surface area of each lake. The primary concern would be the impact on benthic invertebrates.

Since little mixing will occur under ice conditions, there is also the likelihood of oxygen deficient conditions also developing in this area.

The predicted lake water quality and porewater quality for parameters listed on pages 9-239 and 9-240 and in table 9.4-25 are stated to have a

negligible impact. However, in section 9.5 (page 9-367) the elevated pH and nitrates have the potential to cause acutely lethal effects to fish in these conditions.

Request: Please respond to the following.

- a) Please explain the apparent discrepancy since the porewater is acutely toxic in section 9.5, but has a negligible impact in section 9.4.
- b) Since this porewater essentially remains on the bottom and sources near the outlet stream, organisms in the stream could also be affected and destroyed. Please comment on the portion of this water that will enter the stream under ice.

4.1.10 Source: Department of Fisheries and Oceans

Reference: EAR Section 9.5.2.2.3 Impact Analysis

ToR Line: 381, 406-408

To: De Beers Canada Mining Inc.

Preamble: The impacts of various parameters are assessed on an individual basis and are based on modelled projections from minewater obtained during the advanced exploration stage.

Request: Please respond to the following.

- a) What tests have or will De Beers undertake to more accurately reflect the effluent and the porewater and the toxic effects of this water.
- b) What model or tests accounts for the synergistic effects of all the parameters of concern?

4.1.11 Source: Department Fisheries and Oceans

Reference: EAR Section 9.5 Table 9.5-23 and Table 9.5-24

ToR Line: 395-397,400-401

To: De Beers Canada Mining Inc.

Preamble: These 2 tables have the same title but are different.

Request: Please review and provide the correct citations and /or tables.

4.1.12 Source: Department of Fisheries and Oceans

Reference: EAR Section 9.5.2.5.3 Impact Analysis page 9-378

ToR Line: 222, 394-408

To: De Beers Canada Mining Inc.

Preamble: In reference to porewater, DeBeers stated that "There is considerable uncertainty in this prediction because it is unknown whether critical habitat areas will be affected by changes in porewater quality.... Direct mortality is also a possibility for early life stages of fish directly in contact with the affected porewater areas."

Request: What studies are being undertaken to identify these critical habitat areas and the extent of the area where early life stages of fish will be destroyed?

4.1.13 Source: Fisheries and Oceans Canada

Reference: IR Request No. 2, IR# 2.1.1

ToR Line: 2.6.5

To: De Beers Canada Mining Inc.

Preamble: The water intake structure is said to cover 42 m² (.0042 ha) of lake bottom and affect 787 m² of deepwater habitat on page 9-328. However, the water intake structure is also said to affect 810 m² on page 3-25.

Request: Please review and report the correct area of fish habitat that will be impacted.

4.2 Lutsel K'e Dene First Nation
No Supplemental Information Requests Submitted

4.3 Environment Canada

4.3.1 Source: Dave Fox, Environment Canada

Phone: 867-669-4752
Fax: 867-873-8185
email: dave.fox@ec.gc.ca

Objective: To obtain CALPUFF model input and output files.

Time Limits: The information is required as soon as possible to allow for review before the De Beers Technical Sessions.

Reference: Section 2.6.1 Air Quality and Climate
ToR lines 281-288

Preamble: In IR 2.3.6 Environment Canada requested that the Proponent provide all of the input and out put files from the Proponent's CALPUFF air quality and deposition modelling. In response to that request the Proponent has provided all of the necessary information except the meteorological inputs.

Request: EC requests that De Beers provide the missing meteorological input files.

CLIMATE

4.3.2 Source: Bob Kochtubajda, Environment Canada

Phone: 780-951-8811
Fax: 780-951-8634
email: bob.kochtubajda@ec.gc.ca

Subject: Climate impacts on Tibbitt to Contwoyto Lake winter road.

Objective: To assess the accuracy of Tibbitt to Contwoyto Lake winter road operational season predictions.

Time Limits: The information is required as soon as possible to allow for review before the De Beers Technical Sessions.

Preamble: This information was requested verbally during discussions about climate impacts on the Tibbitt - Contwoyto Winter Road at the June 2002 De Beers Snap Lake Technical Sessions. More specifically the information was requested from Golder associates following a presentation on

traditional and non-traditional land uses. The information has not been received.

Request: Environment Canada requests that De Beers provide more information on winter road closures due to accidents, spills and weather (i.e. blizzards, blowing snow).

- a) On average how often has the road been closed during each season?
- b) Did the closures impact road operations for a significant period of time.
- c) Have such closures been factored into the road usage plan?

4.3.3 Source: Bob Kochtubajda, Environment Canada

Phone: 780-951-8811
Fax: 780-951-8634
email: bob.kochtubajda@ec.gc.ca

Subject: Climate impacts on Tibbitt to Contwoyto Lake winter road.

Objective: To assess the accuracy of Tibbitt to Contwoyto Lake winter road operational season predictions.

Preamble: Review of the EBA 2001 report entitled "Tibbitt to Contwoyto Winter Road - Project Description report" raised concerns about the method used to estimate the window of operation for the winter road. In the report the estimate is based on long term trend analysis of the winter Freezing Index (Yellowknife data). In general the use of a long period of record to ascertain a trend in climate is preferable. In this case, however, a projection based on long-term trend analysis will not provide a conservative estimate of the operational window for the winter road. A more conservative approach would be to use a short term trend analysis of climate data from the last 20 years. This approach would result in an estimate of the operational window for the winter road under more current climatic conditions.

Request: Environment Canada requests that the Proponent provide an estimate of the window of operation for the winter road based on data that best reflect the current climate. Can the proponent meet its transportation needs given the recalculated winter road operational window?

4.4 Indian and Northern Affairs Canada

4.5 Government of the Northwest Territories

The Review Board held back GNWT Round 3(b) IRs because they were submitted late.

4.6 Natural Resources Canada

No Supplemental Information Requests Submitted

4.7 World Wildlife Fund Canada

No Supplemental Information Requests Submitted

4.8 Mackenzie Valley Environmental Impact Review Board

Cumulative Effects

4.8.1 Source: Mackenzie Valley Environmental Impact Review Board

Reference: EAR Section 12

ToR Line: 184-186; 553-554; 530-532

To: De Beers Canada Mining Inc.

Preamble: The terms of reference require the identification of assumptions, models, information sources used, in the EAR as per ToR line items 553 to 554.

