



April 6, 2012

File: S110-01-08

Chuck Hubert
Environmental Assessment Officer
Mackenzie Valley Environmental Impact Review Board
P.O. Box 938
Yellowknife NT X1A 2N7

Dear Mr. Hubert:

Tlicho Government - Information Request Responses
Gahcho Kué Project Environmental Impact Review

De Beers is pleased to provide the Mackenzie Valley Environmental Impact Review Board with responses to Information Requests submitted by the Tlicho Government.

Sincerely,

Veronica Chisholm
Permitting Manager

Attachment

c: L. Duncan, Tlicho Executive Officer, Tlicho Government

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
INFORMATION REQUEST RESPONSES

Information Request Number: TG_1

Source: Tlicho Government

Subject: TK – Relationship with Traditional Land Use

EIS Section: Section 5.0

Terms of Reference Section: 3.2.5

Preamble

This chapter blurs the distinction between "traditional land use" and "traditional knowledge" (pp. 5-8). Given that a person can use an area without having much knowledge of it, it is important to recognize that to understand vegetation communities, wildlife behaviour, habitat, land use over time, and environmental changes takes traditional knowledge of specific plants, water flow, animal behaviour, human behaviour, and a historical overview. It is more relevant to say that traditional land use is connected to TK, but the relationship is dependent on a particular perspective as well as the specific knowledge.

Request

- 1.1 What is the Dene perspective and why is this perspective relevant to understanding TK and their concern?
- 1.2 Is there a meaningful distinction between these two concepts, and how does DeBeers conceptualize the relationship between "traditional land use" and "traditional knowledge"?
- 1.3 Given the importance of land to the Dene, please explain more fully – from a Tlicho perspective – how traditional land use and traditional knowledge are intertwined?
 - Explain how this Project could impact Dene citizens and their relationship with the land and resources, and how DeBeers will mitigate this

Response

- 1.1 De Beers has provided Dene citizens with numerous opportunities to share their perspective and concerns of the Gahcho Kué Project through community engagement activities. Specifically, Dene Traditional Knowledge (TK) was collected through community engagement activities, the discussion

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of existing secondary sources, and the review and incorporation of primary source data. The results of engagement can be found in Section 4 of the 2010 Environmental Impact Statement (EIS; De Beers 2010). The results of the review of secondary sources are discussed in Annex M and Section 5 of the 2010 EIS. Moreover, The Tłıchǵ Government is finalizing a TK study (primary data source) for the Project. When the results of Tłıchǵ study are made available, De Beers will use that information to further inform impact predictions, to evaluate whether additional mitigation or refinements to proposed mitigation is needed, and to identify additional opportunities for incorporating TK into monitoring programs. Refer to response to TG_5 Information Request (IR), for additional information on how TK was incorporated into the Project.

1.2 As noted in the preamble to this IR, De Beers agrees with the author that *“traditional land use is connected to the traditional knowledge, but the relationship is dependent on a particular perspective as well as the specific knowledge”*.

1.3 As noted in the response above, De Beers has provided Dene citizens with numerous opportunities to share their perspective and concerns of the Project through community engagement activities as summarized in Section 4 of the 2010 EIS (De Beers 2010). Information gathered as part of the engagement activities as well as secondary sources and primary sources have been included throughout the EIS. Detailed information on how this information has been incorporated in the EIS including mitigations is provided in the response to TG_5 IR.

References

De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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Information Request Number: TG_2

Source: Tlicho Government

Subject: Traditional Land Use and Current Use of Traditional Territory

EIS Section: Section 5.1.4 (p. 5-5)

Terms of Reference Section: n/a

Preamble

This chapter also blurs the distinction between "traditional land use" and the "current use of a traditional territory." (pg. 5-5) It would be helpful for analysis to have an understanding of the key concepts.

Request

2.1 What is the distinction between these two concepts?

Response

The phrase, *"current use of a traditional territory is not found in EIS Section 5"*, as indicated in the preamble. The 2010 Environmental Impact Statement (EIS) Section 5.1.2 makes reference to describing *"who traditionally ... has used the area"*, and *"who currently uses the area"*. 'Current' use is used to convey the sense that activities and land uses are still occurring in an area (and may or may not have occurred in the past; De Beers 2010). The 'traditional use' of an area is used to convey that an area has been used in the past for particular reasons, and it is not possible to determine from the context of the information if the activity is still occurring.

Reference

De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

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Information Request Number: TG_3

Source: Tlicho Government

Subject: TK Systems

EIS Section: Section 5.1.1 (pg. 5-1)

Terms of Reference Section: 3.2.5

Preamble

The sections says that: *"Where traditional knowledge and conventional science come to different effect predictions, the EIS will identify the different conclusions and outline how De Beers proposes to deal with the disagreement."* (pg. 5-1)

Request

- 3.1 How does conventional science differ from TK?
- 3.2 How generally does DeBeers propose to accommodate disagreements between the two knowledge systems?
 - And, where in the EIS does it deal with this?

Response

- 3.1: Conventional (western) science and Traditional Knowledge (TK) is often characterised as approaching topics from different perspectives. The table below summarizes perceived differences between conventional science and TK:

Conventional (Western) Science	Traditional Knowledge
Data is primarily quantitative	Data is primarily qualitative
Approach to research is purely rational	Approach to research has an intuitive component
Reductionist in nature	Holistic in nature
Approach to research is value-free	Approach to research is moral/value-based
Based on systematic experimentation	Based on empirical observations
Based on data generated by specialist researchers	Based on data generated by resource users
Focuses on short time-series over a large area	Focuses on long time-series in a small area

Source: Berkes 1993

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- 3.2:** Traditional Knowledge was considered and integrated into the assessments and writing of the Environmental Impact Statement (EIS) in conjunction with 'Western Science'. Because TK was included in the data used to undertake the assessments, there was no contrasting of viewpoints.

Traditional knowledge from literature reviews and consultation results were discussed in the Traditional Land Use (TLU) baseline (De Beers 2010, Annex M), and the resulting information was incorporated into the TLU assessment (De Beers 2010, Section 5). Traditional Knowledge also was considered in other EIS Section such as Engagement (De Beers 2010, Section 4), Caribou (De Beers 2010, Section 7), Water Quality (De Beers 2010, Section 8), the Biophysical Assessment (De Beers 2010, Sections 10 and 11), and the Socio-Economic Assessment and Baseline (De Beers 2010, Section 12 and Annex K).

Inclusion of Future TLU Information

The Tlicho have completed draft TLU/TK study (primary data source) for the Gahcho Kué Project that they are currently updating. De Beers will review the final study, and will validating results reported in the EIS. Where applicable, De Beers will discuss any potential effects of the Project identified by the Tlicho study.

References

- Berkes, F. 1993. Traditional Ecological Knowledge in Perspective. In Concepts and Cases. Julian Inglis ed.
- De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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Information Request Number: TG_4

Source: Tłıchǵ Government

Subject: Boundaries of TK Studies

EIS Section: 5.1.3.3

Terms of Reference Section: 3.2.5

Preamble

There are several Aboriginal communities that have traditional land and resource use areas that could be directly affected by the project, and are included in the study area.

Request

- 4.1. How were the boundaries of a “traditional knowledge study area” determined?
 - What criteria were used?
 - Or, did DeBeers rely on maps drawn from land claim (treaty agreements) or negotiation processes?
- 4.2. Further, do these TK study areas overlap or do they share boundaries that all can agree upon?

Response

- 4.1: The boundaries of the Traditional Knowledge (TK) study area were determined by identifying those Aboriginal communities that have noted traditional land and resource use areas that could be directly affected by the Gahcho Kué Project. Traditional knowledge is not limited by a specific study area as measured in hectares.

In the Terms of Reference, the term community is defined as any potentially affected settlement, town, village, or city as well as any First Nation or Métis group within the Tłıchǵ and Akaitcho regions unless otherwise specified (Gahcho Kué Panel 2007). The Tłıchǵ region includes those areas as defined in the Tłıchǵ Land Claims and Self-Government

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Agreement (Tłıchǵ et al. 2003) and the Akaitcho region includes that part of Treaty 8 that extends into the NWT. The TK Assessment uses the term community to refer to the specified First Nations and Métis groups within the Tłıchǵ and Akaitcho regions.

4.2: There is only one TK study area for this Project.

References

Gahcho Kué Panel. 2007. Terms of Reference for the Gahcho Kué Environmental Impact Statement. Mackenzie Valley Environmental Impact Review Board. Yellowknife, N.W.T.

Tłıchǵ, Government of the Northwest Territories, and the Government of Canada, 2003. Land Claims and Self-Government Agreement among the Tłıchǵ and the Government of the Northwest Territories and the Government of Canada. Tłıchǵ Agreement signed on August 25, 2003.

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Information Request Number: TG_5

Source: Tlicho Government

Subject: Secondary Sources of TK

EIS Section: Section 5.2.3, 5.2.4 (pg 5-10, 5-12)

Terms of Reference Section: 3.2.5

Preamble

The chapter says that: *"Currently, TK specific to the Project is limited De Beers is confident that it has sufficient and applicable TK from secondary sources to incorporate TK into Project design, to predict effects and to identify appropriate monitoring and mitigation ... "* (pg. 5-10, and see a similar claim on pg. 5-12)

Request

- 5.1 How has De Beers developed this confidence that it has "sufficient and applicable TK from secondary sources" to develop a Project design, predict Project effects, and consider monitoring and mitigation?
- There is primary source TK that is being gathered in relation to the Project, and this will surely give more confidence to the parties. Can the developer reduce the statements of confidence, so that the parties can be assured that their original knowledge will be included?
 - If DeBeers can go ahead and prepare its EIS without this "primary TK", what value will this TK serve once it is eventually collected later in the life of the Project?

Response

Traditional Knowledge (TK) was collected through community engagement activities, the discussion of existing secondary sources, and the review and incorporation of primary source data. The results of consultation can be found in Section 4 of the 2010 Environmental Impact Statement (EIS) (De Beers 2010). The results of the review of secondary sources are discussed in Annex M and Section 5 of the 2010 EIS.

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Community Engagement

De Beers has been engaged in community engagement activities since 1998. Between 1998 and 2005, De Beers conducted exploration and Project planning. This involved meeting with Tłıchǵ, Łutselk'e Dene First Nation (LKDFN), Deninu Kué First Nation (DKFN), Yellowknives Dene First Nation (YKDFN), Treaty 8 (Akaitcho), North Slave Métis Alliance and the NWT Métis Nation. Concerns were identified pertaining to: water quality, fish health and habitat, wildlife (in particular caribou) health, environmental pollutants, the preservation of archaeological heritage, environmental monitoring and general socio-economic issues (e.g., employment, training, business opportunities).

De Beers also participated in Mackenzie Valley Environmental Impact Review Board (MVEIRB) community scoping workshops in 2006 wherein a range of social, environmental and economic themes were identified by the previously mentioned Aboriginal groups.

Following the release of the Gahcho Kué Panel Terms of Reference (2007), De Beers entered into community engagement between 2007 and 2010. Initial meetings were held with community leaders to discuss the engagement process. De Beers then conducted both community meetings and open houses in Behchokǵ, Gamètì, Wekweètì, Whatì, Fort Resolution, and Łutselk'e to identify important resources and Traditional Land Use (TLU) activities in the study area. Further meetings were held with the North Slave Métis Alliance, the Yellowknives Dene First Nation (YKDFN), the Deninu Kué First Nation, the Łutselk'e Dene First Nation, the Tłıchǵ Government and the NWT Métis Nation. The following key lines of inquiry and subjects of note were identified:

- Water Quality and Fish in Kennady Lake;
- Caribou;
- Carnivore Mortality;
- Long-term Biophysical Effects, Closure and Reclamation;

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- Downstream Water Effects;
- Long-term Social, Cultural, and Economic Effects;
- Social Disparity Within and Between Communities; and
- Aboriginal Rights and Community Engagement.

From 2010 until 2011, De Beers conducted a public information campaign and planned community activities such as open houses, community meetings and community representative site visits. These activities confirmed many of the concerns raised in the community engagement process. During this period, De Beers also conducted meetings leading to the EIS submission with Indian and Northern Affairs Canada (now Aboriginal Affairs and Northern Development Canada), the Government of the Northwest Territories, Environment Canada and Fisheries and Oceans Canada.

Community engagement, the public information campaign and the EIS lead-up meetings culminated in the planning of a series of issue-based workshops (2011) held in Yellowknife. These workshops were to provide regulators and individual agencies with the opportunity to discuss topics of interest with De Beers, as they relate to the Project.

Literature Review and Assessment

The literatures review (De Beers 2010, Sections M4.4 and 5.3.1) further identifies specific traditional resources and TLU activities in the study area. Many of these features had been mentioned during the community engagement and information campaign efforts of De Beers.

Assessments of potential effects made in the 2010 EIS consider information gathered on people's knowledge of traditional resources (e.g., wildlife, plants and water) and cultural sites through community engagement and literature review results. Assessments also consider the potential effects of the Project on human use of resources.

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Combined with both a strong understanding of the environment in which it is proposing to build the project and a strong understanding of the issues of concern to Aboriginal communities, De Beers is confident that it has sufficient and applicable TK from secondary sources to incorporate TK into the project design, to predict the effects and to identify appropriate mitigation measures.

Primary Data Collection and Incorporation

The Tłıchǫ is finalizing a TK study (primary data source) for the Gahcho Kué Project. When the results of Tłıchǫ study is made available, De Beers will use that information to further inform impact predictions, to evaluate whether additional mitigation or refinements to proposed mitigation is needed, and to identify additional opportunities for incorporating TK into monitoring programs.

References

De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

Gahcho Kué Panel. 2007. Terms of Reference for the Gahcho Kué Environmental Impact Statement. Mackenzie Valley Environmental Impact Review Board. Yellowknife, N.W.T.

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Information Request Number: TG_6

Source: Tłıchǵ Government

Subject: Incorporating TK into EIS

EIS Section: 5.4

Terms of Reference Section: 3.2.5

Preamble

This section makes a number of references to sections in the larger EIS that make use of or incorporate Traditional Knowledge.

Request

6.1 How does DeBeers conceptualize and define traditional knowledge (TK)?

How is TK being approached or understood for the purposes of this EIS?

6.2 Please provide a table that summarized all of the various places in the EIS where TK is referenced.

6.3 We would also like to see a comprehensive analysis of the integration of TK in the EIS, in order to ensure that, in individual cases, the integration of TK is meaningful.

6.4 What is the relationship between local knowledge and traditional knowledge?

6.5 And is local knowledge or traditional knowledge utilized by the local group as mentioned on pp., 5-19?

6.6 Is there a local group that utilizes the area near the Gahcho Kué Project?

Response

6.1 Traditional ecological knowledge (TEK) can be defined and understood as “a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings

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(including humans) with one another and with their environment. TEK is an attribute of societies with historical continuity in resource use practice.”¹

For the purposes of this Environmental Impact Statement (EIS), De Beers recognizes that TEK can provide a deeper understanding of traditional resources and the natural environment in which the Project is situated, and the use of resources by Aboriginal communities.

6.2 Traditional Knowledge (TK) is woven throughout the EIS, and it is not practical to provide a specific listing of all TK information and its location in the EIS. For example, for the Key Lines of Inquiry (KLOI) for Caribou (Section 7 of De Beers 2010), TK is found in the summary, baseline study, socio-economic assessment, pathway analysis, effects assessment, uncertainty, and monitoring and follow-up sections of the KLOI for Caribou (see comprehensive list of Section 7 references below, in which TK can be found):

- Section 7- Key Line of Inquiry: Caribou;
 - Section 7.2- Summary;
 - Section 7.3.1- Existing Environment: General Setting;
 - Section 7.3.2.1- Existing Environment: Gahcho Kué Project Baseline Study;
 - Section 7.3.2.3- Existing Environment: Methods- Traditional Knowledge and Resource Use;
 - Section 7.3.2.4- Existing Environment: Methods- Socio-economics;
 - Section 7.3.3.2.3- Existing Environment: Results- Review of Regional Effects Monitoring and Research Programs- Caribou Population Characteristics;

¹ Inglis, J.T. 1993. Traditional Ecological Knowledge: Concepts and Cases. Prepared for the International Program on Traditional Ecological Knowledge and the International Development Research Council. Ottawa, ON.

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- Section 7.3.3.3- Existing Environment: Results- Traditional Knowledge and Resource Use;
- Section 7.3.3.4- Existing Environment: Results- Socio-economics Related to Caribou;
- Section 7.4.1- Pathway Analysis- Methods
- Section 7.5.1- Effects on Population Size and Distribution of Caribou- General Approach;
 - Section 7.5.3.2.2- Effects on Population Size and Distribution of Caribou- Habitat Quality, Behaviour, and Movement- Effects on Behaviour, Energy Balance, and Calf Production;
 - Section 7.5.5.2- Effects on Population Size and Distribution of Caribou- Related Effects on People- Availability of Caribou;
- Section 7.6.4- Residual Effects Summary- Related Effects on People;
- Section 7.8.2- Environmental Significance- Results;
- Section 7.9- Uncertainty; and
- Section 7.10- Monitoring and Follow-up.

Similarly, references to TK are found throughout the entire 2010 EIS in baseline studies, pathway analysis, effects assessment, monitoring and follow-up summaries. The following 2010 EIS report sections contain references to TK:

- Section 1- Introduction;
- Section 2- Project Alternatives;
- Section 4- Community, Regulatory, and Public Engagement;
- Section 5- Traditional Knowledge;
- Section 6- Assessment Approach and Methods;
- Section 8- Key Line of Inquiry: Water Quality and Fish in Kennady Lake;
- Section 9- Key Line of Inquiry: Downstream Water Effects;

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- Section 10- Key Line of Inquiry: Long-term Biophysical Effects, Closure, and Reclamation;
- Section 11- Biophysical Subjects of Note;
- Section 12- Socio-economic Impact Assessment Section;
- Section 13- Cumulative Effects;
- Section 14- Summary and Conclusions;
- Annex E- Vegetation and Plant Community Baseline;
- Annex F- Wildlife Baseline;
- Annex J- Fisheries and Aquatic Resources Baseline;
- Annex K- Socio-economics Baseline;
- Annex M- Traditional Knowledge and Traditional Land Use Baseline;
- Annex N- Non-traditional Land Use and Resource Use Baseline; and
- Annex P- Wildlife Ecological Risk Assessment.

6.3 For a list of report section references where TK has been integrated into the 2010 EIS, please refer to response 6.3 above.

6.4 Section 5.4 of De Beers 2010 does not refer to 'local knowledge'. Therefore, no distinction has been made.

6.5 The available information does not differentiate between TK or 'local knowledge' utilized by the local groups. The Tłıchǵ and Lutselk'e Dene First Nation (LKDFN) are completing TK studies and the Deninu Kue (DKFN) have initiated a study in March 2012. De Beers expects that all three studies will be completed and will form part of the public record in 2012. When the results of TK studies are made available, De Beers will use that information to further inform impact predictions, to evaluate whether additional mitigation or refinements to proposed mitigation is needed, and to identify additional opportunities for incorporating TK into monitoring programs.

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6.6 Based on the available information, the Project is not in an area that is currently used by local groups; although the Project is found within the larger area where local groups have engaged in activities in the historical past. The Tłıchǫ and Lutselk'e Dene First Nation (LKDFN) are completing TK studies and the Deninu Kue (DKFN) have initiated a study in March 2012. De Beers expects that all three studies will be completed and will form part of the public record in 2012. When the results of TK studies are made available, De Beers will use that information to further inform impact predictions, to evaluate whether additional mitigation or refinements to proposed mitigation is needed, and to identify additional opportunities for incorporating TK into monitoring programs.

References

De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

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Information Request Number: TG_7

Source: Tlicho Government

Subject: Relationship between TK, land and culture

EIS Section: 5.4.2.9

Terms of Reference Section: 3.2.5

Preamble

De Beers discusses places, routes, and to some extent the cultural landscape, but does not satisfactorily put into a context that addresses a Dene perspective. No where do they discuss the idea that 'land' is sacred and 'all land should be respected'. In addition this section does not demonstrate the relationship between traditional knowledge and culture.

Further, in spite of the fact that De Beers Canada has discussed the significance of places-especially sacred sites-they do not mention the importance of travelling trails both on the land and through oral narratives-in the mind. Travelling trails via oral narratives allows Dene to always be prepared to use places and in the future. Although the Gahcho Kue area was used mainly by the Akaitcho, there is evidence that Tlicho travelled towards and through Gahcho Kue looking for caribou, both alone and with the Akaitcho Dene. For the Dene, remembering the trails, the landscape, and where resources are likely to be found in the area is fundamental to their survival.

Request

- 7.1. Given that 'land' and all resources are valued components (VCS), how will the Project impact the well-being of the communities?
- 7.2. How will the impacts on wildlife impact the values Tlicho place on all wildlife and on the activities associated with wildlife?
- 7.3. How will the traditional knowledge systems be impacted as English and western concepts are used to discuss and describe the Project design as well as monitoring and mitigation associated with the environment and landscape.

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- 7.4. Will DeBeers take steps to recognize Dene concepts and perspective so their traditional knowledge system stays intact throughout the life of the mine?
- 7.5. How will destroying traditional trails impact the psyche of Dene in general and specifically that of the families who traditionally used the area?

