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August 29, 2002 GLL 22-933

Mackenzie Valley Environmental Impact Review Board (MVEIRB)
Box 938
5102-50th Avenue
Yellowknife, NT
X1A 2N7

Attention: Mr. Joe Acorn, Environmental Assessment Officer

Dear Mr. Acorn:

Re: Cumulative Effects and Socio-economic Information Requests, De Beers Snap Lake Diamond Project

Your letter of July 9, 2002 authorized work to develop new Information Requests (IRs) in the areas of wildlife and cumulative effects assessment. Recent communications (August 28, 2002 e-mail confirmation) with yourself and Mr. Azzolini authorized that Gartner Lee could also submit additional outstanding socio-economic IRs.

As you know the wildlife IRs were sent to you on August 9, 2002 under separate cover. Please find attached our cumulative effects (p. 1-11) and socio-economic (p. 12-13) IRs. The IRs are simply numbered 1 through 13, for the purposes of this submittal. The cumulative effects IRs are largely methodology based, and as such we expect that once we are provided with DeBeers' response to these IRs that there may be more specific questions regarding cumulative effects.

From our recent communications it is our understanding that any outstanding conformity issues or any questions/issues not addressed through the three rounds of information requests can be brought forward during the technical sessions scheduled to occur later this fall.

Should you have any questions, please do not hesitate to call me at (403) 262-4299, ext. 120 or Stephen Morison at extension 121.

Yours truly,
GARTNER LEE LIMITED

Glenda Fratton, M.Sc.
Ecologist/Project Manager

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

Gartner Lee Limited Information Request
Cumulative Effects and Socio-economic

Cumulative Effects

1. 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:

1) Please provide the source material for this approach to cumulative effects assessment and an explanation of why this approach was taken as opposed to more conventional approaches such as the one described in the *Cumulative Effects Assessment Practitioners Guide* by the Canadian Environmental Assessment Agency.

2) 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.

3) Please explain how the CEA approach for the Snap Lake Diamond Project addresses "nibbling, synergistic, and additive/ subtractive-type" cumulative effects. Furthermore, please describe, in general, how linkage determinations were made (i.e., define linkage in the context of cumulative effects assessment).

4) Please explain the veracity for using 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.]

5) Please provide a discussion on the availability of other models (aside from UNEP), and why these were not used.

2. 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; and

c) the Proponent is asked to elaborate on the nature, purpose and structure of possible partnerships between industry, the GNWT, Canada, and the communities that could promote the transformation of the gains achieved while the mines are in operation into gains sustainable in the long-term.

3. 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;
- 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) impacts[1]. 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

[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.

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;
- 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:

1) 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.

2) 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:

a) Summarize the process followed for cumulative effects assessment for socio-economic impacts and how it relates to issues identified by the communities.
b) 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.

3) Please explain the origins/ derivation of the predicted impacts listed on page 5-124. Please explain the relationship of the predicted impacts (p. 5-124) and the five (5) categories used for the cumulative effects analysis.

4. Reference: EAR Sections 5 and 12

ToR Line: 547-548

To: De Beers Canada Mining Inc.

Preamble: The EAR in 12.2.3.1 discusses "*What socio-economic cumulative impacts will the Snap Lake Diamond Project have on employment opportunity and income levels?*". This discussion focuses on employment opportunities and employment rates. The impact is discussed in terms of job creation estimates and that the impact on the communities **should** increase employment rates and disposable income. There is no apparent attempt to verify this by surveying the available skills in communities. Likewise, there is no discussion of salary dollar pressures on sectors not related to mining and the ability to attract employees, though there is the assumption that employment opportunities in the NWT may attract labour from other provinces (p. 12-27). There is also no quantified discussion of in-migration and the cumulative impact of immigration. The price of in-migration (e.g., lack of housing), need for new facilities and improved education system were featured as issues for Yellowknife (p. 5-102).

Request:

1) Please provide a quantified cumulative effects analysis of the impact of in-migration on Yellowknife addressing the issues raised on p. 5-102.

2) Please provide a cumulative effects analysis of the salary dollar pressures on sectors not related to mining and ability to attract employees.

5. 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: Please explain and justify why no attempt was made to include forecasting future infrastructure development in the CEA when the EAR does consider possible expansion.

6. 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 km^2. This is likely to be an error.

Request: Please:

(a) Explain how the advanced exploration activities were featured in the cumulative effects assessment (CEA).
(b) Explain elaborate on how the tourism camps were featured in the CEA.
(c) Please provide proof/background support that 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

7. 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 these 'other developments' in detail.
b) Provide a detailed discussion/rationale on how these developments were concluded to be "not predictable", and therefore not included in the cumulative effects assessment.

8. 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 details on the mitigation approaches adopted by DeBeers to deal with cumulative impacts outlined in Section 12.2.7.

9. 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 the forms of traditional knowledge that were used for each major topic covered in Section 12.
b) Explain how traditional knowledge was used in the cumulative effects analysis.

10. 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

11. 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 clarify the rationale for the determination of low magnitude with respect to the destruction of the sixty-four archaeological sites.

Socio-economic

12. Reference: EAR Section 5.3.4 Impact Management Measures and Subsection 5.3.4.3 Health and Wellness

ToR Line: 256-260

To: Government of the Northwest Territories

Preamble: Terms of Reference lines 256-260 instructed De Beers to describe each impact identified and the proposed mitigation measure(s) for all phases of the proposed development (i.e., construction, operation, closure and post-closure). De Beers was to describe planned mitigation measures.

In Section 5.3.3 Socio-Economic Impact Assessment, De Beers lays out the predicted direct, indirect and induced social impacts on individuals, families and communities. These are summarized in Table 5.3.7. Increased risks of community dysfunction, family problems and personal stress. Increased rates of alcohol problems, gambling, family violence, marital problems and child neglect are among the potential impacts noted.

In section 5.3.4.1 De Beers notes that "Many of the mitigation measures cannot be done by the proponent acting alone. While De Beers is committed to doing its utmost to develop and implement these mitigation measures, success will depend on government and community partnerships." In the pages that follow there are numerous references to De Beers "acting as a catalyst..." "playing a substantial role in facilitating..." "work closely with communities..." "support initiatives and resources...", "seek collaboration with..." While these expressions provide a good general sense of De Beers' intentions for supporting mitigating measures, they are lacking in specific detail.

Request: Describe what specific contributions, in material terms (dollars, workers, resources, etc.) the Government of the Northwest Territories proposes to bring to the partnerships and collaborative efforts that will be necessary to enact the mitigating measures outlined in sections 5.3.4.3.1 through 5.3.4.3.7.

13. 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 is rolled-up under public, private and NGO sectors. It is unclear where concerns of the non-aboriginal population in communities is captured.

Request: Please break out the issues of the non-aboriginal populations on a community by community basis.