Section 12.1.4 of the EAR summarizes the cumulative effects approach employed for evaluating cumulative effects, as does 12.1.6. There is a brief description of why the Globio approach (UNEP; <http://www.grida.no/prog/polar/globia>) was not found suitable for forecasting future infrastructure development. No other models are offered for consideration. Overall, there is no reference to models used to develop the cumulative effects assessment approach.

DeBeers states that the goal of Section 12 is "to assess the potential cumulative effects from the Snap Lake Diamond Project on the cultural, physical, biological and economic components identified as receiving residual impacts from the project in the previous sections." (p. 12-1). The approach to cumulative effects assessment described in the EAR appears to be as follows:

- 1) Identify issues from a variety of means (EA Terms of Reference, traditional knowledge, community consultation, discussions with territorial and federal regulators, scientific literature, professional experience) and develop key questions based on these issues for consideration in the CEA (Section 12.1.4.1).
- 2) Identify *linkage between residual impacts on components due to Snap Lake Diamond Project and one or more of the other projects* (Section 12.1.4.2) based on key questions. The other projects were those for which environmental assessments had been completed. The exception is the Tibbett-Contwoyto winter road for which there has been no environmental assessment. Linkage does not appear to consider nibbling, synergistic, and additive/ subtractive-type cumulative effects. In some cases, it appears that only distance is used as a determination of linkage.

- 3) Where a linkage is found, analysis of cumulative impacts is completed on the residual impacts from each project. The analysis is quantified where possible.
- 4) Describe cumulative impacts using criteria such as magnitude, duration, and geographic extent.
- 5) Estimate the overall environmental consequence by combining magnitude, geographic extent, duration, and reversibility.

Request: Please provide the following:

- a) Please confirm if the cumulative effects process described above is the process followed by DeBeers. If not, please summarize the process followed in a step-by-step fashion.
- b) Provide information about how (describe, in general), how linkage determinations were made (i.e., define linkage in the context of cumulative effects assessment).
- c) Please provide the information used to justify the use of the same criteria (Table 12.1-4) for each component discipline (e.g., wildlife, socio-economic) examined. [It is noted that magnitude criteria are varied from one component to another.]

4.8.2 Source: Mackenzie Valley Environmental Impact Review Board

Reference: EAR, Sections 12.2.6.1.1, 12.2.5.1.1

ToR Line: 526

To: GNWT, authorities responsible for federal/territorial financial relations, and De Beers Canada Mining Inc.

Preamble: In 12.2.6.1.1, "Discussion of Impacts", the EAR states that "The cumulative effects, both in terms of pressures and increased fiscal resources, open up opportunities for investing in social capacity building within the territory. " It proposes that such investment would have a number of positive results:
"Training/education and social services might improve, particularly in the smaller communities. As a result, literacy rates may improve, the level of education attained may be raised, and individuals and families may enjoy better health care and social support services. In the longer run, such improvements may contribute to the diversification of the local economy (as people are more employable) and less financial strain on the social support services (e.g., reduced substance abuse issues leading to healthier and more intact families). These improvements, taken together, are

essential in creating overall social cohesiveness and sustainability of communities. “

It suggests a two to three decade window for the achievement of such results:

“it is foreseeable that over the next 20 to 30 years, mining exploration and development will continue. This will maintain a certain amount of activity and may result in new opportunities for employment within the mining industry for people who may have been previously employed by a mine that has closed.”

However, in 12.2.5.1.1, it presents, a rather dark picture of what may happen when the diamond mines begin to close at the end of this period:

“In the event that all of the mine projects in the region were to close at approximately the same time, and in the absence of any other large scale resource development activity coming on stream, the closure of the mines may result in a severe economic downturn in both the smaller communities and the larger centres of the NWT. The primary communities are particularly prone to develop a high degree of dependency on this one industry sector, in terms of providing employment opportunities, financing social services and training programs, and providing subsidiary contract/business opportunities. By the time of the closure of the mine projects, one or two whole generations of the community members will have experienced integration into the wage economy, both as it relates directly to the mine projects and to the various economic activities that may emerge in support of the mining industry (such as, trucking/transportation activities or catering businesses). As the major drivers of the wage economy in the primary communities cease operation, and if efforts to diversify the local economic base are not successful, the impacts on the local economy and the people relying on it for their subsistence will be considerable. Within a relatively short time period, as the mining industry phases out of operation, communities may then experience major social disruption, in the form of sharply increasing unemployment levels, reliance on welfare support, and a lack of financial resources to support social services, training and education programs, or programs for promoting traditional practices and activities. This kind of “boom-bust” cycle would particularly affect the people and sustainability of the smaller communities in the NWT”.

DeBeers concludes “If investment into social capacity building of communities is not made, then a negative social scenario may result.”

The EAR suggests three factors that would promote beneficial results for the communities:

- GNWT's identified priorities and plans for education, health care, or social service provision, and the ability of the GNWT to implement such plans;
- the amount of financial revenues ear-marked by governments for reinvestment into the region; and,
- the nature of partnerships struck between industry, the GNWT and Canada, and communities.

Request: It is requested that the agencies that have an interest in the future well-being of the communities address these measures. Specifically:

- a) the GNWT is requested to put forward priorities and plans it may have for the long-term development of educational, health and social service capacity in the communities;
- b) appropriate federal and territorial agencies are requested to indicate what discussion may have taken place, or will take place, on the matter of reinvesting resource revenues in the NWT, or the provision of other funds, toward the long-term growth and stabilization of the region and its communities.

4.8.3 Source: Mackenzie Valley Environmental Impact Review Board

Reference: EAR Sections 5 and 12

ToR Line: 184-185; 526-559

To: De Beers Canada Mining Inc.

Preamble: The proponent indicates that the method used to undertake the effects analysis follows the classic EA approach of issue identification, profiling (e.g., baseline data collection), impact prediction and analysis, mitigation, and evaluation.

During issue identification, the primary communities, NGOs, and the private and public sector were probed for their perceived socio-economic issues from the Snap Lake Diamond Project (pages 5-95 to 5-104). Collectively, they identified:

- improve quality of life through job creation;
- long-term creation of jobs;
- training and education;
- protection of land and resources;
- brain-drain from communities;
- life skills including money management, family financing, family separation, addiction counseling;
- community based business opportunities;

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- rotational shift work;
- family support services;
- protection of culture and tradition;
- loss of access to traditional resources;
- protection of traditional use areas;
- contamination of land, water and wildlife;
- social problems: substance abuse, drug addiction, suicide; etc.
- female access to employment;
- development of trades people and employment;
- encourage relocation to the north;
- need for more housing in Yellowknife;
- need for up-graded facilities and improved education system in Yellowknife; and
- maximize opportunities for northerners and northern businesses.