Response

- 7.1: Hunting, fishing and trapping activity are all indicators of community well-being. According to the most recent Communities and Diamonds report (GNWT 2009), mining has had a positive effect on hunting, fishing and trapping in small communities. It is expected that this positive effect will continue with the development of the Gahcho Kué Project.
- 7.2: The Tłı̨chǫ have completed a draft Traditional Knowledge (TK) study for the Project. De Beers has reviewed and discussed the results of the study and the Tłı̨chǫ is now finalizing that report. When the results of TK study is made available, De Beers will use that information to further inform impact predictions, to evaluate whether additional mitigation or refinements to proposed mitigation is needed, and to identify additional opportunities for incorporating TK into monitoring programs.
- 7.3 and 7.4: Retaining and supporting northern Aboriginal traditional knowledge systems is important to De Beers. As such the company strives for a culturally supportive work place. The following are ongoing actions that are already supported by De Beers to recognize Dene concepts and perspectives:
- Providing printed core policies in English, French, Chipewyan, and Tłı̨chǫ.
 - Incorporating Dene culture and traditions into key site celebration activities.
 - Encouraging the practice of Aboriginal languages at the worksite when it does not compromise health and safety. English will be the general working language for conveying instructions related to operations.

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- Collaborating with Aboriginal communities on the development and delivery of training programs based on cultural value systems.
- Arranging cultural activities as part of the ongoing recreation activities planned at the site.
- Providing and maintaining space at the mine site for spiritual and cultural pursuits (De Beers 2010, Section 12.4.10, page 12-111).

7.5: Based on the available literature and the concerns identified during community consultation, no trails were identified as being disturbed. The Tłıchǵ have completed a draft TK study for the Project. De Beers has reviewed and discussed the results of the study and the Tłıchǵ is now finalizing that report. When the results of TK study is made available, De Beers will use that information to further inform impact predictions, to evaluate whether additional mitigation or refinements to proposed mitigation is needed, and to identify additional opportunities for incorporating TK into monitoring programs.

References

De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

Government of the Northwest Territories (GNWT). 2009. Communities and Diamonds 2009 Report.

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Information Request Number: TG_8

Source: Tlicho Government

Subject: Monitoring and Mitigation measures arising from TK

EIS Section: 5.4.3

Terms of Reference Section: 3.2.5

Preamble

This section presents additional monitoring and mitigation measures that arose from TK. But this is only true in a very broad sense, in that the measures being proposed are intended to respond to general concerns raised by the elders in one meeting and in some TK literature. De Beers states they are committed to monitoring. TK monitoring is vital given the location of this mine being close to a proposed protected area.

Request

- 8.1. What role specifically will TK play in the actual planning, development and implementation of these proposed measures?
- 8.2. What resources will De Beers put into TK monitoring to ensure harvesters' knowledge of change to the study area is documented, analyzed and reported by the TK research and Monitoring Division of the Tlicho government?
- 8.3. Will both harvesters' observation of change based on local knowledge as well as traditional knowledge be recognized and incorporated when designing mitigating measures?
- 8.4. Is there a difference between monitoring change by using harvesters' local knowledge and their traditional knowledge?
 - a. How are the two interrelated in the context of monitoring?
- 8.5. Will De Beers support established TK protocol and methodologies to monitor wildlife, environmental, social and cultural impacts during the life of the mine?
 - a. And after closure – until the Tlicho elders, harvesters and leadership agree reclamation has been successful?

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- 8.6. Will TK be used to monitor water flow as well as all the wildlife and plants that use the lakes and rivers associated with drainage from the mine?

Response

- 8.1 Traditional Knowledge (TK) regarding traditional resources and Traditional Land Use (TLU) activities was identified during interviews and community engagement activities. This information was incorporated into the assessment, and was used to identify valued components (VC) that require mitigation and monitoring. Consideration of these TK VCs has been incorporated into Gahcho Kué Project planning, and mitigations have been developed where applicable.

TK will be considered during Project closure and reclamation activities. Road closure and reclamation will be completed in accordance with best practices, taking into account the information provided by traditional sources. Reclamation planning will consider feedback received from TK holders through site visits, workshops, open houses, community meetings and other forms of dialogue/information exchange with De Beers.

De Beers plans to incorporate TK into all stages of the Project, and will consider it when developing mitigation and monitoring strategies. This will be achieved by:

- Continuing to advance engagement activities with communities that will provide opportunities to discuss the Project and TK that the community is willing to share.
- Continuing to work with communities to finalize and release their TK studies.
- Hosting site visits to enable the exchange of information between elders/TK holders and De Beers' staff. Visiting communities regularly to provide updated information regarding the project and incorporating an opportunity in this visit for TK holders to meet with the company to provide expertise and advice.
- From time to time, the company will provide community based workshops as part of the company's planning processes or to address specific topics.

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- Involving elders and students from their home communities together in on site and field monitoring programs from time to time.
- Featuring the events and activities that the company undertakes with the involvement of elders in the company's internal newsletters to employees and in the on-site the cultural centre as a means to sharing the knowledge and advice of elders with all staff.

Over the years there has been and will continue to be many opportunities for Tłıchǵ to provide traditional knowledge information into the Environmental Impact Review (EIR) process for the Project and De Beers encourages Tłıchǵ to provide that information. The Tłıchǵ have completed a draft TK study for the Gahcho Kué Project. De Beers has reviewed and discussed the results of the study and the Tłıchǵ is now finalizing that report. When the results of TK study are made available, De Beers will use that information to further inform impact predictions, to evaluate whether additional mitigation or refinements to proposed mitigation is needed, and to identify additional opportunities for incorporating TK into monitoring programs.

- 8.2 De Beers will continue to work with the Tłıchǵ Government and their representatives to determine how best to incorporate TK into future monitoring and the results will be made available to the Tłıchǵ Government.
- 8.3 De Beers does not differentiate 'local knowledge' from 'Traditional Knowledge' when considering observations of change identified by harvesters during monitoring programs.
- 8.4 De Beers will consider harvesters' knowledge, whether it be 'local knowledge' or 'Traditional Knowledge' when considering observations of change during monitoring programs. De Beers is prepared to discuss the interrelations of 'local knowledge' and 'Traditional Knowledge' with the Tłıchǵ Government, and the implications as they relate to monitoring programs.

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- 8.5 De Beers is prepared to discuss TK protocols and methodologies with the Tłıchǵ Government and other Government and Aboriginal Groups with the purpose of incorporating their feedback and suggestions into future monitoring.
- 8.6 De Beers will work with the Tłıchǵ Government and their representatives to determine how best to incorporate TK into future monitoring and those results will be made available to the Tłıchǵ Government.

TK as related to water and the plants and animals in and around water bodies and water courses will be incorporated into the monitoring plan. As part of De Beers' community engagement, the company monitoring plan will be discussed so that feedback and suggestions can be included. Details on the monitoring and mitigation recommendations that arose from TK are provided in the 2010 Environmental Impact Statement (EIS), Section 5.4.3 (De Beers 2010). Specifically, Section 5.4.3.1 in the 2010 EIS discusses the monitoring and mitigation measures pertinent to vegetation. Section 5.4.3.3 in the 2010 EIS notes that observations about lake trout fry movement was used in the design and positioning of habitat enhancement structures. Section 5.4.3.4 in the 2010 EIS details the role that TK played in determining mitigation strategies for reducing impacts on water quality.

References

- De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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Information Request Number: TG_9

Source: Tłıchō Government

Subject: Habitat and Vegetation

EIS Section: Section: 3.2.5

Terms of Reference Section: 3.2.5

Preamble

Given DeBeers has listed habitat, vegetation communities and landscape types found in traditional knowledge studies, and information on various wildlife.

Request

What type of vegetation-habitat types – as defined by the Tłıchō – are associated with Gahcho Kue, and how, then, do they anticipate the impacts of these will affect the wildlife that uses the area?.

Response

The vegetation-habitat types and the related impacts on wildlife are provided in 2010 Environmental Impact Statement (EIS; De Beers 2010, Sections 11.7.2.3, 7, 11.10, 11.11 and 11.12). A list of traditional plants included in the assessment is provided in the 2010 EIS on pg. 11.7-24. The traditional plant list was compiled from existing information, particularly, *Habitat and Wildlife of the Gahcho Kué and Katth'l Nene* (LKDFN 1999). Although the traditional plant list is primarily based on Traditional Knowledge (TK) provided by the Łutselk's Dene First Nation (LKDFN) documents, a TK study is being finalized by the Tłıchō Government. When the results of Tłıchō study are made available, De Beers will use that information to further inform impact predictions, to evaluate whether additional mitigation or refinements to proposed mitigation as needed, and to identify additional opportunities for incorporating TK into monitoring programs.

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References

De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N*. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

LKDFN (Lutselk's Dene First Nation). 1999. *Habitat and Wildlife of the Gacho Kué and Katth'I Nene*. Final Report. Prepared by B. Parlee. Submitted to De Beers Canada Mining Inc. July 2011.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
INFORMATION REQUEST RESPONSES

Information Request Number: TG_10

Source: Tlicho Government

Subject: Water Quality Predictions – Use of Humidity Cell Tests

EIS Section: Section 4.1.2

Terms of Reference Section: Chapter 8 and appendices

Preamble

The water quality model uses data from humidity cell tests (HCT) that have not been scaled to represent conditions at the site. This is simply poor practice and is not an accepted method. This may lead to inaccurate predictions and likely greatly underestimates the levels of contaminants in drainage from the site. We believe this is a material error.

In Attachment 8.1.3 page 8.1.3-6 the EIS report states "*The direct use of results of HCT as a source term input to water quality models is consistent with current industry practices and some regulatory guidance (e.g., Price 1997).*" This statement is incorrect. We have contacted the author Dr. Price and he has stated

"It (the prediction manual) states the opposite, that under ideal situations the test provides a measure of primary reaction rates for some minerals but the increased leaching rate prevents precipitation of secondary minerals that commonly limits release of many elements. And then there are all the differences between lab and field climate and test samples and the actual materials in particle size, volume and mass etc."

On Page 8.1.3-6 the EIS report also states "*The direct application of the results of HCT avoids the need for scaling of the kinetic test results to mine facilities (EPA 2003).*" The referred to EPA report to our understanding makes no such claim. In fact the report states

"Scaling issues are a significant obstacle when using bench-scale kinetic test results to quantitatively estimate acid generation in waste

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rock and tailings piles. Included are the effects of grain size and reactive surface area, infiltration rates, and flushing rates and volumes it is important to consider that differences between lab test conditions and the natural environment are likely to complicate extrapolation of kinetic test results."

The direct use of humidity cell data to represent drainage quality from the PK and waste rock piles is a potential serious error that must be addressed.

Request

- 10.1 Please provide water quality predictions for revised input concentrations for contaminants. The revised inputs should draw upon generally accepted methods for interpretation and scaling of humidity cell test information. (i.e. use humidity cell data to determine contaminant loadings and scale data for grain size and temperature. Complete equilibrium modelling as necessary to determine if any contaminants are solubility controlled).

Response

The direct use of laboratory test data, including the results of humidity cell tests (HCT) and saturated column tests (SCT), to represent drainage quality is an approach that has been used on many projects, in a variety of climatic settings. This approach represents a standard industry practice that has gained regulatory acceptance through application. The "Global Acid Rock Drainage Guide (GARD Guide)" (INAP 2009), states that:

"Depending on the end use of the kinetic test results, results may be expressed in terms of leachate quality (mass released/unit leachate volume), mass-based loadings (mass release/total mass/unit time), or surface-area-based loadings (mass released/total surface area/unit time)."

Pre-mining predictions require assumptions related to physical and chemical properties of mine wastes. Ultimately it is informed, professional judgement that determines the most appropriate approach for a project. In this case, application of leachate quality (mass released/unit leachate volume) was considered the most effective method for representing drainage quality from PK and waste rock

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piles. Use of a mass-based or surface-area based approach, as discussed in Maest and Kuipers (2005), can introduce uncertainty resulting in improbable water chemistry, resulting in the use of judgement-based controls, such as arbitrary scaling factors or geochemical solubility controls through modelling, to arrive at realistic solutions. In addition, these approaches treat parameters independently, and may result in water chemistry that is not geochemically credible. These methods represent an unnecessary manipulation of data that introduces additional uncertainty into the results. The direct use of leachate chemistry eliminates the need for these complex scaling methods, and incorporates the use of a geochemically credible water quality.

The direct application of kinetic test data relies on the results of laboratory tests of representative samples of PK and waste rock. The main objectives of the HCT procedure (ASTM 2007) are to determine the variation of drainage quality for a mine waste material, and to determine the rate of reaction of a material in a laboratory setting. The material used to set up a standard HCT is less than 6.3 mm in diameter (ASTM 2007). In a humidity cell test, as in a waste rock dump or PK facility, the surface area is dominated by the fines component. As stated in Morin and Hutt (1997), “a fines content of 10-20% by weight will comprise 87-94% of the reactive particle surface area,”

Mineral reactivity, and thereby drainage chemistry, is controlled by the availability of minerals and oxygen for reaction. The coarser components of a material, which tend to be the reason for calculating scaling factors in a mass- or surface area-based approach to water quality prediction, can generally be ignored in estimating drainage chemistry. Therefore, as stated in Attachment 8.I.3 of Appendix 8.I in Section 8 of the 2011 EIS Update (De Beers 2011):

“It is often reasonable and appropriate to use humidity cell concentration as a direct analogue for what could be expected in waters originating from certain mine facilities, such as mine rock dumps, despite their apparent differences in grain size (Morin and Hutt, 1997).”

The HCT procedure, however, does not account for processes that are influenced by climate. The HCT procedure is not designed to be a direct representation of actual field processes, as stated in ASTM (2007). Instead:

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“To generate the required information within a reasonable time frame, the testing procedures are designed to accelerate the natural weathering process,” (INAP 2009).

The accelerated weathering process means that:

“The humidity cell procedures do not simulate the precipitation and dissolution of secondary weathering products very well. Both of these processes often determine drainage chemistry under field conditions.” (MEND, 2009).

Given the HCT procedure prevents these limiting processes, these tests “generally will produce leachates with higher metal concentrations than would be produced naturally,” (EPA 2003). Therefore, as stated in Attachment 8.I.3 (De Beers 2011):

“The application of the results of laboratory scale geochemical tests to represent geochemical processes that will occur during operations and closure is conservative”.

The leachate chemistry used was based on the maximum of the average 75th percentile from supplemental HCT testing, or the maximum value from initial HCT testing to ensure conservatism in water quality predictions (See Appendix 8-I; De Beers 2011). This leachate chemistry is based on the mass released per unit leachate volume, which is an accepted use of kinetic test data (INAP 2009). In the water quality model, this leachate chemistry was scaled up to the total volume of water flow expected to come in contact with each material.

It is important to note, the purpose of modeling is not to produce predictions of forecasts of future conditions (Appendix 8.I; De Beers 2011). Rather, water quality models are a tool to provide “an estimate of the direction and magnitude of impacts from proposed mining operations,” and to provide “projections that are suitable for the assessment of effects.” (Attachment 8.I.3; De Beers 2011). To this end, excess scaling and manipulation of data would not serve to improve the value of the model. The approach used here maintains the integrity and value of the model, while limiting the introduction of any new sources of error or uncertainty. The results of the water quality model will be periodically evaluated and updated in the context of field-based water quality monitoring during operations and closure.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
INFORMATION REQUEST RESPONSES

References

- ASTM (American Society for Testing and Materials) D 5744 - 96. 2007. Standard Test Method for Accelerated Weathering of Solid Materials Using a Modified Humidity Cell.
- De Beers (De Beers Canada Inc.). 2011. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 3a Revision 2, 3b Revision 2, 4 Revision 2, and 5 Revision 2*. Submitted to the Mackenzie Valley Environmental Impact Review Board in Response to the Environmental Impact Statement Conformity Review. July 2011.
- EPA. 2003. EPA and Hard Rock Mining: A Source Book for Industry in the Northwest and Alaska. January 2003.
- INAP (International Network for Acid Prevention). 2009. Global Acid Rock Drainage (GARD) Guide. Rev. 0. http://www.gardguide.com/index.php/Main_Page
- Maset, A.S. and J.R. Kuipers. 2005. Predicting Water Quality at Hardrock Mines: Methods and Models, Uncertainties and State-of-the-Art Earthworks, Washington DC.
- MEND (Mine Environment Neutral Drainage). 2009. Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials. MEND Report 1.20.1. December 2009.
- Morin, K.A. and N.M. Hutt. 1997. Environmental Geochemistry of Minesite Drainage, Practical Theory and Case Studies; MDAG Pub., 1997.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
INFORMATION REQUEST RESPONSES

Information Request Number: TG_11

Source: Tlicho Government

Subject: Water Quality Predictions–phosphorus

EIS Section: Section 4.1.2

Terms of Reference Section: Chapter 8 and appendices

Preamble

Appendix 8.1.3 provides the basis for determining phosphorus *levels*. It is apparent that the humidity cell tests for the first 100 weeks or so could not be used as the limit of detection for phosphorus (P) was too high (0.015 mg/L). The data used is from measurements after week 170. This means that 170 l/kg of wash water had been applied to the waste rock samples. This is equivalent to >10,000 years of rainfall infiltration into the pile and is not likely to be representative of pile leachate phosphorus levels. Furthermore the report says it uses one half of the detection limit to estimate P levels (i.e. 0.01 mg/L). The problem here is that all the data we reviewed (e.g. HC-8 and HC-9) have a detection limit of 0.03 mg/L which suggests the level for modelling should have been 0.015 mg/L. Shake flask data monitors P levels at up to 1.5 mg/l with many samples >0.1 mg/L. This clearly shows that phosphorus is mobile in waste rock yet this data was ignored.

The selection of phosphorus levels used in the report is a potential serious issue that must be addressed.

Request

- 11.1 Methods used to assess phosphorus levels in waste rock drainage are believed to be inaccurate. Will De Beers Canada Inc. Complete suitable additional studies to better characterize phosphorus levels and update water quality predictions? (e.g., consider using shaker flask data and scaling phosphorus leaching data, completing tests such as EPA meteoric water leach procedure, and use of large scale column tests with infiltration rates typical annual infiltration at the site.

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Response

In advance of receiving your request (and as recommended in your request), the methods used to assess total phosphorus (TP) concentrations in waste rock drainage have been modified in Appendix 8.III of the 2012 Environmental Impact Statement (EIS) Supplement (De Beers 2012).

The methods used to assess TP concentrations in waste rock drainage have been modified in Appendix 8.III of the 2012 EIS Supplement (De Beers 2012). A series of additional tests were conducted, including shake flask extraction (SFE), humidity cell and submerged column testing. The leachates from these tests were analyzed for TP concentrations using both ICP-MS at a detection limit of 0.0045 milligrams per litre (mg/L) and colorimetry at a detection limit of 0.002 mg/L. The more precise analytical methods for TP in the supplemental geochemical testing reported significantly lower TP concentrations in waste rock kinetic testing than those reported in the 2010 EIS (De Beers 2010).

Results from SFE are commonly used to evaluate initial flush conditions, but not long term (steady state) conditions. It is not appropriate to directly relate the amount of water to an equivalent amount of rainfall (or duration that would represent) since there are geochemical processes such as equilibrium reactions, adsorption, and overall weathering reactions that limit the rate of release. For long term conditions it is more appropriate to use the humidity cell test results or submerged column test results as these are expected to more accurately reflect the processes involved. An updated evaluation and water quality assessment has been provided in the 2012 EIS Supplement.

The most recent source term inputs for TP are based only on the results of the supplemental testing of mine rock and processed kimberlite (PK) material, averaging the 75th percentile concentrations for TP generated in humidity cell and submerged column testing of mine rock and PK samples. The updated source term inputs have been used in the water quality modeling to predict long-term steady state water chemistry in Kennady Lake and downstream waters.

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Reference

De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. *Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N*. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

De Beers. 2012. *Environmental Impact Statement Supplemental Information Submission for the Gahcho Kué Project*. Submitted to the Mackenzie Valley Environmental Impact Review Board. April 2012.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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Information Request Number: TG_12

Source: Tlicho Government

Subject: Water Quality Predictions – Potential Acid Generating Waste Rock

EIS Section: Section 4.1.2

Terms of Reference Section: Chapter 8 and appendices

Preamble

Pg 8.11-63 states

"Although there is very little NP in the mine rock, there is generally very low concentrations of sulphide. Less than 10% of all the mine rock samples are classified as PAG and another 30% of samples have an uncertain PAG classification. 0.3 wt% total sulphur, which is generally considered to be the minimum concentrations of sulphur needed for acid generation. Fourteen of the 1,236 samples (1.1%) reported sulphide concentrations exceeding 0.3% and NP/AP ratios of less than three."

There are some confusing and incorrect facts, specifically:

- i) Samples of granitic rock with <0.3% sulphur commonly produce acid drainage; and
- ii) This sections says <10% PAG and 30% potentially PAG, while page 8-170 says <6% in PAG.