The EAR also includes a summary of the predicted social and economic (p. 5-124) impacts¹. These are:

- increased employment levels,
- provision of training programs,
- expansion of the wage economy in the communities; and
- behavioural and lifestyle changes, by individuals, families, and communities as a whole.

This is followed by a summary of the direct, indirect, and induced impacts that may result from the predicted impacts (Table 5.3-7) as well as the assumption that all the mitigation measures will be fully implemented, and therefore, all induced impacts will be positive. This, however, is dependent on the implementation of mitigation measures by other parties. There is no discussion as to which measures are the responsibility of the proponent and which are the responsibility of others.

Table 5.3-8 is a summary of key issues and concerns and suggested mitigation measures. Residual effects are summarized on page 5-159. It was reported that while residual effects are expected for reasons of complexity and uncertainty associated with the project, it was not possible to apply the residual effects criteria as requested in the ToR.

The socio-economic cumulative effects section (12.2) was organized around the five categories of impacts identified in the SEIA chapter. These are:

- employment opportunities and income levels;
- increased demand for skilled labour;

¹ No information was provided on what means were used to reach these predictions or how they relate to the issues identified by communities, NGOs, and government.

- regional economic development;
- changes in social capacity; and
- changes in Aboriginal cultural practices and traditions.

DeBeers states that the goal of Section 12 is “to assess the potential cumulative effects from the Snap Lake Diamond Project on the cultural, physical, biological and economic components identified as receiving residual impacts from the project in the previous sections.” (p. 12-1). The approach to cumulative effects assessment described in the EAR appears to be as follows:

- 1) Identify issues from a variety of means (EA Terms of Reference, traditional knowledge, community consultation, discussions with territorial and federal regulators, scientific literature, professional experience) and develop key questions based on these issues for consideration in the CEA (Section 12.1.4.1).
- 2) Identify linkage between residual impacts on components due to Snap Lake Diamond Project and one or more of the other projects (Section 12.1.4.2) based on key questions. The other projects were those for which environmental assessments had been completed. The exception is the Tibbett-Contwoyto winter road for which there has been no environmental assessment.
- 3) Where a linkage is found, analysis of cumulative impacts is completed on the residual impacts from each project. The analysis is quantified where possible.
- 4) Describe cumulative impacts using criteria such as magnitude, duration, and geographic extent.
- 5) Estimate the overall environmental consequence by combining magnitude, geographic extent, duration, and reversibility.

Request: Please provide the following information:

- a) Please show the relationship between the issues identified on pages 5-95 to 5-104 and the five categories identified in CEA section 12.2.
- b) The cumulative effects assessment process described in chapter 12 makes use of residual effects resulting from direct impacts. Due to “uncertainties”, many of the residual effects for socio-economic impacts could not be adequately described (12-20). Please:
 - i. Summarize the process followed for cumulative effects assessment for socio-economic impacts and how it relates to issues identified by the communities.

- ii. Provide the methodologies, models, and information sources used for completing this analysis. Please be explicit about the derivation of the five categories listed in section 12.2. Please be explicit about the "multiple scenarios" mentioned on page 12-23 and their role in the cumulative effects analysis of socio-economic impacts.
- c) Please provide information about the origins/ derivation of the predicted impacts listed on page 5-124. Please provide information about the relationship of the predicted impacts (p. 5-124) and the five (5) categories used for the cumulative effects analysis.

4.8.4 Source: Mackenzie Valley Environmental Impact Review Board

Reference: EAR Section 12

ToR Line: 530-531

To: De Beers Canada Mining Inc.

Preamble: The cumulative impact assessment ToR required that DeBeers do some forecasting of infrastructure development on site. The EAR does explain why the Globio process was not appropriate. The EA Report (p. 12-4) indicates that for the purposes of cumulative effects, only the present project would be considered. Section 3 of the EA report considers possible expansion.

Request: Provide the information used in De Beers' rationale not to include forecasting future infrastructure development in the CEA when the EAR does consider possible expansion.

4.8.5 Source: Mackenzie Valley Environmental Impact Review Board

Reference: EAR, Section 12, Table 12.1-2

ToR Line: 527 to 529; 534 to 537

To: DeBeers Canada Mining Inc.

Preamble: Table 12.1-2 identifies "Projects Considered as Potential Linkages in the Cumulative Effects Assessment". The table includes:

- De Beers Snap Lake Diamond Project;
- EKATI Diamond Mine (including expansion);
- Diavik Diamond Mine;
- Tahera Jericho Diamond Mine;

- Lupin Gold Mine; and
- Tibbit-Contwoyto Winter Road.

The EA report (pg. 12-5) states existing tourism camps in the region, and projects in the permitting/review phase have been included in the assessment of potential cumulative effects. The existing tourism camps however, have not been explicitly identified in Section 12, except as a listed impacted environmental component (pg. 12-5). It is also unclear whether the proponent considered, as required, their advanced exploration program in their analysis.

In addition, there does not appear to be an indication in the EAR that any research was done to confirm what other projects were within the regulatory process at the time that the terms of reference were issued.

Table 12.1-2 indicates that the Tibbit-Contwoyto winter road has a total footprint of 2.6 km². This is likely to be an error.

Request: Please:

- a) Provide information that was used to explain how the advanced exploration activities were featured in the cumulative effects assessment (CEA).
- b) Provide information that helps those reading the EA understand how the tourism camps were featured in the CEA.
- c) Please provide information supporting the other developments other than the listed mines and the winter road were considered in the CEA.
- d) Please confirm the footprint of the Tibbit-Contwoyto winter road.

4.8.6 Source: Mackenzie Valley Environmental Impact Review Board

Reference: EAR, Section 12.2.1 (pg. 12-20, 12-22)

ToR Line: 537-539

To: DeBeers Canada Mining Inc.

Preamble: Section 12.2.1 (pg. 12-20) indicates that the following 'other developments' in the NWT were considered, but not included in the cumulative effects assessment for the socio-economic component:

- Other activities such as the oil and gas exploration in the NWT;
- Ongoing land claims and resource use negotiations; and

- Hunting and research camps, and tourism activities.