Request

- 12.1 Please clarify the quantities and percentages of PAG waste rock. Also describe how to manage PAG and potentially PAG if this represents 30-40% of the waste (page 8.11-63).

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Response

The use of 30% in the paragraph on page 8.II-63 of Appendix 8.II, Section 8 of the 2010 Environmental Impact Statement (EIS; De Beers 2010) listed in the preamble is a typographical error and should read “*another 13% of samples have an uncertain PAG classification*”. This has been updated in Appendix 8.III of the 2012 EIS Supplement (De Beers 2012).

As described in Section 8.II.7, Appendix 8.II, Section 8 of the 2010 EIS, material is classified as potentially acid generating (PAG) when reporting both neutralization potential ratio (NPR) values below 3.0 and sulphide-sulphur concentrations exceeding 0.3%. The criterion of 0.3% sulphide-sulphur when combined with paste pH values greater than 5.5 is used as a typical screening level employed for waste rock classification with respect to acid rock drainage (ARD) and is considered suitable for use at this site, given the rock types and mitigation strategies to be used. This is described in Section 8.II.5.1.1, Appendix 8.II, Section 8 of the 2010 EIS.

Where the total sulphide-sulphur concentration of materials from these rock types is less than 0.3 percent sulphide, it is considered that there is insufficient acid generation potential to produce appreciable acidity over the long term. Furthermore, mitigation associated with the deposition of PAG materials will limit oxygen availability to sulphide materials, and hence limit the rate of potential acid generation. In addition, the use of an NPR guideline of 3.0 is conservative based on the criteria described in Price (1997), which classifies material reporting an NPR between 1.0 and 3.0 as having uncertain acid generation potential.

As described on page 8.II-96, Appendix 8.II, Section 8 of the 2010 EIS, the results of kinetic testing and short-term leach testing support this classification, with samples currently classified as non-potentially acid generating (non-PAG) reporting stable or neutral pH values in leachates. These criteria and interpretation of the criteria are consistent with industry standards and consistent with results as observed in the updated humidity cell testing as presented in the 2012 EIS Supplement (De Beers 2012), and are considered appropriate for this site.

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As reported on page 8-II-63, Appendix 8.II, Section 8 of the 2010 EIS, 13% of the the mine rock samples reported NPR values between 1 and 3, whereas four percent of the samples had an NPR below 1. Most of these samples contained less than 0.3% sulphide minerals. For this site, given that the paste pH values are consistently greater than 5.5, it is considered that there is insufficient sulphide present at levels below 0.3% to produce appreciable acidity. Samples reporting NPR values between 1 and 3, and sulphide sulphur concentrations below 0.3% are therefore classified as non-PAG.

Since it is recognized that there is still some percentage of rock that is PAG, an operational monitoring and mitigation plan will be implemented. Based on the site-specific criteria described above, less than 6% of mine rock is classified as PAG. Given the expected mine rock and processed kimberlite (PK) compositions, there is considered ample storage space within the pits and pile to accommodate all projected PAG materials.

Reference

- De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project*. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.
- De Beers. 2012. *Environmental Impact Statement Supplemental Information Submission for the Gahcho Kué Project*. Submitted to the Mackenzie Valley Environmental Impact Review Board. April 2012.
- Price, W. 1997. *Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia*. B.C. Ministry of Employment and Investment (Ministry of Energy and Mines), Victoria, British Columbia

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Glossary

Acid Rock Drainage (ARD): Acidic pH rock drainage due to the oxidation of sulphide minerals that includes natural acidic drainage from rock not related to mining activity.

Neutralization Potential (NP): The bulk amount of acidity that the sample can potentially consume or neutralize. The NP is determined by acidifying the sample with sulphuric acid. Following the acidification of the sample, the amount of acid that is consumed during the test period is determined by a reverse titration.

Neutralization Potential Ratio (NPR): The ratio of neutralization potential to acid potential of a material.

Non-Potentially Acid Generating (non-PAG): Rock with an NPR greater than 3 and less than 0.3% sulphide-sulphur content as determined by static tests.

Potentially Acid Generating (PAG): Rock with an NP/AP ratio less than 3 and greater than 0.3% sulphide-sulphur content as determined by static tests.

**GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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Information Request Number: TG_13

Source: Tlicho Government

Subject: Water Quality Predictions – Leaching Rates

EIS Section: Section 4.1.2

Terms of Reference Section: Chapter 8 and appendices

Preamble

The report uses water quality from the first five cycles of the humidity cell test to characterize short term releases from the waste rock piles and processed kimberlite (PK) piles. For a 1 kg sample, a total of six litres of water would have been applied during this "short term" period. This is equivalent to about 2500 years of rainfall infiltration into a pile.

Request

- 13.1 Even if humidity cell data could be used directly; how does a drainage produced after the equivalent of 2500 years of infiltration represent short term leaching?
- 13.2 Please justify or revise the basis for assessing short term leaching characteristics for PK and waste rock.

Response

- 13.1 The rationale for using direct humidity cell results is provided in the response to TG_10. The application of first flush leachate quality to represent drainage quality from the mine waste piles provides a conservative estimate of the drainage chemistry. In this approach, a unit of mass per unit of volume, as determined based on the humidity cell testing, is scaled to the field conditions by extrapolating the unit mass to the expected volumes under ambient conditions. Under this set of assumptions, the quality of the drainage is considered to be representative of the predicted flows at the site (EBA 2011) and not 2500 years of precipitation. For example, the loadings for 2500 years of precipitation would be much higher than those presented in the 2012 EIS Supplement (De Beers 2012).

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13.2 As stated in the Global Acid Rock Drainage (GARD) Guide (INAP 2009):

“To generate the required information within a reasonable time frame, the testing procedures are designed to accelerate the natural weathering process.”

As such, the direct application of first flush leachates to short-term processes will likely yield conservative parameter concentrations due to the aggressive nature of the test. In addition, as noted in both the GARD Guide (INAP, 2009) and Maest and Kuipers (2005), the use of first flush kinetic results are particularly relevant for modeling behaviour under conditions such as high precipitation storm events, due to the aggressive nature of the test. These results were applied as conservative inputs to the model during periods of high flow during the freshet period, which accounts for 56% of the flow volume generated by annual precipitation.

References

- De Beers. 2012. Environmental Impact Statement Supplemental Information Submission for the Gahcho Kué Project. Submitted to the Mackenzie Valley Environmental Impact Review Board. April 2012.
- EBA. 2011. Updated Summary of Water Management and Balance during Mine Operation, Gahcho Kué, NWT (for updated fine PK disposal plan – Option 2). EBA File: E14101143.
- INAP (International Network for Acid Prevention). 2009. Global Acid Rock Drainage (GARD) Guide. Rev. 0. http://www.gardguide.com/index.php/Main_Page
- Maest, A. S. and Kuipers, J. R. 2005. Predicting Water Quality at Hardrock Mines – Methods and Models, Uncertainties, and State-of-the-Art. Kuipers & Associates. Butte, MT.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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Information Request Number: TG_14

Source: Tlicho Government

Subject: Water Quality Predictions – Leaching Rates

EIS Section: Section 4.1.2

Terms of Reference Section: Chapter 8 and appendices

Preamble

Ammonia levels are not projected to be of issue while this has been a significant concern at many mines in the North (e.g. Diavik). Flows at Gahcho Kue are much lower than at Diavik and one would expect much higher concentrations of ammonia from blasting as a result.

Request

14.1 Please clarify why ammonia from blasting will not be an issue at Gahcho Kue.

Response

The ammonia concentrations resulting from blasting are not expected to be an issue at the Gahcho Kué Project site as a result of the site specific water management strategy, which controls discharge to downstream watersheds during operations and allows for storage of water in the mined out Tuzo pit at closure, which is not expected to mix with Kennady Lake as a result of meromixis development.

The assumptions used to calculate nutrient release from explosives are provided in Section 8.II.2.4.5.3 in Appendix 8.II of the 2012 EIS Supplement (De Beers 2012). As can be seen in Table 8.II-6 in this section, De Beers proposes to use a combination of Ammonia Nitrate Fuel Oil (ANFO) (70%) and emulsion (30%) for blasting activities at the site. A waste rate of 5% was assumed for both types of explosives and the mass release was directed to the water management pond in Areas 3 and 5. Treatment of the blasted residues in this manner is considered conservative for several reasons:

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- 1) Emulsion waste rates are usually less than ANFO;
- 2) The approach does not account for attenuation of explosive mass being locked up in the mine rock and coarse PK piles or the Fine PKC Facility, and all residual explosives are assumed to be instantaneously released to the water management pond. This approach assumes that all of the residual mass from blasting activities will be available for dissolution and advective transport to the water management pond;
- 3) Residual nutrient loadings from explosive usage are considered to be instantaneously released to the water management pond in the latter stages of the mine life when pit inflows are reclaimed to the process plant and fine PK is deposited in the Hearne pit; and
- 4) Nutrients were modelled as conservative parameters and no attenuation, such as volatilization or chemical transformation, in surface water bodies was considered. This provides a conservative estimate of the water quality since this approach assumes all of the residual mass is dissolved in the water management pond.

Residual nitrogen loadings from explosive usage are assumed to be directed to the water management pond in Areas 3 and 5 throughout operations until blasting activities have been terminated at the cessation of mining. Nitrogen concentrations in the water management pond are expected to sharply decrease at closure when no more blasting occurs and the available residual is attenuated by natural runoff refilling Kennady Lake.

Residual nitrogen loading to downstream watersheds is limited to the operational dewatering discharges to Lake N11, which are scheduled during construction and the first four years of operations. During the initial operational dewatering to Lake N11, the accumulated residual nitrogen mass in the water management pond is not expected to result in concentrations that would present a risk to aquatic life in Lake N11. The discharge water quality will be monitored to ensure that it meets the discharge criteria. Once this operational dewatering ceases,

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water is not released from Kennady Lake until post-closure, once the lake has been refilled.

At closure, a large proportion of the water stored in the water management pond is transferred to Tuzo pit to expedite refilling of this facility. This water will possess a large mass of residual nitrogen, so its transfer will result in a mass loss that will reduce the potential nitrogen-nutrient concentrations in the refilled Kennady Lake. The water transferred to Tuzo pit will be isolated from the overlying Kennady Lake water through the rapid development of a pycnocline (chemocline) in the lower portion of the pit. The remaining mass of residual nitrogen is then diluted by natural runoff and supplemental water pumped from Lake N11, all of which have naturally low ammonia concentrations.

It is estimated that it will take approximately eight years for the lake to refill. Once refilling is completed, modelled water chemistry in Kennady Lake and downstream waters indicate that nutrient concentrations will be below concentrations that could potentially exert a negative effect to aquatic life in Kennady Lake or the downstream watersheds. The Kennady Lake water quality will be monitored during refilling and should the results vary from predictions, adaptive management strategies will be triggered.

Further information regarding the modelling approach pertaining to residual nitrogen from blasting to water quality will be presented in the 2012 EIS Supplement (Section 8.7 and Appendix 8.II, De Beers 2012).

References

- De Beers. 2012. Environmental Impact Statement Supplemental Information
Submission for the Gahcho Kué Project. Submitted to the Mackenzie Valley
Environmental Impact Review Board. April 2012.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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Information Request Number: TG_15

Source: Tlicho Government

Subject: Water Quality Predictions – Ammonia

EIS Section: Section 4.1.2

Terms of Reference Section: Chapter 8 and appendices

Preamble

Ammonia levels are not projected to be of issue while this has been a significant concern at many mines in the North (e.g. Diavik). Flows at Gahcho Kue are much lower than at Diavik and one would expect much higher concentrations of ammonia from blasting as a result.

Request

15.1 Please clarify why ammonia from blasting will not be an issue at Gahcho Kue.

Response

This is the same Information Request as TG_14. Please refer to the response provided by De Beers to TG_14.

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Information Request Number: TG_16

Source: Tlicho Government

Subject: Water Quality Predictions – Trace Contaminants

EIS Section: Section 4.1.2

Terms of Reference Section: Chapter 8 and appendices

Preamble

A review of the leaching data suggests that a number of trace contaminants are mobile from waste rock and processed kimberlite. These include arsenic, selenium and molybdenum, all of which can be leached under alkaline conditions. Because humidity cell data has been used directly, these as well as many other elements do appear to be of concern and we are not convinced this is the case. For example As (arsenic) levels in "first flush" of granitic waste rock are reported at 0.025 mg/L. This is an arsenic dissolution rate of 0.025 mg/kg/wk. For a 30 m high pile this would be the equivalent of 1500 mg/m²/wk. If we assume loadings from the pile are reduced by a factor of 500 to account for grain size and temperature etc., concentration in seepage would >1 mg/L. This is materially different than the humidity cell result.

Request

- 16.1 Should revised water quality predictions (previously requested) show elevated levels of heavy metals, arsenic, selenium etc., please describe how these will be managed in both the short and long term.

Response

The rationale for the direct use of humidity cell test (HCT) and saturated column tests (SCT) is explained in the response to TG_10. The approach to model water quality projections provided in the 2012 EIS Supplement (De Beers 2012) is considered reasonable for the assessment of environmental impacts at the Gahcho Kué Project; additional model iterations are not required.

In the water quality model, the 0.025 mg/L reported in the "first flush" of granitic mine rock is assigned to the total volume of flow expected to come in contact

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT INFORMATION REQUEST RESPONSES

with the mine rock during freshet months. This value represents the average 75th percentile arsenic concentration reported in leachate from all granitic mine rock humidity cells collected in the first five weeks of analysis (see Appendix 8.II of the 2012 EIS Supplement). This application of leachate quality (i.e., mass released/unit leachate volume) is a standard industry practice that has gained regulatory acceptance through application.

Loadings-based approaches, such as the one described in the preamble, commonly overestimate the expected drainage water quality from mine materials, sometimes by several orders of magnitude. For example, at a near-neutral pH, the expected arsenic concentration would be between 0.01 and 0.1 mg/L (Plumlee et al. 1999), which is up to two orders of magnitude less than the concentrations calculated using a loadings-based approach discussed in the preamble. As demonstrated in the preamble, this approach, can result in improbable water quality projections, resulting in the use of judgement-based controls, such as arbitrary scaling factors. The direct use of leachate quality eliminates the need for these complex scaling methods, and incorporates the use of a geochemically credible water quality.

As presented in Attachment 8.I.3 of Appendix 8.II of the EIS Supplement (De Beers 2012), the leachate approach to determine water chemistry projections used in the EIS provides a reasonable “estimate of the direction and magnitude of impacts from proposed mining operations,” and “projections that are suitable for the assessment of effects”.

References

- De Beers (De Beers Canada Inc.). 2012. Environmental Impact Statement Supplemental Information Submission for the Gahcho Kué Project. Submitted to the Mackenzie Valley Environmental Impact Review Board. April 2012.
- Plumlee, G.S., K.S. Smith, M.R. Montour, W.H. Ficklin, and E.L. Mosier. 1999. Geologic Controls on the Composition of Natural Waters Draining Diverse Mineral Deposit Types, in Plumlee, G. S., and Logsdon, M. J., eds., *The Environmental Geochemistry of Mineral Deposits, Reviews in Econ. Geology*, vol. 6B: Littleton, CO, Soc. Econ. Geologists, p. 373- 471.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
INFORMATION REQUEST RESPONSES

Information Request Number: TG_17

Source: Tlicho Government

Subject: Water Quality Predictions – pH Levels On Site

EIS Section: Section 4.1.2

Terms of Reference Section: Chapter 8 and appendices

Preamble

The report on Table 8.8-13 has developed a water quality criterion for ammonia. The levels assume an ambient pH of 6.7 and temperature of 15°C. The pH value is a value typical of background. Ammonia toxicity is greatly impacted by pH with toxicity increasing as pH rises. All testing data has shown that runoff from the PK and waste rock piles is quite alkaline (pH>8.0). It is not understood why pH levels would not be impacted from discharges during operation or in Kennady Lake at closure (the receptor of all alkaline discharges).

Request

- 17.1 Please provide justification for predictions that pH levels will not be impacted by alkaline discharges from the PK and waste rock piles. If pH is impacted please provide data on unionized ammonia levels at higher pH levels.

Response

Water quality in Kennady Lake during operations, closure and post-closure was derived using a flow and mass-balance water quality model, developed in GoldSim™, for a range of water chemistry parameters. GoldSim™ is designed to provide conservative estimates of simulated water qualities in the absence of geochemical controls such as precipitation, dissolution or adsorption. This approach is considered appropriate for most modeled species since it provides a conservative estimate of the water quality in Kennady Lake. However, there are several other processes, such as gas exchange, acidity and alkalinity loading, that can influence the pH of a modeled system and pH cannot be accurately predicted using the GoldSim™ code. As such, the expected pH in Kennady Lake after mining commences was evaluated qualitatively.

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Table 8.3-21 of the 2012 EIS Supplement (De Beers 2012) indicates ambient pH naturally ranges in Kennady Lake from 6.0 to 7.6 during under-ice conditions and from 6.1 to 8.3 during the open water season. The following pH ranges were observed in the geochemical testwork:

- The long-term pH values reported in saturated column tests (SCT) of fine PK were 7.8 to 9.4, with an average value of 8.5. Humidity cell testing (HCT) of these materials reported pH values ranging from 7.4 to 9.1, with an average of 8.2.
- SCT of coarse PK reported a pH range of 7.9 to 9.4, with an average of 8.4. The observed pH range observed in the HCT was 7.4 to 8.4, with an average of 7.8.
- Mine rock leachates reported weakly acidic to neutral pH values in the long term, with the exception of the low proportion of samples classified as potentially acid generating (PAG). The average steady state pH value for non-PAG mine rock in HCT (6.8) was lower than the average value reported at steady state from SCT (7.8). The pH ranged from 5.7 to 7.7 and 7.7 to 7.9, respectively in these tests.

The waste management plan indicates that potentially acid generating (PAG) mine rock will be managed to prevent oxidation of these materials. As a result, the water quality modelling assumed that there would be no Acid Rock Drainage (ARD) to Kennady Lake. A negative pH shift is not expected to occur in Kennady Lake since the observed pH range of mine rock geochemical testing is generally with the ambient pH range observed in Kennady Lake.

As presented in the Project Description in Section 3 of the 2012 EIS Supplement (De Beers 2012), the Fine PKC Facility and Coarse PK Pile will be covered with mine rock once these facilities have reached their design storage capacity. The purpose of this mine management strategy is to minimize the volumes of water in contact with PK to reduce loadings to Kennady Lake. As a result, much of the water originating from these facilities will be in contact with mine rock. As presented above, the drainage from the mine rock observed in the geochemical testing is slightly acidic to neutral and is generally within the range of values observed naturally in Kennady Lake. Therefore, the observed conditions in

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT INFORMATION REQUEST RESPONSES

Kennady Lake are considered appropriate to represent the pH conditions in Kennady Lake.

Table 8.3-21 of the 2011 EIS Update (De Beers 2011) indicates the water temperature in Kennady Lake ranges from 0 to 20 degrees in Kennady Lake. The CCME guideline for ammonia (CCME 2011) decreases as temperature increases at a defined pH. The maximum temperature was selected to provide a guideline value to evaluate the projected ammonia concentrations in Kennady Lake.

Predicted water quality is based on several inputs (i.e., surface flows, groundwater flows and seepage, background water quality and geochemical characterization), all of which have inherent variability and uncertainty. As such, it is suggested that water quality predictions should not be used to predict absolute concentrations, but rather as a planning tool and to develop monitoring plans (Appendix 8.1.5; De Beers 2011). It is anticipated that runoff and seepage from the reclaimed facilities will be monitored during operations to compare to EIS predictions. If it is identified that the quality of runoff or seepage varies from predictions, adaptive management strategies will be triggered.

References

- CCME (Canadian Council of Ministers of the Environment. 1999. Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life. In: Canadian Environmental Quality Guidelines Canadian Environmental Quality Guidelines with updates to 2011. Canadian Council of Ministers of the Environment. Winnipeg, MB.
- De Beers (De Beers Canada Inc.). 2011. Environmental Impact Statement for the Gahcho Kué Project. Volumes 3a Revision 2, 3b Revision 2, 4 Revision 2, and 5 Revision 2. Submitted to the Mackenzie Valley Environmental Impact Review Board in Response to the Environmental Impact Statement Conformity Review. July 2011.



April 2012

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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De Beers. 2012. Environmental Impact Statement Supplemental Information
Submission for the Gahcho Kué Project. Submitted to the Mackenzie Valley
Environmental Impact Review Board. April 2012.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT INFORMATION REQUEST RESPONSES

Information Request Number: TG_18

Source: Tlicho Government

Subject: Socio-economic Commitments by the Developer and Contractors

EIS Section: Chapter 12 pp. 107, 243

Terms of Reference: Section 8 Deliverables

Preamble

It is difficult for the Tlicho Government to assess the comprehensiveness of all socio-economic economic commitments, given the length of Chapter 12 and associated Appendices, and the wide spread mention of the developers' commitments. In some cases it is difficult to assess the clarity of individual commitments of the developer, or whether a commitment exists at all. For example, the Tlicho Government is concerned whenever it sees statements such as the following on page 12-109:

"Incentives may also be provided to employees interested in volunteering their time for social or cultural programs or activities in their home communities."