Section 12.2.1 (pg.12-22) indicates that these 'other developments' were not considered because the timing and impact of these developments are "not predictable".

Section 12.2.1 identifies, but does not describe in any detail these 'other developments'. Their status is not made clear. Therefore, it is unclear how it can be concluded that these 'other developments' are in fact "not predictable".

Request: Please:

- a) Describe provide the information on the "other developments" that De Beers used in the environmental assessment.
- b) Provide the information De Beers prepared and upon which it was decided the "other developments" were "not predictable", and therefore not included in the cumulative effects assessment.

4.8.7 Source: Mackenzie Valley Environmental Impact Review Board

Reference: EAR, Section 12.2.7 (p. 12-34 to 12-36),

ToR Line: 549

To: DeBeers Canada Mining Inc.

Preamble: The cumulative effects assessment on cultural practices and traditions of aboriginal people (Section 12.2.7, p. 12-34 to 12-36) and traditions, is limited to the identification of the likely sources of effects (i.e. those things that will likely cause an effect). The assessment does not discuss, in any detail, the mitigation approaches adopted by DeBeers

Request: Please provide the information De Beers used for deciding what mitigation approaches adopted by DeBeers to deal with cumulative impacts outlined in Section 12.2.7.

4.8.8 Source: Mackenzie Valley Environmental Impact Review Board

Reference: EAR Section 12 (p. 12-9)

ToR Line: 555 to 557

To: DeBeers Canada Mining Inc.

Preamble: There is no explicit identification of what forms of traditional knowledge were used or how traditional knowledge was used in the cumulative effects assessment. Page 12-9 states that "Traditional knowledge is incorporated wherever it is available."

Request: Please:

- a) Identify provide the traditional knowledge information used for each major topic covered in Section 12. It can be provided under confidential cover.
- b) Provide information that De Beers has that helps the reader understand how De Beers used traditional knowledge was used in the cumulative effects analysis.

4.8.9 Source: Mackenzie Valley Environmental Impact Review Board

Reference: EAR, Section 3

ToR Line: 543 to 544

To: DeBeers Canada Mining Inc.

Preamble: The Terms of Reference states that "DeBeers should provide confirmation that all existing facilities, infrastructure etc. DeBeers plans to use can adequately handle the demands generated by the proposed development." Section 3 discusses the infrastructure requirements of the proposed mine. However, no explicit statement is found as to proposed facilities meeting the future needs of the mine.

Request: Please provide confirmation that all existing facilities, infrastructure etc. DeBeers plans to use can adequately handle the demands generated by the proposed development

4.8.10 Source: Mackenzie Valley Environmental Impact Review Board

Reference: EAR, Section 12.3.2, 12.3.2.2.5, Table 12.3-1

ToR Line: 550

To: DeBeers Canada Mining Inc.

Preamble: Section 12.3.2 addresses cumulative effects in relation to heritage resources. The EA report examines effects such as the loss of heritage resources and the increase in heritage information.

Section 12.3.2.2.5 states that sixty-four archaeological sites were destroyed and that the magnitude of these losses was determined to be low. These sites are not described and therefore it is assumed that the value of the resource is unknown. It is unclear how a determination of magnitude can be made if the value of the resource is unknown. The definition of magnitude presented in Table 12.3-1 includes archaeological value.

Request: Please provide information that clarifies the rationale for the determination of low magnitude with respect to the destruction of the sixty-four archaeological sites.

Socio-economic

4.8.11 Source: Mackenzie Valley Environmental Impact Review Board

Reference: EAR Section 5

ToR Line: 25-26

To: De Beers Canada Mining Inc.

Preamble: The EA ToR required consultation with *residents, First Nations and Metis, in Yellowknife* as part of the public consultation component of the EAR. Pages 5-93 and 5-94 summarize the issues identified by the Yellowknives Dene and North Slave Metis Alliance. There is no direct reference to the issues of the non-aboriginal population of Yellowknife. The concerns of the Yellowknife residents are rolled-up under public, private and NGO sectors. It is unclear where concerns of the non-aboriginal population in communities is captured.

Request: Please provide information De Beers has about the issues of the non-aboriginal populations on a community-by-community basis.

4.9 Yellowknives Dene First Nation

Wildlife

4.9.1 Source: Tim Byers Impact Review Coordinator for the YDFN

Reference: Figure 10.4-12

To: De Beers Canada Mining Inc.

Preamble: Figure 10.4-12 of the EA show historic caribou trails. This map is informative in showing the areas through which caribou have historically migrated. However, the map would have been even more useful had the orientation of the tracks at each location been shown. This would give a helpful indication as to the direction of travel (eg, around lakes).

Request: Does the raw data show track orientation, and if so, could De Beers draw up a new map showing this track feature (i.e. presenting the locations as short colored lines oriented in the track path, rather than colored dots)?

Terrestrial Resources

4.1.1 Source: Tim Byers Impact Review Coordinator for the YDFN

Reference: p. 10-87

To: De Beers Canada Mining Inc.

Preamble: "...reclamation monitoring program throughout the operation and decommissioning phases of the project [will] incorporate new mitigation that may provide more landform options."

Request: Could De Beers explain what the "landform options" represent?

4.10 Dogrib Treaty 11 Council

No Supplemental Information Requests Submitted

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4.11 North Slave Metis Alliance

4.11.1 Source: North Slave Metis Alliance

Reference: The GNWT's IR question 3.3.14

To: **The Government of the Northwest Territories (GNWT)**

Preamble: In IR 2.5.4, the GNWT cites De Beers' statement that government partnerships are required to ensure many of the social, cultural, and economic mitigation measures envisioned by De Beers and aboriginal communities. A complete response, however, requires some equivalent information from the GNWT.

Request: The NSMA requests the GNWT provide further details on the following:

- a) Describe what specific contributions, in material terms (dollars, workers, resources, etc.) De Beers proposes to bring to the partnerships and collaborative efforts that will be necessary to enact mitigating measures outlined in sections 5.3.4.3.1 through 5.3.4.3.7.

4.11.2 Source: North Slave Metis Alliance De Beers' Response to IR 2.1.3

ToR Line: 404

To: De Beers Canada Mining Inc.