This language leaves the question of whether this is a set plan, program or policy of the developer, or an interesting idea it may consider under an unknown set of conditions. Clarification is a necessity on this and any other similarly worded 'commitments'.

Page 12-243 (Table 12.7-4) identifies a developer commitment as *"verify that hiring commitments from contractors are met"*. It is not clear what the full extent of those expected commitments are.

Request

- 18.1 Please provide a table listing all of the developer's commitments related to social, economic and cultural mitigation and monitoring, along with a column identifying where in the text of the EIS this information and the assessment it is based on can be found.

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- 18.2 Please reconsider and clarify any commitments that leave unclear whether and how the proposed plan, policy or any other action would be implemented.
- 18.3 Please identify what 'hiring commitments' and other human resource management commitments contractors are going to be expected to adhere to, how verification would occur, and what actions would be implemented if contractors do not meet their hiring or any other commitments.

Response

- 18.1 Socio-economic commitments for the proposed Gahcho Kué Project are provided in the 2010 Environmental Impact Statement (EIS; De Beers 2010, Section 1, Appendix 1.VIII) and in Table TG_18-1 below. The table is split into different levels of responsibility descending from De Beers, to mutual responsibilities shared by multiple Parties, to the Government of the Northwest Territories (GNWT) and finally to Aboriginal communities. The commitments detailed in the 2010 EIS, while in many cases overlapping, build on the policies developed by De Beers for the Snap Lake Mine to meet its commitments for that Project. De Beers' broad best practice principles and corporate policies underpin De Beers' commitment to operating in a socially responsible manner. Monitoring and reporting by De Beers at the Snap Lake Mine in the NWT has built upon these principles, the regulatory requirements and the existing industry standard established by other existing mining developments, and the regulatory bodies (namely, Mackenzie Valley Environmental Impact Review Board [MVEIRB]). De Beers has developed the socio-economic commitments for the Gahcho Kué Project based on past socio-economic agreements for other mines and the lessons learned from the Snap Lake Mine.

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Table TG_18-1 Gahcho Kué ESIA Socio-Economic Commitments

EIS Section	Environmental Design Features and Commitments
De Beers Commitments	
10.9.2	<p>[De Beers will] develop a tracking system to go along with the implementation of programs and other commitments.</p> <p>[De Beers will] produce an annual report with public dissemination for all who are interested.</p> <p>[De Beers will] produce reports on its commitments in the Gahcho Kue Socio-economic agreement.</p>
12.6.1.7; Table 12.6-21 (Table lists the following commitments from the Gahcho Kué EIS)	<p>690 FTEs during construction year 1, 372 FTEs during operations, fewer than 100 FTEs during interim closure and reclamation phase, fewer than 2 FTEs at closure.</p> <p>Offer employment for those with high school graduation or General Equivalency Diploma (De Beers will consider level of experience in lieu of education during some circumstances).</p> <p>Procurement needs will be sourced from NWT businesses as much as practical during construction, operations, and closure.</p> <p>Bring money management course to communities through banking establishment.</p> <p>Provide money management training.</p> <p>Participation in Labour Force Strategy along with the GNWT and other mining operations.</p> <p>A position will continue to be staffed with the responsibility to act as a liaison between De Beers, and the GNWT, Aboriginal groups, and NWT businesses.</p> <p>Working with local employment officers, and advertise in northern newspapers and the company website positions available at the Project.</p> <p>Maintain a 1-800 number in the NWT for employment information and job opportunities.</p> <p>Work with and encourage contractors to participate and support De Beers' commitments related to general hiring commitments as well as promoting the participation of women in the workforce.</p> <p>Provide supervisor and mentor training.</p> <p>Provide apprenticeship positions for NWT Aboriginal residents and other NWT residents who successfully meet trades entrance requirements.</p> <p>Work with community agencies to ensure that literacy programs will be directly linked to other kinds of upgrading, education, and training programs, so that participants may further improve their qualifications towards employment.</p> <p>Make best efforts to schedule training so that potential employees who have completed the training will be able to take immediate advantage of employment opportunities with the Project, and encourage contractors to do the same.</p> <p>Establishing a mine orientation program for all new employees.</p> <p>Provide First Aid/CPR, SHE and WHMIS training.</p> <p>Use 2:2 rotations to maximize time in the community.</p> <p>Provide return air transportation to employees travelling from designated pick-up points in NWT communities and the Project.</p>

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Table TG_18-1 Gahcho Kué ESIA Socio-Economic Commitments (continued)

EIS Section	Environmental Design Features and Commitments
	Conduct a training needs assessment to identify existing educational and/or skill levels of Aboriginal community members and other NWT residents who apply for positions.
	Collaborate with Aboriginal communities on the development and delivery of training programs based on cultural value systems.
	Promote and encourage partnerships with Aurora College and other Canadian post-secondary education institutions to establish work experience and job placement programs.
	[Provide] scholarships for female NWT students who are attending college and/or university.
	Make female role models available for school programs to promote women working at the Project.
	Maintain an NWT business policy.
	Sessions will be held in Yellowknife to provide summary information on contracting opportunities.
	Identify possible opportunities for joint ventures with Aboriginal businesses.
	Develop a flexible contracting approach by size and scope to match the capacity of Aboriginal businesses and NWT businesses where feasible and share business-related expertise with industry contacts to support NWT mine-related business initiatives.
12.6.2.5	De Beers will continue to support Cultural events in communities.
	De Beers will continue to support literacy programming.
	De Beers will provide a comprehensive benefits plan to all its employees (plan concerns services to assist with family issues, work performance, career development and general health and wellness).
	De Beers will provide family counselling services for mine employees and their families. Such services might include family and relationship counselling, stress management, anger management, support services for women and single mothers, child-care services, and parenting training.
	With sufficient notice and flexibility in their rotation schedule, De Beers also provides opportunities for employees who wish to be engaged in traditional activities.
	To encourage employees to continue with formal volunteering, or to get new employee volunteers into communities, De Beers includes among its benefits a volunteer incentive.
	De Beers will not discourage the use of Aboriginal languages at the Mine Site, in circumstances where health and safety are not a concern.

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Table TG_18-1 Gahcho Kué ESIA Socio-Economic Commitments (continued)

EIS Section	Environmental Design Features and Commitments
12.6.2.5 (Table 12.6-31) (De Beers will employ mitigation measures as follows)	[Provide] language program support assistance in communities.
	[Provide] financial or in-kind support for local cultural programming.
	[Provide] financial or in-kind support for language support programs in communities.
	[Provide] financial or in-kind support for on-the-land programming.
	Coordinate and welcome special site visits with Aboriginal leaders.
	Provide and maintain space at the mine site for spiritual and cultural pursuits.
	Provide core policies in Chipewyan and Tłı́ch̓, as well as English and French.
	Offer drug and alcohol programming.
	Provide return air transportation to employees travelling from designated pick-up points in NWT communities and the Project encourage the practice of Aboriginal languages at the worksite when it does not compromise health and safety .
	[Provide] cultural awareness and cross-cultural training for northern Aboriginal and non-Aboriginal workers.
12.6.3.4	Offer northern relocation benefit.
	[De Beers will] requiring completion of Grade 10 (or General Equivalency Diploma). De Beers does consider the experiences of individuals not meeting minimum education requirements for entry level positions on a case-by-case basis.
	[De Beers will] offer education and training programs to qualified staff as a means to enhance skills.
12.6.3.4 (Table 12.6-41)	[De Beers will provide the following benefits to employees:] counselling and family support; money management; medical and dental benefits; and drug and alcohol counselling.
	[De Beers will] establish a recruitment and training strategy for school students that encourages and promotes the completion secondary school.
	[De Beers will] offer scholarships and awards for women who are in an apprenticeship program with the project.

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Table TG_18-1 Gahcho Kué ESIA Socio-Economic Commitments (continued)

EIS Section	Environmental Design Features and Commitments
12.7.1.5 (Table 12-7-4) (De Beers will provide the following mitigation measures)	maintain two Community Liaison Coordinator positions to work with communities throughout life of the Project.
	contract positions related to procurement opportunities.
	work with local employment officers, and advertise positions available in northern newspapers and the company website .
	work through Skills Canada, the Native Women's Association of the Northwest Territories, the Northwest Territories Status of Women Council, Aurora College, Aboriginal communities, and the Government of the Northwest Territories to promote women in trades and mining occupations.
	verify that hiring commitments from contractors are met.
	provide employment incentives (e.g., performance).
	financial or in-kind support "women in trades" programs in partnership with educational institutions and women's groups in selected communities.
	establish a recruitment and training strategy for school students that encourages and promotes the completion of secondary school and awards for women who are in an apprenticeship program with the Project.
	encourage career development and advancement for young Aboriginal employees through mentoring program.
	establish a mine orientation program for all new employees.
	provide apprentice and trade positions.
	encourage partnerships with NWT schools regarding work experience and job placement programs.
	work with and encourage contractors to participate and support De Beers' commitments related to general hiring commitments as well as promoting the participation of women in the workforce and provide employment incentives to encourage relocation to the NWT.

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Table TG_18-1 Gahcho Kué ESIA Socio-Economic Commitments (continued)

EIS Section	Environmental Design Features and Commitments
12.7.3.1.3 (Table 12.7-15) (De Beers will employ the following environmental design features)	Offer pick-up points throughout the LSA communities.
	Construction, operations and closure camp will include the necessary facilities to sustain the workforce at the site, including medical personnel accessible 24/7, reducing demand on transport of material and people.
	Industry covers cost of upgrades and maintenance of the winter road.
	Offer northern relocation benefit.
	Direct flights reducing demand on NWT's largest airport.
	Private medical services.
	On-site recycling.
	Undertake regular monitoring and reporting (consultation, annual report).
	Compact layout of the surface facilities will limit the area disturbed at construction and increase site operations efficiency.
	Equipment noise sources will be limited by locating them inside buildings, to the extent possible.
	Limit use of airstrip to mine and exploration activities.
	Watering of roads, airstrip, and laydown areas will facilitate dust suppression.
	Speed limits will be established and enforced.
	The Project will have a comprehensive water management system, designed to reduce downstream effects.
	All buildings will be removed at closure.
	At closure, transportation corridors and the airstrip will be scarified and loosened to encourage natural revegetation, and re-contoured where possible.
12.8.6.4	Kennady Lake will be refilled after operations.
	At closure, the entire site will be stabilized and contoured to blend with the surrounding landscape where possible.
	Do systematic data collection for sites that cannot be avoided during construction and operations.
	Ongoing implementation of Sustainability Policies and Programs including:
	Training of Employees (Leadership Program); Books in Homes (literacy program); Hospital Foundation Fundraisers (and other community events); Cultural Programs (with Aboriginal communities and other institutions).

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18.2 De Beers Canada's commitments are underpinned by the company's policies, operating procedures, and management plans. De Beers has articulated its commitments in a number of places in the 2010 EIS (De Beers 2010, Section 1, Appendix 1.VIII) and has provided a table listing our commitments in Table 18.1 above. It is difficult for De Beers to know which commitments specifically remain unclear to the Tłıchō Government with respect to implementation. De Beers would be pleased to meeting with the Tłıchō Government to provide clarification on specific commitments.

18.3 In the 2010 EIS (De Beers 2010, Section 10, page 12-106), De Beers confirms that during construction, operations and closure, the company's commitment is to hire according to preferences and order indicated below for the entire spectrum of Project based employment to Aboriginal people living in the communities within the Socio-Economic local study area (LSA):

- Aboriginal people living in the communities within the Socio-economic Local Study Area.
- Aboriginal people living in the NWT.
- Other NWT Residents.
- Those relocating to the NWT.
- All others.

De Beers, through the tendering and contracting processes, will request that its contractors to follow the same hiring priorities. De Beers will track and report the same employment measurement endpoints the Project that are currently being tracked and reported for the Snap Lake Mine. This reporting will be incorporated into annual reporting following receipt of permits. De Beers will meet with contractors to review their employment data and will work with contractors to put in place programs that support training and development of a skilled northern workforce. The company will manage performance of its contractors through its supply chain policies and procedures.

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References

De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N.* Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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Information Request Number: TG_19

Source: Tlicho Government

Subject: SEIA Methods, including Impact Identification and Significance Estimation

EIS Section: Chapter 12 pp 122, 225

Terms of Reference Section: 3.2 (Methods)

Preamble

Section 12.5.7.2 describes "determination" of significance by the developer. This is not accepted terminology for EIA in the Mackenzie Valley. Determination of significance is a process reserved for the Review Board during environmental assessment, and the Review Panel during an environmental impact review. Regardless, the Tlicho Government has some concerns about the way in which the developer's significance 'estimation' has thus far been conducted.

The Tlicho Government holds that impacts on its citizens cannot be estimated with any confidence without active involvement of the people themselves. This is especially true in the social and cultural realms. As the EIS states at page 12-136, *"Familiarization with the socio-economic environment and, if possible, with the socio-economic impacts of other mines in the LSA ... "* is essential, yet the engagement of residents of the Tlicho portion of the LSA is not evident. The EIS shows little if any inputs from Tlicho citizens in actual impact identification or significance estimation across any impact assessment realm. This is of high concern as it is symptomatic of a lack of meaningful incorporation of Aboriginal perspectives throughout the EIS.

Also of high concern is the 'translation' of traditional knowledge inputs by non-Tlicho citizens. It is a well-established principle that traditional knowledge is held by culture holders themselves, may not be amenable to translation into discrete written documents, and should not be taken out of context by non culture holders. The developer is also advised that the Tlicho Government does not accept terminology such as that used on page 12-225, where the developer states *"The project will not have a negative impact on social disparity, cost of living, and social problems."* The forward-looking language of environmental impact assessment is that of likelihood and probability, not certainty.

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Request

- 19.1 At page 12-122, the developer states that impact pathways were assessed using scientific and traditional knowledge. Please identify which traditional knowledge holders were involved in the identification of impact pathways that may occur from the proposed development or, if Tlicho citizens were not involved, who conducted this impact identification exercise.
- 19.2 Please identify and provide updated revisions to any statements in Section 12 of the EIS where definitive statements (such as that on page 12-225) should be replaced by statements highlighting likely outcomes.

Response

- 19.1: Traditional knowledge (TK) gathered from the review of existing literature was considered when assessing the effects of the Project associated with various pathways. Literature reviewed included the following sources: Collignon 2006; Davison 2007; DKFN 2007; Evans et al. 2001; Gibson et al. 2007; Hanks and Winter 1996; Kelley and Francis 1994; Legat et al. 2001; Little et al. 2005; LKDFN 2001; LKDFN 2003; MVEIRB et al. 2003; Parlee et al. 2005; Raffan 1992; and Saxon et al. 2002. A list of literature containing TK that has been incorporated into the assessment (De Beers 2010, Section 12) is appended in the reference section below. Engagement activities were also considered in determining potential issues of concern and effect pathways that may occur from the proposed development.

De Beers' engagement with Tlicho organizations for the Gahcho Kué Project has included meetings with Tlicho leadership, Open Houses in Tlicho Communities, in-person interviews and discussions regarding socio-economic matters, verification of socio economic data with representatives of Tlicho service agencies and discussions regarding economic opportunities through the procurement of goods and services. The Tlicho have undertaken their own TK study with support from De Beers. De Beers will review the result of this study when it is released in final form to further validate impact predictions, to evaluate whether additional mitigation or refinements to proposed mitigation is needed, and

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to identify additional opportunities for incorporating TK into monitoring programs.

In addition to information gathered in discussions at public meetings and open houses, De Beers discussed, gathered and verified socio-economic baseline information, discussing trends, possible impacts of the project and inviting input on possible mitigations. This work was completed in the fall of 2007.

De Beers agrees with the Tlicho Government that organizations such as the Tlicho Community Services Agency, among others have important information to provide. De Beers' starting point for engagement began with a meeting with leadership to discuss De Beers' proposed engagement plans and to seek direction regarding how and who the company should engage in the discussions that we would like to undertake.

In 2007, the Tlicho Chief Executive Council identified the following agencies, officials and organizations as the appropriate bodies with which De Beers should engage regarding the socio-economic baseline and assessment:

- Tlicho Investment Corporation – Behchokò
- Dan Marion, President
- Tlicho Community Government - Wekweèti
- Carol Arrowmaker, Economic Development Coordinator
- Tlicho Community Government - Wekweèti
- Mary Adele Football, Social Programs Coordinator
- Tlicho Community Government – Gamèti
- (Jennifer Wetrade, Community Director
- Tlicho Community Government – Whati
- (Donna Moore, Business Support, Services Manager

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- Tlicho Community Services Agency – Behchokò
- Chris Chapman, School Principal, Chief Jimmy Bruneau School
- Tlicho Community Services Agency – Gamètì
- Lisa Robinson, Teacher, Wetrade School
- Tlicho Community Services Agency – Whatì
- William Hurley, School Principal Mezi Community School
- Tlicho Community Government – Gamètì
- Louisa Wetrade, Finance Officer and Acting SAO
- Tlicho Community Services Agency - Wekweètì
- Earl Crowther, School Principal, Alexis Arrowmaker School
- Tlicho Community Government– Behchokò
- Terry Testart, SAO
- Tlicho Community Services Agency – Whatì
- Elaine Janes, Nurse
- Tlicho Community Services Agency - Behchokò
- Alice Zoe-Chocolate, Community Wellness Worker

De Beers sought clarification on socio-economic issues from the Panel and Communities through a series of community scoping sessions on the Draft Terms of Reference (TOR). Specifically, the Mackenzie Valley Environmental Impact Review Board (MVEIRB) Community scoping sessions were held during March and April 2006 to develop Key Lines of Inquiry (KLOIs) and Subjects of note (SONs) to include in the TOR for the environmental impact assessment. A Draft TOR was released in June 2007 and the final TOR was released in October 2007. MVEIRB and De Beers sought input on the socio-economic issues from the following Tlicho Communities.

- **Behchokò:** part of the initial MVEIRB Scoping Meetings in 2006. Follow-up meetings on Draft TOR Oct 1 and 2, 2007. Relevant

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MVEIRB TOR KLOIs and SONs for Socio-Economic Impact Assessment include: Social Disparity Within and Between Communities, Family and Community Cohesion and Employment, Training and Economic Development.

- **Whati:** An open house and community meeting held on Nov 16 and 17, 2007 to discuss MVEIRB Draft TOT KLOIs and SONs. For Socio-Economics, the most relevant issues to the Whati Community were Long-term Social, Cultural and Economic Effects, Family and Community Cohesion, Aboriginal Right and Community Engagement, Employment, Training and Economic Development.
- **Gamèti:** An open house and community meeting was held on 23 and 24 of Oct 2007 to discuss MVEIRB Draft TOR and associated KLOIs and SONs. For Socio-Economics, the most relevant issues to the Gamèti Community were Aboriginal Rights and Community Engagement issues.
- **Wekweèti:** An open house and community meeting was held on 29 and 30 of Oct 2007 to discuss MVEIRB Draft TOR and associated KLOIs and SONs. For Socio-Economics, the most relevant issues to the Wekweèti Community were Long Term Social, Cultural and Employment, Training and Economic Development.
- **Tlicho Chiefs:** Tlicho Chiefs also visited the project site on the 18th of September 2007. This included the Grand Chief, Tlicho Government, Chief Wekweèti, Chief Behchokò, Chief Whati and other community leaders from Behchokò. The site visit mainly served to update the chiefs on the Project and tour the site and planned facilities.

19.2: Definitive statements have been made in the EIS where the evidence supports a claim, or where an established method of analysis yields a definitive answer (e.g., the classification of residual impacts determines if the Project *will* have a negligible, low, moderate or high magnitude effect).

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References

- Collignon, B. 2006. *Knowing Places: The Inuinait: Landscapes and the Environment*. Edmonton: CCI Press.
- Davison, C. 2007. *Engagement and the Northern School Setting: A critical ethnography among the Tłıchō First Nation of Behchoko, NWT*. (PhD Thesis, University of Calgary).
- DKFN (Deninu Kué First Nation). 2007. *Presentation to Mackenzie Valley Environmental Impact Review Board for UR-Energy's Application to conduct a Uranium Exploration Project at Screech Lake in the Thelon River Basin and the Traditional Territory of the Akaitcho Dene First Nation*. Available at: http://www.mveirb.nt.ca/upload/project_document/1169654589_Deninu%20Kue%20First%20Nation%20UR%20ENERGY%20Presentation.pdf. Accessed: August, 2010.
- Evans, M., Roberts, A. and Nelson, P. 2001. *Ethnographic Landscapes*. CRM, 24, 5.
- Gibson, G., Martin, J., Zoe, J., Edwards, K. and Gibson, N. 2007. *Setting our Minds to it: Community-centred Research for Health Policy Development in Northern Canada*. Pimatisisín, 5, 2.
- Hanks, CC. and B.J. Winter. 1986. *Local Knowledge and Ethnoarchaeology: An Approach to Dene Settlement Systems*. Current Anthropology, 27(3): 272-275.
- Kelley, K.B. and H. Francis. 1994. *Navajo Sacred Places*. Indiana University Press, Bloomington. [University of British Columbia Library, Point Grey Campus. Call Number E99 N3 K3355 1994 c.2].

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Legat, A., G. Chocolate, M. Chocolate, P. Williah, and S.A. Zoe. 2001. *Habitat of Dogrib Traditional Territory: Place names as Indicators of Biogeographical Knowledge*. Submitted to West Kitikmeot Slave Study Society, Yellowknife, NWT. Available at:
http://www.enr.gov.nt.ca/_live/documents/content/WKSS_Dogrib_Territory_Place_Names_2001.pdf. Accessed: August 2010.

Little, L., Auchterlonie, S. and Stephen, B. 2005. *Continuing Strong Traditions: Aboriginal Participation in the Northwest Territories' Voluntary Sector*. Prepared for the Native Women's Association of the Northwest Territories, the Northwest Territories Literacy Council and the YWCA of Yellowknife.

LKDFN. 2001. *Traditional Knowledge in the Nâ Yaghe Kué Region: An Assessment of the Snap Lake Project Final Assessment Report*. Submitted to De Beers Canada Mining Inc. July 2001.

LKDFN, Wildlife, Lands and Environment Department. 2003. *Ni hat'ni – Watching the Land: Results and Implications of 2002-2003 Monitoring Activities in the Traditional Territory of the Lutsel K'e Denesoline*. Available at:
http://www.enr.gov.nt.ca/_live/documents/content/WKSS_Ni_Hat_ni_2002-2003_Report.pdf. Accessed: June, 2008.

MVEIRB (Mackenzie Valley Environmental Impact Review Board), Consolidated Goldwin Ventures, New Shoshoni Ventures, North American Resources Corporation. 2003. *Public Hearing Transcript*. Held at the Copper Room, Yellowknife Inn, Yellowknife, NT November 26, 2003. Available at
http://mail.tscript.com/trans/mac/nov_26_03/index.htm. Accessed: August, 2010.

Parlee, B., M. Manseau and Lutsel K'e Dene First Nation. 2005. *Using Traditional Knowledge to Adapt to Ecological Change: Denesoline Monitoring of Caribou Movements*. Arctic, Vol. 58, No. 1, March 2005.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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Raffan, J. 1992. *Frontier, Homeland and Sacred Space: A Collaborative Investigation into Cross-Cultural Perceptions of Place in the Thelon Game Sanctuary*. Northwest Territories. Ph.D. Dissertation, Department of Geography, Queen's University, Kingston, ON.

Saxon, L., S.A. Zoe, G. Chocolate, A. Legat. 2002. *Dogrib Knowledge on Placenames. Caribou and Habitat Final Report*. Submitted to West Kitikmeot Slave Study Society, Yellowknife, NT. Available at http://www.enr.gov.nt.ca/_live/documents/content/WKSS_Dogrib_Knowledge_2002.pdf. Accessed: August, 2010.

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Information Request Number: TG_20

Source: Tlicho Government

Subject: Temporal Scope of Assessment

EIS Section: Chapter 12 pp 15, 59, 276

Terms of Reference Section: 2.2 (Scope of Review)

Preamble

Mining operations are planned for 11 years (p. 12-15). At page 12-276, the developer states that project interim closure is expected to be completed in 2027. It is important for the level of certainty around mine life to be established during the EA. If operations last for a shorter or longer than original expected time period, this would have implications on the human environment in a variety of potential ways.

Request

- 20.1 Please identify whether the originally predicted mine life spans for Ekati, Diavik, or Snap Lake (from their Application materials) have been extended or reduced, for what reasons.
- 20.2 Please identify what conditions could cause an increase or decrease to the mine life at Gahcho Kue, and the degree of certainty the developer has in the currently identified mine life span.

Response

- 20.1 Estimated mine life for the diamond projects is provided in Section 1.2.2 and Figure 1.2-1 of the 2010 EIS (De Beers 2010).
- Ekati – original application mine life – 17 years – project life has been both extended and reduced due to additional discoveries and changes in planned mining and processing rates.
 - Diavik – original application mine life 16 years – project has been modified but mine life essentially the same length of time

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- Snap Lake – original application mine life 20 years – Current planned mine life is 26 years project has not operated at planned rates. Economic market conditions and profitability issues.

20.2 The following conditions could cause an increase or decrease to the mine life at GK

- Economics – diamond prices – profit;
- Additional resources including new discoveries or extension/mining of inferred resources at depth;
- Higher/lower capital and/or operating costs; and
- Mining and processing rate fluctuations

The 11 year mine operational life predicted in the 2010 EIS (De Beers 2010) is based on the known probable reserves (indicated resources) of the three Gahcho Kué kimberlite deposits. The 31.3 Mt of Probable Reerves represent an 11-year mine life at the planned production rate. Under the current economic conditions De Beers remains confident that mine operational life will last for 11 years. The Gahcho Kué Joint Venture (JV) partners continue to explore the property and surrounding area and additional reserves/resources found could extend the mine life. Identified inferred resources, if economic, would add another two years to the mine life.

Severe economic strains to the diamond markets, as occurred in 2008, could cause reductions and/or temporary suspensions in mine production. Also mining and processing productivities would also impact the overall mine life.

Reference

De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.



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Information Request Number: TG_21

Source: Tlicho Government

Subject: Socio-economic baseline - General

EIS Section: Chapter 12 pp 26-7, 37, 47, 66

Terms of Reference Section: n/a

Preamble

Some of the socio-economic baseline material appears dated in comparison with the release date of the EIS. For example, the Tlicho Government notes that at least the 2009 version of the Communities and Diamonds report is now publicly available¹ in addition to the 1999 to 2008 reports cited at page 12-27. This is of particular importance because DBCI's own Snap Lake operations are relatively recent and if dated information is used in the EIS, this could mask changes caused or contributed to by this newer development.

In addition, we believe more recent information than 2002 on causes of death in the NWT is not available (p. 12-47), or 2006 on tourism data (p.12-66). The Tlicho Government would ask the developer to provide addendums to the EIS where newer information is available. Please note that the material highlighted here is just examples; the onus is on the developer to reconsider its existing SEIA data in a comprehensive way.

The Tlicho Government is also concerned with statements made on the basis of aggregate data at the NWT level that do not reflect conditions in the Tlicho region. For example, at page 12-37, the developer states "During the past decade there has been an increase in the number of students graduating from high school in the NWT", and elsewhere in the document similar statements are made about improvements in graduation rates. Such statements mask significant issues in places like the Tlicho, where in fact the percentage of population 15 years or older who have completed high school was lower in 2009 than it was in

¹ <http://www.iti.gov.nt.ca/publications/2010/diamonds/2009CommunitiesDiamondsReport2010-10-22.pdf>.

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1994, and shows no sign of a significant upward shift in recent years². For particularly important criteria like education and employment, the Tlicho Government requests the developer revisit, update, and wherever possible disaggregate data down to the regional and local levels.

Page 12-26 identifies that between 2007 and 2010, qualitative data collection occurred. It is unclear to what degree Tlicho citizens, government officials, service providers or business people, among other people with knowledge of issues relating to the diamond mining sector and socio-economic conditions were involved.

Request

- 21.1 Please identify when data collection on the human environment was completed for the EIS.
- 21.2 Please update the EIS with addendums showing more recent data on socio-economic conditions, including but not limited to the 2009 or any more recent version of the Communities and Diamonds reports.
- 21.3 Please present the most up-to-date data possible on relevant socio-economic and cultural practice indicators, including but not limited to education and employment indices, and ensure they are disaggregated down to the smallest possible geographic scopes.
- 21.4 Please identify all setting in which either qualitative or quantitative data was collected from Tlicho citizens, Tlicho Government officials, Tlicho region service providers, or Tlicho business people.

² As reported in SENES Consultants Limited's 2010 Northwest Territories Environmental Audit Status of the Environment Report, Section 8, available from AANDC.

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Response

- 21.1 The socio-economic assessment was prepared from publicly available information (i.e., census data, government reports, on-line academic articles, internet sites) and primary data collection conducted during 2007 to 2010.
- 21.2 At this time there are no planned addendums to the socio-economic section of the 2010 EIS (De Beers 2010).
- 21.3 Contemporary Nature of Data

The 2010 EIS (De Beers 2010) presents the most up-to-date data at the time of writing (i.e., 2010). In some cases, the most recent available quantitative data is from the 2006 Canada Census. This information was supplemented by more recent information from other sources including (but not limited to):

Population, Employment and Economy Data:

- Communities and Diamonds reports (2008);
- Det'on Cho Corporation (2010);
- GNWT Bureau of Statistics (2007a-d, 2008a,b,d, 2009c, 2010a,f,h,i);
- GNWT Department of Education, Culture and Employment (2008a,c);
- GNWT Department of Finance (2006, 2007, 2008);
- GNWT Department of Industry, Tourism and Investment (2009, 2010);
- Government of Canada (2010);
- INAC (2009, 2010); and
- Tlicho Investment Corporation (2010).

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Housing, Transportation and Infrastructure Data:

- Canada Mortgage and Housing Corporation (CMHC 2009a-c; 2010);
- GNWT Bureau of Statistics (2006a, b, 2010g);
- GNWT Department of Municipal and Community Affairs (2010a-d)
- GNWT Department of Transportation (2009a,b); and
- NWT Housing Corporation (2008, 2010).

Education, Healthcare and Protective and Social Services Data:

- Aurora College (2010a,b);
- GNWT Bureau of Statistics (2008c);
- GNWT Department of Education, Culture and Employment (2008b, 2010a);
- GNWT Department of Health and Social Services (2007a-f, 2008a,b, 2009a-c, 2010a-e)
- GNWT Department of Justice (2009, 2010a-f);
- Health Canada (2010);
- Mine Training Society (2008, 2009);
- NWT Teachers Association (2010); and
- Statistics Canada (2009, 2010).

Culture, Heritage and Wellbeing Data:

- Aboriginal Affairs and Intergovernmental Relations (2008a,b);
- Canadian Association of Food Banks (2007, 2010);
- Canadian Centre on Substance Abuse (2009);

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- Canadian Human Mortality Database (2010);
- GNWT Bureau of Statistics (2009b, 2010c,d,e);
- Statistics Canada (2010); and
- Tlicho Community Services Agency (2010).

In some cases, older data was used in conjunction with more recent data of the same subject matter in order to establish trends over time (e.g., GNWT DoECE 1998, 2002, 2004, 2005a,b; GNWT DoHSS 2004a,b, 2005 a,b; GNWT Bureau of Statistics 1999, 2003a-c, 2004a-c).

Limitations to providing disaggregated community-level data

The EIS does not provide community-level socio-economic data and effects analysis for all topic areas because data is not readily available. In consideration of the validity of data, and how recent it is, the baseline reports on the best available data and trends at the time of writing (2007 to 2010).

Where data was available, socio-economic indicators were discussed on community-level scale. Otherwise, data has been presented at a collective 'local' (including all local communities) scale, and has been compared to regional and, where applicable, national scale data.

To locate community-level discussions of socio-economic indicators, please refer to Annex K and Section 12 of the Gahcho Kue EIS (De Beers 2010). Table 1 details those sections of Annex K that provide a specific community level discussion, and the associated data tables. Information collected in Annex K has been incorporated into Section 12 of the EIS (De Beers 2010).

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Table TG 21-1 Community-Level Discussion of Socio-Economic Indicators: EIS Location

Section	Section Subject	Table	Table Topic
Annex K			
K3.4	Household Characteristics	T K3.4-1	Age structure
		T K3.4-2	Gender
		T K3.4-3, T K3.4-4	Family household structure
		T K3.4-6, T K3.4-7	Income
		T K3.4-11	Cost of living
K4.1	Labour Force and Employment	T K4.1-2	Potential labour supply
		T K4.1-3	Employment and participation rates
K4.2	Occupations	T K4.2-1	Labour force by gender
		T K4.2-2	Labour force distribution by occupation
K5	Education	T K5.1-4	Secondary school graduation
K6.2.1	Diet and Nutrition	T K6.1-3	Consumption of country foods
K6.2.2.6	Mental Health and Wellbeing	T K6.2-3	Cases of mental disorder
K6.3.2.2	Recreation and Leisure Activities	T K6.3-4	Recreation facilities available to residents
K6.4.1.1	Accidents, Injuries and Poisonings	T K6.4-2	Cases of accidents, injuries and poisonings
K6.4.2.2	Communities and Alcohol	T K6.4-5	Liquor status by community
K6.4.4.3	Family and Other Violence	T K6.4-13	Children receiving child services
K6.5	Poverty	T K6.5-3	Income support beneficiaries
K8.1	Educational Services	T K8.1-2	Total number of teachers
		T K8.1-4	Primary and secondary schools
		T K8.1-5	Aurora College campuses
K8.2.1	Roads	T K8.2-1	Total number of teachers
K8.2.2	Airports	T K8.2-3	Airport information
K8.3.1	Telephone and Internet	T K8.3-1	Communication infrastructure
K8.3.2	Garbage and Sewage	T K8.3-2	Municipal infrastructure
K8.3.3	Water	T K8.3-3	Boil water advisories
		T K8.3-4	Water infrastructure
K8.4	Power and Utilities	T K8.4-1	Electrical infrastructure
K8.5.1	Housing	T K8.5-3	Housing infrastructure
		T K8.5-4	Community core need income threshold
		T K8.5-5	Housing challenges and core needs
K8.5.2	Housing Challenges and Needs	T K8.5-6	Number of households with housing needs
K8.5.3	Overcrowding	T K8.5-7	Number of residents per household
K8.5.4.2	Houses	T K8.5-9	Housing cost index
		T K8.5-10	Short-term accommodations
K8.6.2	Medical Services	T K8.6-2	Community medical centres
K8.6.6	Mental Health and Addiction Services	T K8.6.8	GNWT funding for community wellness
		T K8.6.9	Key programs receiving funding
K8.7	Community Services and Programs	T K8.7-1	Mental health, addiction and social services
		T K8.7-2	Women's shelters
		T K8.7-4	RCMP officers
		T K8.7-6	Fire protection services
		T K8.7-7	Emergency preparedness plans

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- 21.4 The communities of Gameti, Whati, Wekweètì and Behchokò (in addition to other non-Tłìchô study area communities) were the focus of primary and/or secondary data collection activities between 2007 and 2010.

Interviews made prior to the release of the 2007 TOR were also included in the EIS where appropriate. Table 2 shows the relevant agencies contacted regarding the Tłìchô communities prior to 2007.

Table TG 21-2 Interviews Conducted with the Tłìchô Prior to 2007

Community	Agency Contacted	Date
Gameti	Tłìchô Community Services Agency	2005
	Tłìchô Divisional Education Council	2005
Whati	Mezi Community School	2005
	Tłìchô Community Services Agency	2005
	Whati Daycare Manager	2005
	Whati Community Government	2005
Wekweètì	Tłìchô Community Services Agency	2005
	Wekweètì Community Government	2005
Behchoko	Tłìchô Community Services Agency	2005

Additionally, community engagement activities were undertaken during the development of the Project's Terms of Reference (ToR) by the MVIERB during the Environmental Impact Review Board's Scoping Workshops in 2006 (EIS Section 4.3.4, pg. 4-14; De Beers 2010). This consultation was undertaken to identify VSECS as well as areas where a greater amount of information and understanding was required – through Key Lines of Inquiry (KLOI) and Subjects of Notes (SONs). The Tłìchô were consulted as part of this process.

Other community engagement activities for the GK Project which included Tłìchô communities are listed below:

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- Exploration and Project Planning, 1998 to 2005 (2010 EIS Section 4.3.2, pg. 4-7, See Table 4.3-1; De Beers 2010)
- Land Use Permit and Water License Application (2010 EIS Section 4.3.3, pg. 4-12; De Beers 2010)
- Community Engagement Activities, 2007 to 2008 (2010 EIS Section 4.3.6, pg. 4-15, see Table 4.3-3 and Table 4.3-4 for full summary of activities; De Beers 2010). A description of engagement activities in Tłı́chō communities is included below:
 - Behchokò, October 1 and 2, 2007 – Behchokò community hall and Nishi Khon Court Room (EIS Section 4.3.6.3.2; De Beers 2010). KLOI's and SONs of greatest concern were:
 - Caribou
 - Social Disparity Within and Between Communities
 - Family and Community Cohesion
 - Employment, Training and Economic Development
 - Gameti, October 23 and 24, 2007 – Gameti Community Hall (EIS Section 4.3.6.3.3; De Beers 2010). KLOI's and SONs of greatest concern were:
 - Caribou
 - Downstream Water Effects
 - Aboriginal Rights and Community Engagement
 - Air Quality
 - Wekweeti, October 29 and 30, 2007 – Wekweeti Learning Centre (EIS Section 4.3.6.3.4; De Beers 2010). KLOI's and SON of greatest concern were:
 - Caribou
 - Long-term Social, Cultural and Economic Effects
 - Downstream Water Effects
 - Air Quality
 - Employment, Training and Economic Development
 - Whati, November 16 and 17, 2007 – Whati Community Cultural Centre (EIS Section 4.3.6.3.5; De Beers 2010). KLOI's and SON of greatest concern were:

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- Caribou
 - Long-term Social, Cultural and Economic Effects
 - Family and Community Cohesion
 - Aboriginal Rights and Community Engagement
 - Air Quality
 - Permafrost, Groundwater and Hydrogeology
 - Employment, Training and Economic Development
- Community Engagement Activities 2009 to 2010 (EIS Section 4.3.7, pg. 4-27; De Beers 2010)
 - Beginning in March 2010, De Beers invited six Aboriginal groups to visit the Project site, where De Beers would present an update on the Project and provide a chance to see the proposed locations of the Project infrastructure. De Beers was able to host visits to the site for the Yellowknives Dene First Nation, Tłı̄ch̄o Government, Deninu Kué First Nation, and Łutselk'e Dene First Nation. The NWT Métis Nation and the North Slave Métis Alliance both declined the opportunity.
 - Meetings with the Tłı̄ch̄o Government included:
 - March 19, 2010
 - Site Visit Planning March to August 2010. Site visit happened on September 23, 2010
 - Meeting with Tłı̄ch̄o Chiefs in Yellowknife on November 3rd 2010.

Reference

De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

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Information Request Number: TG_22

Source: Tlicho Government

Subject: Developer's Engagement Process, Practices and Plans

EIS Section: Chapter 12 pp 125, 129, 133, 198, 305

Terms of Reference Section: 5.3.5

Preamble

At page 12-305 of the EIS, De Beers suggests the GK Panel will drive the consultation and engagement on this proposed mine through its official EIR process. This raises questions about the adequacy of the limited face-to-face forums envisioned in the Review Panel's Work Plan as well as about the degree of engagement that has been undertaken by the developer on this file since the project was originally planned.

The apparent lack of meaningful consultation also raises questions as to whether the EIS was developed in such a way that it was informed by active engagement with or involvement in the assessment of, Tlicho citizens, officials and organizations. Organizations such as the Tlicho Community Services Agency, among several others, have important information without which a robust and defensible picture of the socio-economic baseline, trends, and causes of change should not be predicted.

The Tlicho Government also notes that in some areas, like family and community cohesion and social disparity, the developer had trouble pinning down what the issues were. For example, at page 12-198, the developer states:

"Neither the Terms of Reference on this key line of inquiry {family and community cohesion} nor the community consultation shed much light on the exact nature of the concerns".

Request

- 22.1 Please identify which Tlicho organizations were consulted during the development of the EIS, when and how.

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- 22.2 Please identify which Tlicho citizens, representatives, or other Tlicho-related individuals were included among the business interviews and the expert subject matter interviews identified at pp. 12-125 and 12-129.
- 22.3 At page 12-133, sources for proposed mitigation include “suggestions from communities”. Please identify all of the suggestions from Tlicho communities for mitigation and monitoring mechanisms to date, when and where they are raised, and how they have been incorporated into project commitments.
- 22.4 Please identify:
- 22.5 Whether DBCI asked the Review Panel for clarification of any socio-economic elements of the ToR, and how any response was integrated into subsequent data collection and assessment.
- 22.6 At what community consultation sessions DBCI sought clarification on the scope of any socio-economic issues, what those issues were, and how attendees responded.

Response

22.1 and 22.2

De Beers' engagement with Tłı́chō organizations for the Gahcho Kué Project has included meetings with Tłı́chō leadership, open houses in Tłı́chō Communities, in-person Interviews and discussions regarding socio-economic matters, verification of socio economic data with representatives of Tłı́chō service agencies and discussions regarding economic opportunities through the procurement of goods and services. De Beers also entered into an agreement with the Tłı́chō Government in 2011 to undertake a Tłı́chō Knowledge Study for the Project.

In addition to information gathered in discussions at public meetings and open houses, De Beers discussed, gathered and verified socio-economic baseline

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information, discussing trends, possible impacts of the project and inviting input on possible mitigations. This work was completed in the fall of 2007.

De Beers agrees with the Tłı́chô Government that organizations such as the Tłı́chô Community Services Agency, among others have important information to provide. The Company's starting point for engagement always begins with a meeting with leadership to discuss De Beers' proposed engagement plans and to seek direction regarding how and who the Company should engage in the discussions that we would like to undertake.

Tłı́chô officials, organizations and other Agencies that were involved in discussions with De Beers about the Project and its socio-economic baseline, trends and assessment are listed below. These were identified in discussion with the Tłı́chô Chief Executive Council in 2007 as the appropriate organizations with which De Beers should engage.