Preamble: In its EA, De Beers states that a ban on employee fishing will control angling pressures on Snap Lake. In response to IR 2.1.3, De Beers states that no non-employee angling will occur in Snap Lake due to limiting factors concerning access. For these reasons, De Beers states that the level of sustainable angling need not be ascertained for Snap Lake. During the Diavik EA, a VP of Diavik stated during a technical hearing that an employee ban on fishing would be implemented but that it would be "unenforceable".

Request: Please provide the following:

- b) Is it possible that a ban on employee fishing is unenforceable? It is possible that some mine employees will disobey the fishing ban and angle in Snap Lake?

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4.11.3 Source: North Slave Metis Alliance De Beers's response to IR 2.2.6

Reference: EAR 3.9.1.3, 5.3.3, 5.3.4

ToR: 212-233

To: De Beers Canada Mining Inc.

Preamble: The Lutsel K'e Dene First Nation stated that some unique "challenges" impede aboriginal employment in the mining sector. The First Nation asked De Beers to answer four questions with "specific reference to Lutsel K'e." The First Nation also asked how De Beers will mitigate pressures on family caused by mine employment and specifically about child care.

Members of the NSMA have also identified the development of affordable and culturally appropriate child care as a critical measure for their entrance into the workforce.

De Beers did not provide information specific to the challenges faced by Lutsel K'e as requested. Instead, De Beers states that it amalgamated all First Nation communities for purposes of its EA and that no challenges unique to communities or unique mitigation responses have been analyzed. De Beers also responded that some community impact mitigation measures are "contingent upon the partnerships that De Beers will form with federal and territorial governments, local learning institutions, other mining companies, community agencies, and each individual community, including Lutsel K'e."

Because these partnerships have not been developed, De Beers responds that, "it is not feasible to provide a detailed description at this time of how De Beers will mitigate impacts of mining work upon Aboriginal families in each of the individual primary communities". As well, De Beers did not provide the specific information on childcare as requested by the Lutsel K'e First Nation.

The ToR requires De Beers to describe the existing environment. This includes the environment of each aboriginal community. It is clear that the primary aboriginal communities (Lutsel K'e, Rae/Edzo, What Ti, Gameti, Wekweti, Yellowknives Dene, and NSMA) differ significantly in terms of culture, geography, land use, existing programs and services, core government funding, experience with mining, and socio-cultural resilience. Based on these variables, it would appear that the "challenges" faced by each aboriginal community are unique and that the existing

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social, cultural, and economic environment in each aboriginal community is unique and susceptible to different levels of stress and resiliency.

Request: Please respond to the following question:

- a) Will De Beers assist communities with the provision of affordable and culturally appropriate day care so that members of the NSMA can enter the workforce (not just direct mine employment, but also other diverse employment opportunities induced by potential economic diversification in the communities promoted by the mining project).

4.11.4 Source: North Slave Metis Alliance De Beers' Response to IR 2.2.15 and IR 2.3.20

Reference: EAR 10.4.1.2

ToR Line: 234-249

To: De Beers Canada Mining Inc.

Preamble: The Lutsel K'e Dene First Nation requested the rationale for the selection of a 31 km radius for the RSA. De Beers responded that the selection of a 31 km radius was "arbitrary". De Beers also responds that the selection of the RSA was based on traditional knowledge. De Beers explains the biological merits for what was captured inside the 31 km radius. De Beers does not explain what was left out. Given that the RSA size was arbitrary, it is important to understand what assumptions were involved in the selection and specifically what was deliberately excluded outside of the 31 km radius.

In the same IR, the Lutsel K'e Dene First Nation requested the rationale for the selection of a circle shape for the RSA. De Beers cites Krebs (1989) as an authority on the choice of a circle shape. In IR 2.3.20, Paul Latour of Environment Canada asked De Beers to explain its survey methodology for the small, irregularly shaped plots for the wildlife census. Overall, despite the rationale argued for a circular RSA, De Beers also used squares, rectangles, and irregular shapes for other biological assessments.

Request: Please respond to the following questions.

- a) In the selection of a 31 km radius RSA, did De Beers scope and assess a larger area circle before selecting a 31 km radius? What lay outside of the 31 km radius did De Beers deem to be problematic to its assessment?

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- b) What is the ecological importance of insuring that the study area “remained within the Taiga-Shield ecozone”? How is this in any way important for “capturing any effects that may extend beyond the LSA”? Demonstrate the ecological reasoning behind the determination of the RSA.
- c) If circles are the ideal method for an RSA, why are rectangles, squares, and irregular shapes appropriate for other assessments?
- d) Traditional knowledge was used in the selection of the 31 km RSA. Was NSMA TK included? Does aboriginal TK lend to a circular RSA as indicated or would it lend to an irregular, square, or ecosystem based RSA shape?

4.11.5 Source: North Slave Metis Alliance De Beers Response to IR 2.5.5

Reference: EAR section 5

ToR Line: 40

To: De Beers Canada Mining Inc.

Preamble: Section 2.2.1.v of the ToR require De Beers to identify “differences in view of those consulted”. In response to IR 2.5.5, De Beers states that it did not action certain community requests as some were “conflicting requests”. De Beers provides one example.

Request: Please respond to the following:

- a) Are there more examples of where community requests conflicted? Will De Beers provide an analysis of the differences in view of those consulted as request in ToR 2.2.1?

4.11.6 Source: North Slave Metis Alliance De Beers’ Response to IR 2.5.5

Reference: EAR section 5

ToR Line: 23-44

To: De Beers Canada Mining Inc.

Preamble: In IR 2.5.5 De Beers responds that it will be taking a “balanced approach to meeting the needs and concerns of the communities”.

Request: Please define the term “balanced approach”? What are the alternatives to a “balanced approach” and why have these alternatives been rejected?

4.11.7 Source: North Slave Metis Alliance De Beers’ Response to IR 2.5.6

Reference: EAR sections 5, 12.

ToR: 212-233, 234-249

To: De Beers Canada Mining Inc.

Preamble: The GNWT requested that De Beers provide the rationale for its selection of the spatial boundaries for its assessment for each of the following components of the environment: culturally-significant components, wage economy, well-being, net-effects on government, and sustainable development. The NSMA supports the GNWT conclusion that the EAR “lacks the information needed to determine whether the chosen spatial boundaries are adequate”. The NSMA is unable to locate any information in the EAR about the delineation of these spatial boundaries in regards to our community. De Beers’ IR response provides no additional information to assist us.