- Tłı́chô Investment Corporation – Behchoko
- Dan Marion, President
- Tłı́chô Community Government - Wekweeti
- Carol Arrowmaker, Economic Development Coordinator
- Tłı́chô Community Government - Wekweeti
- Mary Adele Football, Social Programs Coordinator
- Tłı́chô Community Government – Gameti
- Jennifer Wetrade, Community Director
- Tłı́chô Community Government – Whati
- Donna Moore, Business Support, Services Manager
- Tłı́chô Community Services Agency – Behchoko
- Chris Chapman, School Principal, Chief Jimmy Bruneau School
- Tłı́chô Community Services Agency – Gameti
- Lisa Robinson, Teacher, Wetrade School

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- Tłı́chô Community Services Agency – Whati
- William Hurley, School Principal Mezi Community School
- Tłı́chô Community Government – Gameti
- Louisa Wetrade, Finance Officer and Acting SAO
- Tłı́chô Community Services Agency - Wekweeti
- Earl Crowther, School Principal, Alexis Arrowmaker School
- Tłı́chô Community Government– Behchoko
- Terry Testart, SAO
- Tłı́chô Community Services Agency – Whati
- Elaine Janes, Nurse
- Tłı́chô Community Services Agency - Behchoko
- Alice Zoe-Chocolate, Community Wellness Worker

In addition on September 18, 2007, De Beers hosted a full day meeting and site tour with Tłı́chô Executive Council and Mine Liaison Coordinator

22.3 De Beers will be providing the Panel with an update on all engagement activities since December 2010 in Q2 of 2012.

22.4 No response required

22.5 and 22.6

De Beers sought clarification on socio-economic issues from the Panel and Communities through a series of community scoping sessions on the Draft Terms of Reference (TOR) (also see response of TG 23.2). Specifically, the Mackenzie Valley Environment Impact Review Board (MVEIRB) Community Scoping Sessions were held during March and April 2006 to develop Value Socio-Economic Components (VSECS), Key Lines of Inquiries (KLOIs) and Subjects of Notes (SONs) to include in the TOR for the environmental impact

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statementt. A Draft TOR was released in June 2007 and the final TOR was released in October 2007. MVEIRB and De Beers sought input on the socio-economic issues from the following Tłı́chô Communities.

- **Behchoko:** part of the initial MVEIRB Scoping Meetings in 2006. Follow-up meetings on Draft TOR Oct 1 and 2, 2007. Relevant MVEIRB TOR KLOIs and SONs for Socio-Economic Impact Assessment include: Social Disparity Within and Between Communities, Family and Community Cohesion and Employment, Training and Economic Development.
- **Whati:** An open house and community meeting held on Nov 16 and 17, 2007 to discuss MVEIRB Draft TOT KLOIs and SONs. For Socio-Economics, the most relevant issues to the Whati Community were Long-term Social, Cultural and Economic Effects, Family and Community Cohesion, Aboriginal Right and Community Engagement, Employment, Training and Economic Development.
- **Gameti:** An open house and community meeting was held on 23 and 24 of Oct 2007 to discuss MVEIRB Draft TOR and associated KLOIs and SONs. For Socio-Economics, the most relevant issues to the Gameti Community were Aboriginal Rights and Community Engagement issues.
- **Wekweeti:** An open house and community meeting was held on 29 and 30 of Oct 2007 to discuss MVEIRB Draft TOR and associated KLOIs and SONs. For Socio-Economis, the most relevant issues to the Wekweeti Community were Long Term Social, Cultural and Employment, Training and Economic Development.
- **Tłı́chô Chiefs:** Tłı́chô Chiefs also visited the project site on the 18th of September 2007. This included the Grand Chief, Tłı́chô Government, Chief Wekweeti, Chief Behchoko, Chief Whati and other community representatives from Behchoko. The site visit mainly served to update the chiefs on the Project and tour the site and planned facilities.

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Information Request Number: TG_23

Source: Tlicho Government

Subject: Incorporation of Northern Aboriginal socio-economic and cultural values, concerns and valued components

EIS Section: Chapter 12 pp 24, 40, 48, 115-7, 193, 197-8, 204

Terms of Reference Section: 3.2.4 (Valued Components)

Preamble

Chapter 12 includes a section on "The right way to live" (see p. 12-198). There is, however, only very limited evidence that the developer attempted to determine what values, norms and laws guide this "right way to live" for Tlicho people. A search through the entire Section 12 of the EIS finds no mention of the term "Dene Laws". The absence of meaningful consideration of these fundamental cultural values and guiding principles to everyday living among a large proportion of the potentially-affected population in the developer's assessment of socio-economic and cultural baseline and trends and absence of use of these values as a filter when assessing potential impacts of the proposed development on wellbeing and quality of life is troubling.

The developer appears to have relied upon its own "translation" of the requirements of the Terms of Reference to guide what criteria and indicators it used, rather than actively engaging culture holders in this exercise.

In addition, there is little evidence in this section or any other in the EIS that the developer asked basic questions of Tlicho citizens or representatives such as "How has the diamond mining economy changed your lives?", "What concerns you about this project and engagement in the diamond mining economy?", or "What can we work together on to maximize benefits and avoid impacts in the future"?

The Tlicho Government also noted a lack of reference in the EIS to documents providing a more community-centred understanding of the human environment in which GK Diamond mine is proposed.

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Request

- 23.1 Please identify which documents or engagement results were used to identify Tlicho “societal goals” (p. 12-115) or to define from a Dene perspective “the right way to live” or appropriate indicators, and whether any Tlicho citizens or representatives were asked to identify relevant documents. Please identify whether and how the developer considered the incorporation of Dene Laws and values, goal statements, plans or other visioning documents in the identification of valued components, assessment and measurement endpoints.
- 23.2 Please identify whether, when, and how Tlicho organizations and individuals were involved in the determination or vetting of appropriate valued components, criteria and indicators of what matters most to Tlicho citizens – i.e., the determination of Tlicho-specific ‘assessment endpoints’ ([12-116]).
- 23.3 Please identify whether it is the developer’s contention that all interested and potentially-affected parties share all of the assessment and measurement endpoints identified in Table 12.5-1, and that the list is reasonably comprehensive.

Response

- 23.1 EIS Section 12.6.2.4 The Right Way to Live describes the impacts of changing values on communities, including the Tlicho communities. This transformation in communities includes changes levels of sharing and reciprocity, traditional activities and harvesting, among other things. The author of the Right Way to Live section was actively engaged with communities and specifically elders in developing this section. She also included contemporary literature on the subject including from Natcher 2009, Nuttall et al, 2006 among others who describe pressures on the social economy and traditional culture due to increasing opportunities from the wage economy in the NWT.

For instance, it is impossible to measure cultural change but it is important to understand it. A good example is in the context of domestic

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and family life, for example the breakdown in attachment to and dependence upon traditional types of domestic groupings. In some cultures, attachment to the group is of vital importance. In many respects the wage economy has made it possible for individuals to disregard group ties. The cooperation required in a subsistence oriented economy made it necessary for groups to maintain relationships. But in some cases, people cannot maintain these ties, even if they wish to do so and may feel guilty if they do not. An employee's obligation to support relatives and meet his own obligation to meet the costs of food and shelter, etc, for his own family cannot both be met. The development of individualistic values, unthinkable in traditional times, has led to the breakup of traditional large domestic units, descent groups and lineage groups. Smaller groupings, based on the nuclear family are the basic domestic unit of many cultural groups. Correspondingly, there has been a breakdown in the old autocratic patriarchal family structure. The growth of education, increased economic opportunity for both sexes, and the replacement of group values by individual ones: all these changes have occurred overtime, with a multiplicity of influences.

Diamond mining may be one contributing factor to the cultural changes in LSA communities; however, it is not the only factor. Other influences include southern influences such as the media, changing expectations and tastes, for instance. Additionally, LSA communities are keen to benefit from economic development and employment opportunities from mining and procurement associated with the project. The proponent, however, does not have any ability to affect how the employee uses and/or shares their wages. De Beers; however, does try to make investments into community programs so that all members of LSA communities experience benefits from the project.

The following are a list of the existing sources of information reviewed in the collection of information about the Tlicho citizens, laws and values for the EIS:

- Davison, C.M. 2007. A Critical Ethnography among the Tlicho First Nation of Behchokò, NWT. Department of Community

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Health Sciences. Thesis submitted to the University of Calgary. Available at: <http://dspace.ucalgary.ca>. Accessed: September 2010.

- Dogrib Treaty 11 Council. 2002. Dogrib Knowledge on Place Names, Caribou and Habitat. Submitted to the WKSS. Yellowknife, NT. PDF document. July 2002. Available at: <http://www.nwtwildlife.com/WKSS/PDF/DogribPlaceCaribouHabitat2002.pdf>
- Dogrib Treaty 11 Council. 2001a. Caribou Migration and the State of Their Habitat. Submitted to the WKSS. Yellowknife, NT. March 2001.
- Dogrib Treaty 11 Council. 2001b. Habitat of the Dogrib Traditional Territory: Place Names as Indicators of Bio-geographical Knowledge – Final Report. Submitted to the WKSS. Yellowknife, NT. March 2001.
- Franklin, Sir J. 1824. Narrative of a Journey to the Shores of the Polar Sea, in the Years 1819-1822. 2nd edition. 2 vols. London, England: John Murray.
- GNWT Bureau of Statistics. 2010b. NWT Labour Force Activity. September 2010. Available at: <http://www.stats.gov.nt.ca/labour-income/labour-force-activity/Monthly/Sep10MLFS.pdf>. Accessed: October 2010.
- GNWT Bureau of Statistics. 2010c. 2010 Socio-Economic Scan, Statistical Supplement. Yellowknife, NWT.
- GNWT Department of Education, Culture and Employment. 2004. Building Our Success Strategic Plan 2005-2015. Yellowknife, NWT.
- GNWT Department of Health and Social Services. 2003. Unpublished information Health Information. Yellowknife, NWT.
- Gorry, C. 1997. Dogrib. In The Gale Encyclopedia of Native American Tribes. Edited by S. Malinowski and A. Sheets. Detroit, MI. pp. 101-103.

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- Hanks, C. and B.J. Winter. 1986. Local Knowledge and Ethnoarchaeology: An Approach to Dene Settlement Systems. *Current Anthropology*. 27(3):272-275.
- Helm, J. 1968. The Nature of Dogrib Socio-territorial Groups. In Richard B. Lee and Irven DeVore (ed.). *Man the Hunter*. Chicago, IL: Aldine.
- Helm, J. 1972. The Dogrib Indians. *Hunters and Gatherers Today: A Socioeconomic Study of Eleven Such Cultures in the Twentieth Century*. M.G. Bicchieri (ed.). New York, NY: Holt, Rinehart Winston. pp. 51-89.
- Helm, J. 1981. Dogrib. In *Handbook of North American Indians*. Washington, DC: Smithsonian Institution. pp. 291-309.
- Legat, A., S. Zoe, and M. Chocolate. 1995. *Tlicho Nde: The Importance of Knowing*. Report prepared by the Dene Cultural Institute, the Dogrib Treaty 11 Council and BHP Diamonds. June 1995.
- Legat, A., G. Chocolate, M. Chocolate, P. Williah, and S.A. Zoe. 2001. *Habitat of Dogrib Traditional Territory: Place Names as Indicators of Biogeographical Knowledge*. Submitted to West Kitikmeot Slave Study Society, Yellowknife, NWT. Available at: <http://www.nwtwildlife.com/WKSS/PDF/placenamefinal.pdf>. Accessed: June 2008.
- LKDFN (Łutselk'e Dene First Nation). 2001. *Traditional Knowledge in the Nâ Yaghe Kué Region: An Assessment of the Snap Lake Project Final Assessment Report*. Submitted to De Beers Canada Mining Inc. July 2001.
- Morris Lockhart in Raffan, J. 1992. *Frontier, Homeland and Sacred Space: A Collaborative Investigation into Cross-Cultural Perceptions of Place in the Thelon Game Sanctuary*. Northwest Territories. Ph.D. Dissertation, Department of Geography, Queen's University, Kingston, ON.
- MTS (Mine Training Society). 2008. *Prospects Changing the Face of Mining*. Mine Training Society: 2008 Annual Report. Yellowknife, NWT.

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- MTS (Mine Training Society). 2009. Prospects Changing the Face of Mining. Mine Training Society: 2009 Annual Report. Yellowknife, NWT.
- Saxon, L., S. Anne Zoe, G. Chocolate, and A. Legat. 2002. Dogrib Knowledge on Place Names. Caribou and Habitat Final Report. Submitted to West Kitikmeot Slave Study Society, Yellowknife, NT. Available at:
<http://www.nwtwildlife.com/WKSS/PDF/DogribPlaceCaribouHabitat2002.pdf>. Accessed: August 2010.
- Simpson, Sir G. 1938. Journal of Occurrences in the Athabasca Department 1820 and 1821, and Report. E.E. Rich (ed.). Toronto, ON: The Champlain Society.
- Soublière, M. 2007. Caribou Harvest Worth Over \$20 million. Caribou News in Brief, December 2007. Beverly and Qamanirjuaq Caribou Management Board Newsletter.
- Tener, J.S. 1965. Muskoxen in Canada: A Biological and Taxonomic Review (Wildlife Service Monograph 2). Ottawa, ON: Queen's Printer.
- Tłı́chō First Nation, GNWT and the Government of Canada. 2003. Lands Claim and Self Agreement Among the Tłı́chō First Nation as Presented by the Dogrib Treaty Council 11 and GNWT and the Government of Canada. Wha Ti, NWT.
- Tłı́chō, Government of the Northwest Territories, and the Government of Canada, 2003. Land Claims and Self-Government Agreement among the Tłı́chō and the Government of the Northwest Territories and the Government of Canada. Tłı́chō Agreement signed on August 25, 2003.
- Tłı́chō Investment Corporation. 2010. Trucking, Mining Services. Available at:
<http://www.tlichoc.ca/tlichoinvestmentcorp/truckingminingservices>. Accessed: August 2010.
- Tracey and Kramer (2000: 4) as referenced in Dogrib Treaty 11 Council, Caribou Migration Final Report. 2001a.

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- Werniuk, J. 2008. Making huge strides: Diavik's Tom Hoefler on community development (August 2008). Canadian Mining Journal. Available at:
<http://www.canadianminingjournal.com/issues/story.aspx?aid=1000224351&type=Print%20Archives>. Accessed: August 2010.

Additionally, Section 4 of the 2010 EIS (De Beers 2010) Community, Regulatory and Public Engagement documents engagement activities with LSA communities, including Tłı́ch̓ communities during:

- Exploration and planning activities from 1998 to 2005
- MVEIRB Scoping Consultations 2007
- Community Engagement Activities 2007 to 2008
- Community Engagement Activities 2009 to 2010
- Community Information Campaign 2010

De Beers will be providing the Panel with an update on all engagement activities since December 2010 in Q2 of 2012.

23.2 Tłı́ch̓ Involvement in Determining Valued Components

The MVEIRB Community scoping sessions were held during March and April 2006 to develop VSECS, KLOIs and SONs to include in the TOR for the environmental impact assessment. A Draft TOR was released in June 2007 and the final TOR was released in October 2007. MVEIRB and De Beers sought input on the valued components, criteria and indicators from the following Tłı́ch̓ Communities.

- **Behchoko:** part of the initial MVEIRB Scoping Meetings in 2006. Follow-up meetings on Draft TOR Oct 1 and 2, 2007. Relevant MVEIRB TOR KLOIs and SONs for Socio-Economic Impact Assessment include: Social Disparity Within and Between

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Communities, Family and Community Cohesion and Employment, Training and Economic Development.

- **Whati:** An open house and community meeting held on Nov 16 and 17, 2007 to discuss MVEIRB Draft TOT KLOIs and SONs. For Socio-Economics, the most relevant issues to the Whati Community were Long-term Social, Cultural and Economic Effects, Family and Community Cohesion, Aboriginal Right and Community Engagement, Employment, Training and Economic Development.
- **Gameti:** An open house and community meeting was held on 23 and 24 of Oct 2007 to discuss MVEIRB Draft TOR and associated KLOIs and SONs. For Socio-Economics, the most relevant issues to the Gameti Community were Aboriginal Rights and Community Engagement issues.
- **Wekweeti:** An open house and community meeting was held on 29 and 30 of Oct 2007 to discuss MVEIRB Draft TOR and associated KLOIs and SONs. For Socio-Economics, the most relevant issues to the Wekweeti Community were Long Term Social, Cultural and Employment, Training and Economic Development.
- **Tłíchô Chiefs:** Tłíchô Chiefs also visited the project site on the 18th of September 2007. This included the Grand Chief, Tłíchô Government, Chief Wekweeti, Chief Behchokò, Chief Whati and other community leaders from Behchokò. The site visit mainly served to update the chiefs on the Project and tour the site and planned facilities.

- 23.3 It is not the developers' contention that all interested and potentially-affected parties share all of the assessment and measurement endpoints.

It is noteworthy to mention that VCs in the EIS was determined primarily from the outcome of the community, Public, and regulatory engagement process (MVEIRB 2006, Found in EIS Section 12.5.2.1, pg. 12-116). MVEIRB outlined each of the Key Lines of Inquiry and Subject of Notes based on community concerns. Additionally, the TOR defines specific issues that must be addressed in the KLOI. MVEIRB also outlined

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indicators for any “development-related changes” – that is, measurement endpoints. To highlight, MVEIRB selected ‘family and community cohesion’ as a KLOI and had the following guidance in the TOR: the EIS must provide a detailed analysis of this KLOI including (but not limited to) the following specific issues:

- alternatives to two week rotation (see also section 3.2.6 on alternatives);
- influx of outside workers placing increasing demands on community social fabric and facilities;
- absence of workers from their family;
- decreased family cohesion, including breakups of families;
- absence of leaders, volunteers, etc. from communities;
- changes in levels of substance abuse;
- changes in traditional practices and levels of participation in traditional practices;
- migration of workers and their family to larger centres; and
- money management and changes in lifestyle choices.

The TOR also outlined indicators that could be used to measure ‘development-related changes’. For the KLOI ‘family and community cohesion’ these included:

- community and population health and associated indicators such as, but not limited to:
 - population in- and out-migration;
 - alcohol and drug access and use;
 - access to health care;
 - housing pressures;
 - crime rates;

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- access to child care;
 - increased social divisions within or between communities;
 - public safety; and
 - educational access and education completion levels.
- the physical, mental, and cultural well-being of northern mine workers and northern mine workers' families;
- existing and required social service networks to support community health and wellness (pressures on social services);
- the effect of this and other past, present and reasonably foreseeable developments on political and social development, cultural values, traditional practices and language in potentially affected communities;
- among particularly vulnerable sub-populations within potentially affected communities, such as women, children and Elders;
- an identification of lessons learned from social and cultural impacts of previous
- mine developments in the NWT and the North, and how they have been incorporated into the impact identification, prediction and mitigation for this development;
- a discussion concerning the development of a Human Resources Management Plan and any programs that will be offered at the mine site to identify and mitigate social problems; and
- a comparison of the likely relative distribution of beneficial and adverse cultural and social impacts among the different potentially affected communities.

The 2010 EIS (De Beers 2010), under each of the KLOI, addressed the valued components as well as the 'development related changes' identified by MVEIRB in the TOR through the assessment and measurement endpoints identified in Table 12.5-1 of the 2010 EIS.

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Reference

De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N*. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

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Information Request Number: TG_24

Source: Tlicho Government

Subject: Social Inclusion and Economic Growth

EIS Section: Chapter 12 pp 218-220

Terms of Reference Section: 4.1.5; 4.1.6

Preamble

There is a long, economic growth focused discussion on "social inclusion" around pages 12-218 to 220, that provides little in the way of data but does express a very specific and one-sided perspective on what creates and constitutes social inclusion. This portion of the document adds little value to the assessment itself and is both borderline offensive and extremely troubling to read. It states, for example:

"Social inclusion is a somewhat confusing term since it implies a purely social definition when in fact it is largely an economic concern. It is from economic growth that society gains the freedom to choose its social, environmental and even political path. Without the proceeds from economic growth these freedoms disappear." (p. 12-218)

"Economic growth is necessary because it provides society with choices regarding the means to improve human development." (p. 12-219)

While noting on p. 12-219 that there are actually examples where economic growth was achieved at the cost of greater inequality, loss of cultural identity, and over-consumption of resources needed by future generations, the section falls back later to the following statement:

"Experience elsewhere indicates that those who benefit from the economic growth gain a vested interest in seeing it continue ... These 'champions' of the new economy will make choices and promote policies that ensure the preservation of their new wealth and that of the economy". (p.12-220)

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Somehow, it is estimated that the actions of these self-interested 'champions' will "reduce social disparity and improve social inclusion" and "result in significant political and social progress". The means by which this will occur are unclear from the passage.

Frankly, the material throughout the sub-section on Creating Social Inclusion (pp. 218-220), as well as the Effects Analysis in section 12.6.3.3.2, is jarring, wildly different from the rest of the EIS in tone, almost completely divorced from the Dene cultural context, and appears to be largely opinion rather than useful analysis. It is easily the most disconcerting portion of the EIS.