Request: Please respond to the following questions:

- b) Please delineate the spatial boundary for the cultural well-being of the NSMA.
- c) Please delineate the spatial boundary for the traditional activities of the NSMA.
- d) Please delineate the spatial boundary for the traditional economy of the NSMA.
- e) Please delineate the spatial boundary for the land and resource use of the NSMA.

4.11.8 Source: North Slave Metis Alliance De Beers’ Response to IR 2.5.15, 2.5.17, 2.5.18

Reference: EAR section 10.4.1

ToR Line: 223

To: De Beers Canada Mining Inc.

Preamble: In IR#2.5.15, the GNWT states that De Beers has not provided sufficient baseline information on caribou and that the data analysis is inadequate. In question B (IR 2.5.15), the GNWT criticizes De Beers' seasonal caribou distribution data based on surveys conducted during only one part of the annual cycle. The GNWT suggests that the De Beers logbook provides evidence of close proximity caribou migration during the un-analyzed part of the season.

In IR#2.5.17, the GNWT requests information on the methodology for counting caribou tracks. In IR#2.5.18, the GNWT observes that data on caribou tracks along the winter roads was not provided. De Beers responds that a summary of the data for 1999-2001 will be made available in the summer of 2002.

On a visit to the Snap Lake site in 28 June 2002, individuals representing the NSMA observed caribou tracks on the margins of the water management pond. Further, a review of the logbook revealed that an employee observed "thousands of caribou" around the camp.

Request: Please answer the following:

- a) Is De Beers counting tracks in the wet surfaces around the project?
- b) Has De Beers verified their employees observation "that thousands of caribou" were observed near the mine? If the observation is accurate, how does De Beers reconcile this observation with their EAR predictions and management proposals regarding caribou?

4.11.9 Source: North Slave Metis Alliance De Beers's Response to IR 2.5.41

Reference: EAR section 11

ToR Line: 496-498

To: De Beers Canada Mining Inc.

Preamble: The EAR is to analyze the potential development impacts on the physical and mental health of employees. The GNWT has asked De Beers a series of questions about contagious disease and medivac. The NSMA notes that a disproportionate number of aboriginal persons are susceptible to diabetes. The management of diabetes at the mine site is of key importance to the employer, worker, and his family and community.

Request: Please respond to the following question:

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- a) Will De Beers require its catering contractor to understand the diabetes issues concerning aboriginal workers and require the production of foods that are appropriate for diabetics and those at risk?

4.11.10Source: North Slave Metis Alliance De Beers' Response to IR 2.2.7

Reference: EAR 3.9.15

To: De Beers Canada Mining Inc.

Preamble: De Beers was requested to explain how it will adjust its work schedule for aboriginal workers to attend important cultural and community events. De Beers response that the existing rotation schedule along with annual vacation time to attend such activities is not adequate. In its EAR, De Beers recognizes that it might "drain" some of the "brains" of aboriginal communities and leave communities with decreased human and community capacity. The loss of human capacity is not just limited to cultural events, but also impacts on community decision making and self-governance. The NSMA outlined these concerns in *Can't Live Without Work* pp.:177-178. Our document also contains a recommendation at page 246.

De Beer's answer that community members who want wage opportunities can use their holiday time to work towards their community's self-governance goals is unacceptable as this holiday time may be dedicated to family or community cultural events. Additional flexibility is needed for workers with human capacity valued by the NSMA who may be needed from time to time. A "hard choice" between one or the other is not a fair choice as the NSMA has limited human capital and its members require fair options that allow them to meet myriad responsibilities to family, community, and personal economic development. A community's need to retain periodic access to its peoples is one of the unique challenges of remote industrial work in the NWT.

Request: Please answer the following question:

- a) Where in the EAR did De Beers consider the NSMA information on the loss of human capital and community capacity?

4.11.11Source: North Slave Metis Alliance De Beers's Response to IR 2.5.58

Reference: EAR Section 5

ToR: 468-469, 473, 478

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To: De Beers Canada Mining Inc.

Preamble: In IR#2.5.58, the GNWT made a series of requests about economic diversification and sustainable development, with specific requests about import replacement, which is a key indicator of potential resilience to boom and bust cycles. The issue of sustainability is at the heart of EA practice in Canada and the NSMA is determined to find ways to avoid the replication of boom and bust scenarios in our region. The NSMA was dismayed that the MVEIRB struck the questions as beyond the scope of reference, when in fact, the EA is about sustainable economic development. The NSMA has prepared these alternative questions:

Request: Please answer the following questions:

- a) The De Beers EA assumes that import replacement will take place as part of economic diversification. What certainty will reviewers have that import replacement will in fact take place, based on the data collected by De Beers?

4.11.12 Source: North Slave Metis Alliance

Reference: Baseline fisheries data, EAR section 9.5.1.2.7

ToR Lines: 222

To: De Beers Canada Mining Inc.

Preamble: It is stated in the section on Stream Surveys (9.5.1.2.7) that: "In June and July 1999, kick-sampling for eggs and aerial surveys for fish presence were conducted." Aerial observations are useful to find congregations of fish but will not necessarily detect dispersed individual fish.

Request: Were aerial observations the only method used to determine fish presence in streams during 1999? If so, what level of confidence can be assigned to this survey methodology?

4.11.13 Source: North Slave Metis Alliance De Beer's Response to IR 1.1.66

Reference: Impact Assessment, EAR sections 9.5.1.4, 9.5.2.2.5

ToR Lines: 222, 402-404

To: De Beers Canada Mining Inc.

Preamble: In the section on Level of Certainty in the Impact Assessment (9.5.2.2.5), related to Key Question F-1 it is stated that: "The effects assessment is uncertain because of the lack of baseline data on the aquatic communities in the four lakes." The four lakes referred to include North, Northeast, NL5 and NL6. In the response to IR 1.1.66, it is stated that baseline data collections will be completed in 2002 for the North and Northeast lakes.

Request: Are further baseline data collections planned for NL5 and NL6 lakes? If no, why not?

4.11.14 Source: North Slave Metis Alliance

Reference: Impact Assessment, EAR sections 9.5, table 9.5-15

ToR Lines: 222

To: De Beers Canada Mining Inc.