This economic growth presumption reflects a deeply troubling misreading or ignorance of Tlicho- indeed Dene - history, economic mode of life and culture. It does not respect or reflect many of the fundamental Dene Laws or mode of life on the land. It is important for the Tlicho Government and people to better understand whether DBCI stands behind this ill-suited perspective or is willing to work with Dene people with due respect to their overarching values and worldview. It is also possibly unrealistic to expect that the main drivers for economic growth currently - non-renewable resource extraction - will be maintainable into the future. And this type of economic growth may also bring with it negative consequences for the previously sustainable Dene mode of life.

Request

- 24.1 Upon further reflection, does DBCI stand behind the assertions made between pp.218-221 of the EIS?
- 24.2 Are the statements in the identified portion of the EIS consistent with DBCI's sustainability policy?
- 24.3 Were any Aboriginal groups consulted when developing DBCI's definition of – and prerequisites for – “social inclusion”?
- 24.4 Does DBCI suggest that communities and cultures must achieve economic growth prior to asserting, gaining, or maintaining social, economic and political freedoms?

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- 24.5 If DBCI stands by this material, please indicate in a more comprehensive manner the pathways by which economic growth is likely to reduce social disparity and improve social inclusion among the Aboriginal communities in the LSA.

Response

24.1 Upon further reflections, does DBCI stand behind the assertions made between pp.218-221 of the EIS?

De Beers recognises that the discussion on social inclusion in the 2010 Environmental Impact Statement (EIS) on pg. 118 to 120 was focused on the economic dimensions of social inclusion - particularly how economic growth may help communities gain social, environmental and political empowerment. While not adequately highlighted, the section does include other definitions of social inclusion beyond the economic components including:

“Social inclusion can be thought of as a subcomponents of society’s ultimate goal of a high and sustainable quality of life” (De Beers 2010, pg 12-218)

- As highlighted in the preamble, ‘sustainability’ is at the core of the Dene and Tlicho lifeways and this point has been captured by De Beers in this section.

The definition of social inclusion in the ESIA also includes components such as “greater equality and tolerance of beliefs and values, and greater social justice.” (De Beers 2010, pg. 12-219)

This section also recognises that “(i)n and of itself economic growth does not directly result in an improved quality of life for society because it is measured by an increase in value-added production (i.e., GDP), not by its effect on people (De Beers 2010, pg. 12-219).

That is, De Beers recognises that the definition of social inclusion is wider than economic and employment benefits. Social inclusion may also include other types of activities such as traditional livelihoods, unpaid work etc. For the

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purpose of this EIS, however, employment is used as the indicator of social inclusion.

Presuming that the goal is to have sustainable communities in the north, with good socio-economic and/or human development indicators (such as a reduction in income poverty, better health and education outcomes, more opportunities and choice), their needs to be sustained economic development through access to jobs and contracting opportunities. This is because the NWT is currently a resource based economy. The aim is for the extractive industries to build human resources and physical infrastructure to provide a platform for greater economic diversification so that NWT is not debilitated by the boom and bust of commodity prices and/or depletion of non-renewable resources.

The transition to a diversified and sustainable economy in NWT may increase inequalities between those who are able to access employment and those who are not. Data on income inequality suggests that income inequality was increasing in NWT until 2000, after which it started to decline (GNWT Department of Industry, Tourism and Investment 2006a) (De Beers 2010, Annex K, Section K.3.4.4). This decline in inequality (measured through the gini coefficient) is likely the result of heightened activity in resource exploration and extraction (De Beers 2010, Annex K, Section K 3.4.4). Regardless of if inequality rises or falls, the expansion of the economy (in part because of diamond mining), will create more space for others to participate in the wage economy, likely leading to further social, cultural, economic and political gains.

24.2 Are the statements in the identified portion of the EIS consistent with DBCI's sustainability policy?

De Beers' Sustainable Development Policy establishes De Beers' commitment to operating with the principles of sustainable development. This means ensuring that activities undertaken today meet the needs of the present without compromising the ability of future generations to meet their own needs. This requires all employees and contractors to take account of the longer term economic, social and environmental implications of their social and environmental decision making and actions – not just for business but for society at large.

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The discussion regarding social inclusion in the 2010 EIS Section 12 outlines that economic development is not an end, but it a means to an end and that in and of itself, and that economic growth does not directly result in an improved quality of life for society. While De Beers notes in this section that social disparity between communities and within communities has been occurring since before the existence of diamond mines, De Beers also clearly outlines a number of mitigation measures it will take in implementing the Project to influence future social inclusion both between communities and within communities. This and the approach to the Project as a whole is consistent with De Beers' Sustainable Development Policy.

24.3 Were any Aboriginal groups consulted when developing DBCI's definition of – and prerequisites for – “social inclusion”?

TOR Section 4.1.6: Social Disparity Within and Between Communities “identified the issue of increasing social disparity between those participating and benefiting from mine development and those who will not, or cannot participate” (TOR 4.1.6 pg. 32; Gahcho Kué Panel 2007). These issues were of particular concern to “elders, traditional land users, women and others who are less likely to participate in mining related activities and are not only left behind but have to contend with increased costs of living, causing an effective decrease in standard of living and associated social problems” (TOR 4.1.6 pg. 32). This information, as stated in the TOR, was obtained during the environmental assessment with Aboriginal communities. They stated that “this concern was based on their experience with previous mines” (TOR 4.1.6 pg. 32). Consultations for the development of the TOR were undertaken by the Gahcho Kué Environmental Impact Review Panel for the proposed De Beers Gahcho Kué diamond mine. The Panel was established by MVEIRB and is responsible for assessing the potential impacts of the proposed development. It is an independent body which undertook public consultation in each of the potentially project affected communities as part of the governments legal requirements to consult Aboriginal communities.

Furthermore, the 2010 EIS, Section 12.6.3.3 identifies that the TOR identified social disparity as an issue. That is, there is a segment of the population that feels left behind, and that family and community support mechanisms have been declining. They also note that ‘factors affecting social disparity include social

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inclusion and perceptions of fairness” (De Beers 2010, pg. 12-215). These concerns were identified in 2007 during the GK Environmental Impact Review Panels interviews with the local study area (LSA) communities of Fort Resolution (De Beers 2010, Section 4.3.6.3.1) and Behchokò (De Beers 2010, Section 4.3.6.3.2). Due to these community concerns, a key line of inquiry, Social Disparity Within and Between Communities, was included as part of the socio-economic assessment.

While Aboriginal communities were not consulted specifically on the definition of social inclusion, the nature of the issue was raised through concern that the mine may create social exclusion. From these concerns a definition of social inclusion was derived.

24.4 Does DBCI suggest that communities and cultures must achieve economic growth prior to asserting, gaining, or maintaining social, economic and political freedoms?

De Beers does not propose that economic growth is the only goal that must be achieved prior to asserting, gaining or maintaining social, economic and political freedoms. Attaining these freedoms, however, requires a multi-faceted approach to development. Economic growth is a vital aspect of this approach.

For instance, the NWT does not have equal political freedoms as the provinces over the management of its affairs. If the population or the economy were larger, NWT may be able to negotiate an agreement with Canada for more autonomy in order for more decision making authority of development priorities. That is to say, a stronger economy may lead to greater political freedoms.

De Beers accepts that social, economic and political freedoms require a multifaceted approach to development. They have demonstrated their commitment to this through the project design features and mitigation measures put in place to limit any project effects that lead to social disparity and/or stifle social inclusion. For instance, De Beers has established a program to encourage volunteerism by Gahcho Kué employees by scheduling work rotations to encourage and facilitate community volunteerism (De Beers 2010, Section 12.6.3.4). This program seeks to build social capital and foster social

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inclusion within communities where employees are from. Other programs and mitigations that De Beers has put into place to foster social inclusion include:

- counseling (family, mental health and substance abuse) and family support (2010 EIS Section 12.6.3.4);
- accommodate traditional pursuits of Aboriginal employees within work schedules in balance with operational requirements of the Project (2010 EIS Section 12 Table 12.6-41);
- financial or in-kind support for local cultural programming (2010 EIS Section 12 Table 12.6-41);
- financial or in-kind support for language support programs in communities (2010 EIS Section 12 Table 12.6-41); and
- financial or in-kind support for on-the-land programming (2010 EIS Section 12 Table 12.6-41).

As well as the social and cultural programming described above, De Beers has also developed project design features and mitigations to enhance the skills and capacity of LSA communities so that they can also access the economic opportunities from the project. These features include:

- hiring practices that encourage participation from LSA communities (2010 EIS Section 12.6.3.4);
- offer skills development (education and training) on a priority basis to LSA community members and potentially vulnerable groups such as women and youth (2010 EIS Section 12.6.3.4); and
- facilitate local business and procurement opportunities in LSA communities (2010 EIS Section 12.6.3.4).

By adopting an approach that targets Gahcho Kué employees and the wider communities from which they are drawn from, De Beers aims to reduce disparity between those who are able to directly benefit from the project (through employment or procurement opportunities), while also developing programming that is targeted more generally at LSA communities.

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24.5 If DBCI stands by this material, please indicate in a more comprehensive manner the pathways by which economic growth is likely to reduce social disparity and improve social inclusion among the Aboriginal communities in the LSA.

The pathway by which economic growth may potentially reduce social disparity and improve social inclusion in Aboriginal communities in the LSA is by:

1. Increasing the number of employment and procurement opportunities in LSA communities will increase the number of people who have work and are 'included' in society (formal, traditional and unpaid economy). De Beers, in this regard, has set targets for northern hiring and procurement.
2. Economic growth, and an expanding economy, may also lead to economic diversification which is one driver of social inclusion (as defined in the EIS). In the transition to a more diversified economy, there may be a period of higher inequality as the economy broadens to include new industries and services. Data available, however, indicates that since 2000 inequality in NWT has been in decline. This has been attributed to resource development and associated industries – including the construction and operation of Ekati and Snap Lake¹ (De Beers 2010, Annex K, Section K.3.4.4 pg. 3-14; GNWT Department of Industry, Tourism and Investment, 2007)². It is expected that construction and operations of GK will continue to put a downward pressure on social disparity in the NWT. Additionally, the resource industry, and its potential to spur innovation, train the workforce and build infrastructure will likely lead a more diversified economy in the north, and bring further opportunities for people to participate in the economy.

1 This "can be attributed to the increased exploration or natural resources in the north along with the construction and ongoing production of the Diavik Diamond mine. This trend of decreased disparity in the NWT can be expected to continue as Ekati has completed the construction phase and begun production, exploration for the Territories natural resources continues, the development of the Mackenzie Valley Pipeline looks more and more probable, and the recent announcement of final approval for the Snap Lake Diamond Project." GNWT Department of Industry, Tourism and Investment, 2007.

2 GNWT Department of Industry, Tourism and Investment. 2007. Income Distribution in the NWT. Available from: <http://www.iti.gov.nt.ca/publications/2007/BusinessEconomicDevelopment/gini.pdf>

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3. The Gahcho Kué Project is not expected to have any significant effects on access to traditional land and traditional livelihoods for LSA communities. People who choose to maintain fully traditional livelihoods should not be affected by the Project. Further information about traditional land use and the potential effects to people can be found in the 2010 EIS Section 5 Traditional Knowledge and the key lines of inquiry on Caribou (2010 EIS, Section 8), Other ungulates (2010 EIS, Section 11.11), Fish (2010 EIS, Section 8) and Vegetation (2010 EIS, Section 11.7). Furthermore, the Project is prepared to accommodate Aboriginal employees' traditional activities wherever possible. Finally, the rotational nature of employment along with steady income provides an enabling environment (income and time) for Gahcho Kué employees to be included in the wage and traditional economies.

References

- De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.
- Gahcho Kué Panel. 2007. Terms of Reference for the Gahcho Kué Environmental Impact Statement. Mackenzie Valley Environmental Impact Review Board. Yellowknife, N.W.T.
- GNWT Department of Industry, Tourism and Investment. 2007. Income Distribution in the NWT. Available from:
<http://www.itl.gov.nt.ca/publications/2007/BusinessEconomicDevelopment/gini.pdf>

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Information Request Number: TG_25

Source: Tlicho Government

Subject: Family and Community Cohesion and Disparity

EIS Section: Chapter 12 pp 18, 19, 121, 198, 199, 203, 206-9, 215, 217-8, 220-1, 225,

Terms of Reference Section: 4.1.5; 4.1.6

Preamble

At page 12-19, the developer estimates that *"impacts from the project on family and community cohesion and social disparity are expected to be mainly positive and not significant"*.

At page 12-225, the developer states unequivocally:

"Although not directly linked to the Project De Beers is committed to addressing some of the root causes of social disparity".

The developer does not convincingly support either of the above statements in Section 12. The developer identifies that in some communities, including Tlicho communities, there is anecdotal evidence that in general volunteering is reducing (p. 12-45), and that "reciprocity within the community is narrowing" (p.12-198), and provides specific evidence of a decline in volunteer firefighters. In fact, a good portion of p. 12-199 refers to negative effects of rotational work and increased incomes on communal cohesion.

The developer goes on to make additional statements referring to "conventional indicators" and "standard measures" of family and community cohesion, and how they support a finding of a positive contribution of the development to social cohesion. It is difficult to understand the logic behind finding a specific impact direction (beneficial/positive) in light of a variety of contrasting evidence depending on the indicators used.

It is also unclear whether the developer looked deeper into social disparity issues that can be hidden behind macro-economic statistics related to average income, such as increasing disparities between those deeply engaged in the wage

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economy and those less likely to take advantage - for example women, elders, and dedicated traditional harvesters. As noted at page 12-208 of the EIS, approximately one in four Tlicho families still have incomes lower than \$25,000, and increasing social disparity between them and mine workers are of concern to the Tlicho Government in terms of community cohesion and the effects of the creation of "haves" and "have nots" on close knit Tlicho communities.

Request

1. In DBCI's opinion what are the most important criteria and indicators of social cohesion? Are they the same in Aboriginal vs. Non-Aboriginal communities?
2. The developer states at p. 12-198 that "*by all standard measures, family and community cohesion should be improving*", referring to statistics that mine employees are making good lifestyle choices (such as moderating alcohol intake and participating in traditional activities). Please identify:
 - a. How it was determined that moderate alcohol intake and traditional activities constitute "all standard measures" of family and community cohesion or, if there are other indicators that support this assertion, please provide them.
 - b. All the data sources the developer relied on in making the above-noted estimation about family and community cohesion.
3. At page 12-204 of the EIS, it is stated that "*by all conventional indicators...*" family and community cohesion is improving. The document earlier refers to a correlation between the diamond mining economy and increasing proportions of single family dwellings.
 - a. How are the statement noted reconciled to increasing proportions of single family dwellings?
 - b. What are conventional indicators of family and community cohesion?

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- c. Whose conventions are being used? Are they reflective of Dene values and criteria for community cohesion?

Response

1a. In DBCI's opinion what are the most important criteria and indicators of social cohesion?

Social Cohesion is defined in the 2010 EIS as "the art of working together, sharing values and challenges, and developing a mutual sense of trust and reciprocity among community members. The outcome is a society that looks after its members and has minimal disparity and schisms in the group" (De Beers 2010, Section 12.6.2.6, Pg. 12-203).

The characteristics or criteria that describe a socially cohesive society are likely to include:

- Trust in people and institutions;
- Respect for diversity and difference;
- Reciprocity and a sense of belonging;
- Strong social networks;
- Philanthropy and volunteerism; and
- Participation in the community. (De Beers 2010, Section 12.6.2.6 pg. 12-203).

Indicators which were identified by the Gahcho Kué Panel (2007) to assess this criteria include:

- Impacts of employment and rotation on family and community;
- Influx of outside workers;
- Absence from family;
- Decreased family cohesion and break-up of families;
- Community cohesion;

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- Absence of leaders and volunteers in the community;
- Substance abuse;
- Changes in traditional practices;
- Loss of cultural connection through lack of access to country foods;
- Migration of families to larger centres; and
- Money management and lifestyle choices (De Beers 2010, Section 12.6.2.1.2, pg. 12-182).

In addition, as part of the assessment process for the Key Line of Inquiry Family and Community Cohesion and Disparity, De Beers was to identify if the Project would have an impact on the following:

- Population, including in- and out-migration;
- Alcohol and drug access and use;
- Access to health care;
- Housing pressures;
- Crime rates;
- Access to child care;
- Increased social divisions within or between communities;
- Public safety;
- Educational access and education completion levels;
- The physical, mental, and cultural well-being of northern mine workers and northern mine workers' families;
- Existing and required social service networks to support community health and wellness (pressure on social services); and
- The effect of the Project on other past, present and reasonably foreseeable developments on political and social development, cultural values, traditional practices, and in potentially affected communities. (De Beers 2010, Section 12.6.2.1.2 Pg. 12-183).

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Measurement endpoints for monitoring and evaluating social cohesion have been identified in Table 12.5-1 on pg. 12-118 (De Beers 2010). They include:

- Country food harvesting during time off (percentage of households that report most or all of their meat or fish is harvested);
- Loss of volunteers;
- Language proficiency;
- Lone parent families;
- Sexually transmitted disease rate;
- Drug and alcohol use;
- Crime rates;
- Aboriginal language spoken at home; and
- Time spent on traditional pursuits.

1b. Are they the same in Aboriginal vs. Non-Aboriginal communities?

The criteria and indicators for social cohesion are not necessarily the same for Aboriginal and Non-Aboriginal Communities. For instance, indicators of social cohesion for Aboriginal communities may include aspects related to a subsistence economy such as: traditional livelihoods, sharing of country foods and family roles and decision making practices. The 2010 EIS Section 12.6.2.4 identifies “Other Values” (De Beers 2010, pg. 12-197) that related to maintaining a strong culture includes:

- Observe rules and laws from tradition;
- Learn stories, legends and history;
- Pay respect to lands and animals;
- Share with one another;
- Provide service to others; and
- Speak their language.

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These indicators are likely to be well suited for remote communities that have little experience with industrial development. For the groups who neighbor the Gahcho Kué Project, however, the indicators for assessing social cohesion may not necessarily be different from Non-Aboriginal communities because they have been participating in a mixed economy (traditional and wage) for many years.

To highlight an example of why formal and traditional economic activities must be included as part of any assessment on community cohesion, the “most explicit comment made during one of the community consultation sessions came from the elders. Several mentioned that is they who must bear the rise in rent when a mine worker’s income is factored into the net income of the household when the home is rented from the GNWT housing. Upon return to the community, the mine employees are not helping with the bills and expenses” (De Beers 2010, Section 12.6.2.4, pg. 12-198).

The elders referred to above were expressing their concerns about the pressure to their social system from the monetization of the economy; however, they wanted traditional practices of social cohesion within their societies such as sharing and familial responsibilities to compensate for any increased disparity. In this way, social cohesion must be assessed by both economic and traditional indicators.

Response 2

The developer states at p. 12-198 that “by all standard measures, family and community cohesion should be improving”, referring to statistics that mine employees are making good lifestyle choices (such as moderating alcohol intake and participating in traditional activities). Please identify:

2 a. How it was determined that moderate alcohol intake and traditional activities constitute “all standard measures” of family and community cohesion or, if there are other indicators that support this assertion, please provide them.

2010 EIS Section 12.6.2.4 “Other Values: The Right Way to Live” (De Beers 2010, pg. 12-198, 199) describes several indicators of family and community cohesion broader than only alcohol intake and traditional activities. They are presented below:

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- Lifestyle choices:
 - In Aboriginal culture, knowing the “right way to live” facilitates family and community cohesion.
- Rotation
 - The mine employees time-off may not actually be spent in the community and there is a perception of transience and therefore, inconsistent parenting.
- Decrease family cohesion
 - Unwillingness by some mine employees to recognize their responsibilities to the household was a source of stress for these elders and may be expressed as having lost the “right way to live”.
- Sharing
 - There is also some indication that reciprocity within the community is narrowing. Aboriginal culture generally dictates a broad sharing of goods in order to ensure survival of the community
 - Some mine employees do share the largess of the hunt especially with elders. Therefore, mine employees may be choosing to contribute to the community culturally, rather than financially, through the provision of country food, and/or having others accompany them when they are out hunting and fishing.

The qualitative information presented above from pgs 12-198 and 12-199 is broader than just traditional activities and changes in social behavior (i.e. Substance use), and yet still does not represent the extent by which social inclusion was assessed in Section 12 (De Beers 2010). The indicators used to assess residual impacts and determine significance (De Beers 2010, Section 12.6.2.7, pg. 12-204) were presented in **Response 1**, above (or De Beers 2010, Section 12.6.2.4).

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2b. All the data sources the developer relied on in making the above-noted estimation about family and community cohesion.