Preamble: It is stated in the section on Development of Seepage and Runoff Collection Ponds that: "Three inland lakes, IL6, IL7 and IL9 found within the proposed footprint of the north pile have been identified as suitable for development of seepage and runoff collection ponds." Later in the paragraph it is stated that "None of these inland lakes were found to provide fish habitat and stream channels do not connect them with any other waterbodies found to provide fish habitat." However, Table 9.5-15, p. 9-285 and 9-286, indicates that both lakes IL6 and IL7 have marginally suitable small bodied fish habitat and some capability to overwinter small fish. There are also ephemeral connections between these lakes and others, particularly between IL6 and Snap Lake.

Request: Please respond to the following questions:

- a) What was the basis or criteria for determining that lakes IL6 and IL7 were not found to provide fish habitat?
- b) Although the streams connecting the lakes IL6 and IL7 are ephemeral, they may be seasonally important migration corridors. What is the suspected frequency of flow in these streams?

4.11.15 Source: North Slave Metis Alliance De Beers' Response to IR 1.1.65

Reference: EAR section 9.5.1.2.7

ToR Lines: 222

To: De Beers Canada Mining Inc.

Preamble: As stated in the De Beers' response to IR 1.1.65, both pelvic fin rays and otoliths are considered preferred aging structures according to Mackay et al. (1990). Therefore, pelvic fin rays were collected from lake trout for aging, however, otoliths were collected for three of the lethally sampled lake trout in Snap Lake.

Request: For the three lethally sampled lake trout in Snap Lake fish from which otoliths were collected, were age comparisons made between the otoliths and pelvic fin rays? If not, why not?

4.11.16 Source: North Slave Metis Alliance De Beers' Response to IR 2.1.10

Reference: EAR section 9.5.3.7

ToR Lines: 222

To: De Beers Canada Mining Inc.

Preamble: In response to IR 2.1.10, De Beers responds to efforts to ascertain lake trout spawning in the North Channel. Lake trout were sampled during one fall sampling effort in the north arm of Snap Lake and no spawning lake trout were captured at that time.

Request: Please respond to the following:

- a) What was the sampling effort (i.e., number of days) used to sample the north arm of the lake for spawning lake trout?
- b) The North Channel is shallower than other deeper areas of the lake and therefore there may be differences in water temperature between the areas. Is it possible that since the North Channel is more shallow than other deeper areas of the lake, that spawning may occur later in the North Channel due to differences in water temperature. Considering that alternate year spawning is common in northern regions, is it also possible that lake trout may use the North Channel in other years to spawn? If so, what impacts will the project have on lake trout spawning in the North Channel?

4.11.17 Source: North Slave Metis Alliance

Reference: EAR Section 10

ToR lines: 250-253, 259-268

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To: De Beers Canada Mining Inc.

Preamble: De Beers assessed residual impacts based on non-mitigated effects, but the approach that DeBeers set out to pursue is not consistent throughout the document. The use of the terms defined in Table 10.1-3 differs from those used to arrive at the impact ratings. For example, the statement that "the loss of even one grizzly bear ... may be considered moderate..." (p. 10-195) has little to do with the magnitude definitions, all of which relate to natural variation as a benchmark. Moreover, using natural variation as a benchmark definition is not tenable in a situation where natural variation was not measured. This definition, in fact, is a serious shortcoming in the EAR wildlife sections simply because it provides a foundation that is never referred to. As such, it also demonstrates a disconnect between information gathered and other parts of the EAR such as impact analysis.

Request: Clarify and connect the terms in table 10.1-3 with the impact ratings in section 10 of the EAR.

4.11.18 Source: North Slave Metis Alliance

Reference: not provided

ToR lines: not provided

To: De Beers Canada Mining Inc.

Preamble: The EAR shows some weaknesses that are in part due to inconsistent applications of procedures as well as gaps in the data. Unless De Beers significantly improves the information gaps, it is essential to know how monitoring programs will be developed to show scientific validity and rigour, locally and regionally, and how traditional knowledge and local communities will be involved in monitoring design. The design of monitoring is of utmost urgency, but it appears that monitoring is mentioned in only a few lines of the wildlife sections. The lack of attention to adequate monitoring plans and design is a serious deficiency of the EAR. Moreover, the lack of focus and consistency between data collection and result interpretation for the impact analysis raises the question of whether or not DeBeers will be able to develop a monitoring program that has the required focus and goal-oriented interpretation.

While project-specific monitoring is clearly important, cumulative regional effects from the projects in the region may, if not adequately mitigated, add to significant regional effects. There are questions that show the potential of impacts to accumulate over the region and over time, and require regional monitoring and management solutions. This is one

reason the NSMA has proposed one regional authority that would ensure consistent and coordinated monitoring protocols, which would allow for the analysis of regional cumulative effects. The monitoring protocols would necessarily require scientifically sound methods of data collection and analysis in order to allow for the validation of impact predictions and tests of mitigation effectiveness.

DeBeers makes the commitment in section 14.6 to develop such protocols under the umbrella of ISO14001 certification, but no concrete plan appears to exist. This is a general concern for two reasons: First, monitoring programs must be able to indicate whether an effect differs from that which was predicted. Given the lack of adequate analysis and quantification in the EIA process, the concern then arises relating to how DeBeers will design monitoring programs that will be able to detect and quantify the differences as committed to on page 14-17. Secondly, monitoring alone does not mitigate environmental effects. An adaptive management plan must be in effect that allows for management responses to the results of monitoring programs. Based on the lack of demonstrating that DeBeers is experienced in, and willing to develop, adaptive management plans, the general concern arises that even if monitoring plans are well-designed and analyses are sound, the results of the monitoring programs would not translate into immediate mitigative action. In the ELC and biodiversity sections of the EAR (pp.10-93 and 10-100), DeBeers acknowledges the necessity of adaptive management plans, but the wildlife sections do not indicate any such commitments. Adaptive management is essential for habitat conservation plans (Wilhere 2002).

Request: Please respond to the following question.

- a) Will De Beers commit to the adoption and use of adaptive management in conjunction with its monitoring programs to ensure that the results of monitoring programs translate into immediate mitigative action, in particular, with respect to habitat conservation plans?

4.11.19Source: North Slave Metis Alliance

Reference: EAR section 10.4.1.3.3

ToR lines: 223

To: De Beers Canada Mining Inc.

Preamble: Section 10.4.1.3.3 describes how esker surveys were conducted to collect information on carnivores that use eskers as denning habitat.

Request: Please answer the following questions:

- a) Were all eskers surveyed?
- b) Provide maps of eskers and potential grizzly denning habitat, including non-esker denning habitat?
- c) Can tracks additional to those of wolverines be recorded? Were tracks recorded as tracks per kilometer-day to standardize track density per kilometer-day since last snowfall?

4.11.20 Source: North Slave Metis Alliance

Reference: EAR section 10.4.1.3.5, 10.4.1.4.4

ToR lines: 223

To: De Beers Canada Mining Inc.

Preamble: In section 10.4 of the EAR, De Beers describes the stratification of bird sample plots and the analysis by ANOVA. A few additional details would help in evaluating the strength of the analysis.

Request: Please respond to the following questions:

- a) Could the differing length of the transects affect data quality and data variance? If so, why?
- b) Were transects chosen, as opposed to bird point counts, because they were more efficient in a low-density environment?
- c) Were statistical assumptions met by the data given that parametric tests were used? How was richness included in the analyses, given that richness is recorded as a frequency (not a continuous variable) and may not be normally distributed?
- d) Can a lack of significant differences between habitats also be interpreted as a result of low power of the analyses, given the small and unbalanced sample sizes? If so, why?
- e) Include pair-wise comparisons to show which habitats differ from which others?

4.11.21 Source: North Slave Metis Alliance

Reference: EAR section 10.4

ToR lines: 223

To: De Beers Canada Mining Inc.

Preamble: In section 10.4 of the EAR, De Beers examines information on large mammals.

Request: Please respond to the following questions:

- a) Provide information on large mammals more specific to the project footprint, including tracks and other signs?

4.11.22Source: North Slave Metis Alliance

Reference: EAR section 10.4.1.2

ToR lines: 234-249

To: De Beers Canada Mining Inc.

Preamble: It is stated that the RSA is selected to capture effects impacting the demography of VEC populations.

Request: Please respond to the following questions:

- a) Where in the impact analysis is the demography of a population shown to be affected? If this is not included, please provide this information.
- b) Where is the demography of any population described? If this is not included, please provide this information.

4.11.23Source: North Slave Metis Alliance

Reference: EAR section 10.4.1.2

ToR lines: 223, 234-236.

To: De Beers Canada Mining Inc.

Preamble: It is stated that both study areas (RSA, LSA) are chosen to encompass corridors and movements.

Request: Please respond to the following questions:

- a) Other than for caribou, where are corridors and movements of animals demonstrated and how do existing movements and corridors relate to the proposed project?
- b) Can maps on movement be developed?

4.11.24Source: North Slave Metis Alliance

Reference: EAR table 10.4-12

ToR lines: 261-268

To: De Beers Canada Mining Inc.

Preamble: The impacts on bears in the present context are stated to be moderate because of the sensitivity of grizzly bears and their COSEWIC listing.

Request: Elaborate and expand upon how "...the loss of even one grizzly bear..." relates to the defined benchmark of "natural variation".

4.11.25Source: North Slave Metis Alliance

Reference: EA report page 12-16

ToR lines: 526-559.

To: De Beers Canada Mining Inc.

Preamble: There is a geographic extent component in the criterion definitions of cumulative effects (p.12-16). This appears to be a misunderstanding as a study area must first be defined within which the effects of past, current, and imminent developments are assessed. Since the projects that are assessed here include other mines in the region, effects go outside of the RSA by definition. The statement on p. 12-116 "to determine if effects from the Snap Lake Diamond Project can be linked to changes in wildlife and wildlife habitat beyond the RSA" is therefore not logical.

Request: Please answer the following Questions.

- a) Provide study boundaries for the cumulative effects assessment?
- b) Which developments are included?
- c) How do these developments affect the RSA and what is the incremental contribution of the proposed project to the impacts in the

RSA and to the impacts in the equivalent RSAs of the other developments?

4.11.26Source: North Slave Metis Alliance De Beers' Response to IR 2.2.13

Reference: EAR 10.4.2

To: De Beers Canada Mining Inc.

Preamble: The impact predictions are indeed limited in utility. This issue relates to the findings listed under pp. 10-16, 10-175, and 10-193 of the EA report. A new assessment of impacts using new baseline data and better assessment definitions may improve the accuracy of the predictions. However, some, probably considerable, degree of uncertainty will remain. Based on the response provided to date, the scientific validity of the proposed monitoring programs remains in question. As well, traditional knowledge and local community participation should be closely involved in the development of monitoring programs. The NSMA asks that DeBeers provide more complete responses to these IRs.

Request: Respond to the following questions.

- a) How will DeBeers support site-specific and regional scientific and traditional knowledge monitoring initiative of relevant to their project?
- b) How will DeBeers work with communities to develop traditional knowledge monitoring programs both on a site-specific and regional scale?

4.11.27Source: North Slave Metis Alliance De Beers's Response to IR 2.5.15

Reference: EAR section 10.4.1

ToR lines: 233

To: De Beers Canada Mining Inc.

Preamble: It appears that for caribou, all indications are that the proportion of habitat lost will be very small (0.01% or less) at the RSA level. The question may be more important in terms of how many individuals (as opposed to the population proportion) may be affected.

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DeBeers' treatment of the dust issue and PAI is not convincing, and it appears that if a complete range of plume and its effects on caribou forage would be evaluated, the proportional impact on caribou range referred to under (c) may be substantially higher.

The "controversy" in literature regarding effects on caribou referred to by RWED may indeed be less controversial if the scales of the assessment in the respective studies are assessed: While several studies show that human activities affect caribou behaviour in the proximity of the developments, studies at the population level show that effects on populations are not detectable. Nonetheless, the issue needs to be monitored, particularly if developments reach a higher density than is currently the case in Arctic ecosystems.

Request: Please respond to the following questions:

- a) How many individual caribou may be affected?
- b) What is the proportional impact on caribou range when a complete range of plume and its effects on caribou forage is evaluated?

4.11.28Source: North Slave Metis Alliance De Beers's Response to IR 2.5.31

Reference: EAR section 3.5.3.5 appendix III.3 item 6.2

ToR lines: 433, 143, and 436

To: De Beers Canada Mining Inc.

Preamble: The request to provide more explicit analyses of alternatives for waste handling was not dealt with satisfactorily. This is important because some VECs such as bear and wolverine were impacted in terms of direct mortality on other mines.

Request: What are the alternatives for waste handling and how do potential impacts of each alternative affect the decision as to which waste-handling approach is to be used?