Data for alcohol intake is presented below:

- “According to the 2006 NWT Addictions Survey, an estimated 37% of NWT residents 15 years or age or older who were current drinkers engage in high-risk alcohol use (GNWT Department of Health and Social Services 2006b; De Beers 2010, Section 12.6.2.3.1, pg. 12-193).
- “The positive news is that heavy drinking has declined during the past 10 to 15 years. From 1996 to 2006 in the NWT, the proportion of heavy frequent Aboriginal drinkers declined from 17% to 12%, while that of light frequent drinkers increased from 8% to 14%. In contrast, the proportion of heavy frequent Non-Aboriginal drinkers increased from 9% to 13%. Weekly binge drinking declined from 23% to 18% among males and from 27% to 16% among Aboriginals” (GNWT Department of Health and Social Services 2006b; De Beers 2010, Section 12.6.2.3.1, pg. 12-193).
- “Overall, the relationship of alcohol and employment is partly linked, and there is some indication that binge drinking does decrease with employment, whether full or partial” (Dooley and Prause, 1997; Lee et al. 1990; De Beers 2010, Section 12.6.2.3.1, pg. 12-194).

This data presented in the 2010 EIS finds that heavy drinking has declined for Aboriginals over the past 10 to 15 years, or during the time that diamond mining has been in the NWT. Furthermore, research has shown that there is likely a positive relationship between the reduction of binge drinking and increasing employment opportunities” (GNWT Department of Health and Social Services 2006b; De Beers 2010, Section 12.6.2.3.1).

Data on traditional activities, including the cultural value, changes to traditional activities and the level of participation is presented below:

- Traditional activities:
 - Participation in community activities such as harvesting is a direct connection to Aboriginal culture and is a fundamental basis for social identity, and cultural and spiritual survival (Kruse 1991, Natcher

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2009, Nuttall et al. 2005, Condon et al. 1995). (De Beers 2010, Section 12.6.2.4, pg. 12-197)

- Impacts to traditional activities from Employment at diamond mines:
 - As mine workers reported, at least some of the time back home is spent “on-the-land” and that working has actually allowed them to continue harvesting activities (De Beers 2010, Section 12.6.2.4, pg. 12-198).
 - Participation in the wage economy may not interfere with the pursuit of traditional activities and may actually provide the needed inputs (i.e., money for gas and equipment) to continue with hunting and fishing (GNWT Bureau of Statistics 2005; Hill et al. 1998). In the 2005 GNWT study, Aboriginal males involved in diamond mining hunted and fished at a marginally higher rate than other employed Aboriginal males. In other words, indigenous people may use the wages from development activities to pursue traditional activities, and due to the rotational work may have the time available to go on longer hunting and fishing trips (De Beers 2010, Section 12.8.6.3, pg. 12-358).
- Overall, individuals in prime income earning years (i.e., aged 25 to 59) were most likely to participate in traditional activities (GNWT Bureau of Statistics 2003b; De Beers 2010, Section 12.3.4.8.5, pg. 12-90).

The data presented generally notes that traditional activities are important aspects of Aboriginal culture. The research on impacts to traditional activities for mine workers also notes that people who are employed in the diamond mining sector continue to participate in traditional activities and that being employed at the mine may increase their financial capacity to participate in traditional activities.

Other data sources which were used to support the assessment of the Key Line of Inquiry (KLOI) on ‘Community and Family Cohesion’ (De Beers 2010, Section 12.6.2) include:

- Information gathered from the KLOI on Long-term Social, Cultural and Economic Effects (2010 EIS Section 12.6.1); Social Disparity Within and Between Communities (De Beers 2010, Section 12.6.3);

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- Information gathered from the Subject of Note (SON) on Employment, Training, and Economic Development (De Beers 2010, Section 12.7.1); and Culture, Heritage and Archaeology (De Beers 2010, Section 12.7.5).
- 2005 Survey of mine Employees (GNWT Department of Health and Social Services et al, 2006) reported on mine workers impressions about how employment has affected their relationships with their families (De Beers 2010, Section 12.6.2.2.1, pg. 12-184).
- Information on volunteerism and the change in the rate of helping others directly was collected from Statistics Canada et al. 2009, Little et al. 2005, and GNWT Bureau of Statistics 2009c; De Beers 2010, Section 12.6.2.2.1, pg. 12-185.
- Information on harvesting is from the NWT Regional Employment and Harvesting Survey (2003b), the 2009 NWT Community Survey and the GNWT Bureau of Statistics 2005 survey on harvesting participation in 'diamond communities'.
 - Specific information on the Lutsel K'e harvesting practices was found in the Ni Hat'ni-Watching the Land (2005) report (found in De Beers 2010, Section 12.6.2.2.1, pg. 12-188).
- Information on Aboriginal language use was collected from the GNWT Education, Culture and Employment (2000). This research found that 'primary aboriginal language skills have been dropping over the past decade and were in decline before the first diamond mines started employing NWT residents (De Beers 2010, Section 12.6.2.2.1, pg. 12-190).
- Data on Drug and Alcohol Consumption was found primarily collected the 2006 NWT Addictions Survey (GNWT Department of Health and Social Services 2006b; De Beers 2010, Section 12.6.2.3.1, pg. 12-193).
- Information on crime and crime rates were found from several sources including: Criminal Intelligence Service Alberta (2007); GNWT Bureau of Statistics 2009c; Scott Clark Consulting Inc. 2006a; De Beers 2010, Section 12.6.2.3.1, pg. 12-195).
- Data on family violence in the NWT was cited from the Status of Women Council of the NWT (2007) study. They found that family violence "develop out of such historical traumas as the residential schools, resulting in the breakdown of family, traditional culture, and community

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life. Other factors such as poverty and substance abuse also contribute to family violence (De Beers 2010, Section 12.6.2.3.1, pg. 12-195).

Response 3

At page 12-204 of the EIS, it is stated that “by all conventional indicators...” family and community cohesion is improving. The document earlier refers to a correlation between the diamond mining economy and increasing proportions of single family dwellings.

a. How are the statement noted reconciled to increasing proportions of single family dwellings?

The 2010 EIS does not refer to a correlation between the diamond mining economy and increasing proportions of single family dwellings. The EIS does note that in 2006 (the last year that data is available) “the family structure in NWT was predominately couples (79%) (De Beers 2010, Section 12.3.4.1.4, pg. 12-32). The EIS also presents data that single parent families in the North and South Slave region were relatively common, particularly in the communities of Wekweètì (43%), Whatì (35%), Behchokò (32%), Detah (31%) and Gamètì (31%).”

While these communities are in the LSA there is no data to support that the higher percentage of single parent families is due to the communities proximity to diamond mines and/or because community members are employed by the mines.

Information from the 2001 Census for NWT finds the percentage of lone family parents is 21%¹. This number of lone parent families, on aggregate, appears to be unchanged from 2006, where couples accounted for 79% of all families. LSA community level data is not available for the 2001 census.

¹ Statistics Canada. 2001. Community Highlights for Northwest Territories. Available from: <http://www12.statcan.gc.ca/english/Profil01/CP01/Details/Page.cfm?Lang=E&Geo1=PR&Code1=61&Geo2=PR&Code2=01&Data=Count&SearchText=Northwest Territories&SearchType=Begin&SearchPR=01&B1=All&Custom=> [Accessed Feb 2012].

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b. What are conventional indicators of family and community cohesion?

The indicators below may not necessarily be the 'conventional' indicators of family and social cohesion, however, they were identified as specific issues to be addressed by in the EIS by the Gahcho Kue Panel (2007, Section 4.1.5):

- Impacts of employment and rotation on family and community;
- Influx of outside workers;
- Absence from family;
- Decreased family cohesion and break-up of family;
- Community cohesion;
- Absence of leaders and volunteers in the community;
- Substance abuse;
- Changes in traditional practices;
- Loss of cultural connection through lack of access to country foods;
- Migration of families to larger centres; and
- Money management and lifestyle choices (De Beers 2010, Section 12.6.2.1.2, pg. 12-182).

In addition, as part of the assessment process for the Key Line of Inquiry Family and Community Cohesion and Disparity, De Beers was to identify if the Project would have an impact on the following:

- Population, including in- and out-migration;
- Alcohol and drug access and use;
- Access to health care;
- Housing pressures;
- Crime rates;
- Access to child care;

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- Increased social divisions within or between communities;
- Public safety;
- Educational access and education completion levels;
- The physical, mental, and cultural well-being of northern mine workers and northern mine workers' families;
- Existing and required social service networks to support community health and wellness (pressure on social services); and
- The effect of the Project on other past, present and reasonably foreseeable developments on political and social development, cultural values, traditional practices, and in potentially affected communities. (De Beers 2010, Section 12.6.2.1.2 Pg. 12-183).

c. Whose conventions are being used? Are they reflective of Dene values and criteria for community cohesion?

The indicators outlined above in **3b** were identified by the Gahcho Kué Panel (2007). The Panel selected the indicators based on consultations with representatives of Aboriginal communities during environmental assessment scoping sessions. These sessions identified issues of concern such as increased substance abuse and the impact of additional influx of money combined with rotational schedules, language, country food consumption and traditional livelihoods.

In identifying the Key Line of Inquiry on Community and Family Cohesion and associated indicators, the Gahcho Kué Panel held scoping workshops in Yellowknife, Detah, Łutsel K'e, Fort Resolution and Behchokò. The communities of Detah, Behchokò are Dene communities and were part of this process.

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References

- Condon, R., P. Collings and G. Wenzel. 1995. The Best Part of Life: Subsistence Hunting, Ethnicity, and Economic Adaption Among Young Adult Inuit Males. *Arctic*. 48(1):31-46.
- Criminal Intelligence Service Alberta. 2007. 2007 Report on Organized and Serious Crime: Alberta and Northwest Territories. Edmonton, AB.
- De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N*. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.
- Dooley, D. and J. Prause. 1997. Effect of Favorable Employment Change on Alcohol Abuse: One- and Five-Year Follow-Ups in the National Longitudinal Survey of Youth. *American Journal of Community Psychology*. 25(6):787-807.
- Gahcho Kué Panel. 2007. Terms of Reference for the Gahcho Kué Environmental Impact Statement. Mackenzie Valley Environmental Impact Review Board. Yellowknife, N.W.T.
- GNWT (Departments of Health and Social Services, Education, Culture and Employment; Industry, Tourism and Investment; Justice; Bureau of Statistics; and Housing Corporation). 2006. Communities and Diamonds. Socio-economic Impacts in the Communities of: Behchokö, Gamètì, Whatì, Wekweètì, Detah, Ndilo, Łutsel K'e, and Yellowknife. 2005 Annual Report of the Government of the Northwest Territories under the BHP Billiton, Diavik and De Beers Socio-economic Agreements. Yellowknife, NWT.
- GNWT Bureau of Statistics. 2003b. 2002 Regional Employment and Harvesting Survey. Yellowknife, NWT.
- GNWT Bureau of Statistics. 2003b. 2002 Regional Employment and Harvesting Survey. Yellowknife, NWT.

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- GNWT Bureau of Statistics. 2009c. 2009 NWT Survey of Mining Employees. August 2009. Available at:
<http://www.itl.gov.nt.ca/publications/2010/Diamonds/MESReportGNWT.pdf>. Accessed: May 2010.
- GNWT Department of Health and Social Services. 2006b. The 2006 NWT Addictions Report. Yellowknife, NWT.
- Hill, A.E., C.L. Seyfrit and M.J.E. Danner. 1998. Oil Development and Social Change in the Shetland Islands 1971-1991. Impact Assessment and Project Appraisal 16(1):15-26.
- Kruse, J. 1991. Alaska Inupiat Subsistence and Wage Employment Patterns. Understanding Individual Choice. Human Organization 50(4), Winter 1991.
- Lee, A.J., I.K. Crombie, W.C.S. Smith and H. Tunstall-Pedoe. 1990. Alcohol Consumption and Unemployment among Men: The Scottish Heart Health Study. British Journal of Addiction. 85(9):1165–1170.
- Little, L., S. Auchterlonie and B. Stephen. 2005. Continuing Strong Traditions: Aboriginal Participation in the Northwest Territories' Voluntary Sector. Prepared for the Native Women's Association of the Northwest Territories, Northwest Territories Literary Council, and YWCA of Yellowknife. Toronto, ON.
- LKDFN (Łutselk'e Dene First Nation) and M. Krieger. 2003. Ni hat'ni – Watching the Land: Results and Implications of 2002-2003 Monitoring Activities in the Traditional Territory of the Lutsel K'e Denesoline. Wildlife, Lands and Environment Department. Available at:
http://www.enr.gov.nt.ca/_live/documents/content/WKSS_Ni_Hat_ni_2002-2003_Report.pdf. Accessed: June 2008.
- Natcher, C. 2009. Subsistence and the Social Economy of Canada's Aboriginal North. The Northern Review. Spring 2009:83-98.

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- Nuttall, M., F. Berkes, G. Kofinas, T. Vlassova, and G. Wenzel. 2005. Hunting, Herding, Fishing and Gathering Indigenous Peoples and Renewable Resources Use in the Arctic. In Arctic Climate Impact Assessment. Cambridge, UK. University of Cambridge Press. Pp. 649-690.
- Scott Clark Consulting Inc. 2006a. Policing in the Northwest Territories: Report on a Public Consultation Process, NWT Section. GNWT Department of Justice. Yellowknife, NWT.
- Statistics Canada. 2009. Caring Canadians, Involved Canadians: Highlights from the 2007 Canada Survey of Giving, Volunteering and Participating. Available at: <http://www.statcan.gc.ca/pub/71-542-x/71-542-x2009001-eng.pdf>. Accessed: October 2010.
- Status of Women Council of the NWT. 2007. Violence Against Women in the NWT: A Way Forward. Yellowknife, NWT.

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Information Request Number: TG_26

Source: Tlicho Government

Subject: Criteria and Indicators of Community Well-being

EIS Section: Chapter 12, section 12.3.4.4.6

Terms of Reference Section: n/a

Preamble

No mention is made in Section 12 to the Determinants of Health and Population Health conceptual models promoted by Health Canada (<http://www.phac-aspc.gc.ca/ph-spl>). These models suggest that there are a lot more factors than "economic growth" (see pages 12-218-220) that determine individual and community well-being. It is not clear whether the developer considered culture group specific criteria and indicators of well-being and quality of life.

Request

1. Were the same criteria and indicators of community well-being and quality of life used to assess potential impacts of the proposed development on different culture groups and community types? If so, how does the developer justify this as an appropriate approach?
2. Please identify who, how and when Tlicho representatives and citizens were engaged in order to identify relevant indicators of community well-being, or any documents related to the Tlicho region that were used to identify culture-group specific criteria and indicators of community well-being.

Response

Response 1: Were the same criteria and indicators of community well-being and quality of life used to assess potential impacts of the proposed development on different culture groups and community types? If so, how does the developer justify this as an appropriate approach?

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The 2010 EIS, De Beers 2010, Section 12.3.4.4.6 provides a discussion of community well-being rather than quality of life. The term quality of life is not identified in the Terms of Reference (TOR) as a Value Socio-Economic Component (VSEC).

The Gahcho Kué TOR Table 7-5 entitled 'Community Wellness Issues' outlines six assessment criteria (and their attributes) (Gahcho Kué Panel 2007). These criteria were developed out of the MVIERB scoping workshops that engaged with communities to identify VSECs for the human environment assessment. These criteria have been addressed throughout the 2010 EIS Section 12 Socio-Economic Impact Assessment, and not specifically in the 2010 EIS Section 12.3.4.4.6, Health and Wellbeing. The assessment criteria identified in Table 7-5 (pg. 54) of the TOR developed by MVEIRB include:

Employment

- hiring policy and practices – recruitment and retention
- cultural difference in workplace affecting job satisfaction
- lack of opportunity for advancement
- increased need for child care
- gender inequities
- ability to meet northern/Aboriginal hiring targets

Education

- incentives and disincentives to further education
- need for increased educational programming to prepare for mine employment
- lack of functional literacy

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Training

- lack of diversity & adequacy of training opportunities
- inability to meet educational requirements to access training
- limited training available in outlying communities

Income and Expenses

- unhealthy lifestyle choices
- money management issues (e.g. impacts from poor budgeting skills)
- increasing income disparities (haves/have nots)
- increased cost of living
- availability, adequacy and affordability of housing

Cultural/Population Health

- loss of language
- reduced harvesting success
- loss of traditional skills
- decreased transfer of knowledge between generations
- loss of spiritual connections and knowledge
- physical impacts to health
- loss of family cohesion related to rotational work schedules

Community Capacity

- reduced involvement in communal activities
- lack of control over pace of development
- potential for growing sense of disempowerment

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- increasing out-migration/skills drain to larger centres
- infrastructure pressures of increasing in-migration to regional centres
- shortage of locally available labour force for community services
- lack of capacity to engage in monitoring & enforcement

Section 12, if read in its entirety, does cover the criteria outlined above from the TOR developed by MVEIRB to guide the socio-economic impact assessment.

Community well-being topics were identified during the MVEIRB scoping consultations in 2007 that identified areas of priority for local study area (LSA) communities and associated VSECS to be included in the TOR (De Beers 2010, Section 4). For instance, the community of Behchokò identified Social Disparity and Family and Community Cohesion as the social impacts of areas of greatest concern at the Oct 1st and 2nd MVEIRB meetings in 2007 (De Beers 2010, Section 4.3.6.3.2 pg. 4-20). Wekweètì, on the other hand, identified Long-term Social, Cultural and Economic Effects as the potential social impact of greatest concern at their MVEIRB meeting on Oct 29 and 30, 2007 (De Beers 2010, Section 4.3.6.3.4, pg. 4-21).

Furthermore, the main reason that the assessment of community well being identified concerns through MVEIRB scoping visits and did not develop specific indicators for each community (or cultural community) is because of the benefits of comparable data for the Gahcho Kué Project and the government. Comparable metrics are useful for socio-economic monitoring between LSA communities and mining projects (i.e., Diavik, Ekati, Snap Lake and Gahcho Kué). One clear benefit of comparable data is that it can be easily reported (for instance in the Community and Diamonds reports 2003 - 2011), and support the policy development process by local and territorial governments as well as by mining companies. It can be a useful tool to plan for the equal distribution of benefits between communities and address any inequalities.

Response 2: Please identify who, how and when Tlicho representatives and citizens were engaged in order to identify relevant indicators of community well-being, or any documents related to the Tlicho region that

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were used to identify culture-group specific criteria and indicators of community well-being.

Please refer to the response provided for Information Response (IR) TG _22.1 and 22.1. De Beers will be providing the Panel with an update on all engagement activities since December 2010 in Q2 of 2012.

References

De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

Gahcho Kué Panel. 2007. Terms of Reference for the Gahcho Kué Environmental Impact Statement. Mackenzie Valley Environmental Impact Review Board. Yellowknife, N.W.T.

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Information Request Number: TG_27

Source: Tlicho Government

Subject: Culture - General

EIS Section: Chapter 12, pp. 95, 200, 285-6, 294, 299, 302, 341, 351-2

Terms of Reference Section: 5.3.4

Preamble

No preamble provided.

Request

1. Please identify all methods and instances, other than TK studies, by which primary data on Tlicho culture was collected.
2. Please identify all documents reviewed in the collection of cultural information about Tlicho citizens, laws and values.
3. At page 12-200, the developer states "De Beers will also continue to support communities with their cultural programming". Please identify:
 - a. What specific Tlicho cultural programs De Beers has supported to date.
 - b. What level of financial support De Beers has provided for cultural programs to date.
4. Will DBCI commit to contribute to initiatives to protect the values – to "keep the story of the land alive" – of important cultural areas identified by the Tlicho in proximity to the Gahcho Kue proposed mine site?
 - a. How and when will engagement on areas of cultural importance to the Tlicho be initiated?

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Response

1. In addition to the references already noted throughout the 2010 EIS (De Beers 2010), it is through De Beers' ongoing engagement with Tłı́ch̓ communities and citizens that creates instances where traditional knowledge (TK) holders have opportunities to provide information to De Beers. This includes community meetings, workshops, site visits, one-on-one visits with De Beers staff, participation by De Beers in community activities and programs.
2. Section 5.5 of the 2010 EIS (De Beers 2010) lists all references used to collect information for the Traditional Knowledge section of the EIS. Specific references for Tłı́ch̓ Government citizens, laws, and values' are not identified as information that was collected based upon broader searches for the various Aboriginal groups. However, the Tłı́ch̓ Government is finalizing a Knowledge study (primary data source) for the Gahcho Kué Project. When the results of Tłı́ch̓ study is made available, De Beers will use that information to further inform impact predictions, to evaluate whether additional mitigation or refinements to proposed mitigation is needed, and to identify additional opportunities for incorporating TK into monitoring programs.

3. a and b

Through its corporate social investment funding, De Beers has supported a number of community programs in Tłı́ch̓ communities. These have been identified to the company by the Tłı́ch̓ Government and by Tłı́ch̓ communities as those projects that are important for their communities through discussion with the Company's liaison to the Tłı́ch̓ Communities. Table TG_27-1 provides a list of itemized list of all De Beers social investment to Tłı́ch̓ communities from 2006 to 2011.

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Table TG_27-1 Social Investment to Tlicho Communities - 2006-2011

Amount	Item
2006	
\$2,160	Rae-Edzo Friendship Centre, National Aboriginal Day Celebrations
\$21,000	Literacy Project
2007	
\$100	Behchokò Youth Centre Christmas Festival
\$2,500	Hand Games Tournament Sponsorship
\$23,000	Literacy Project
\$500	Tlicho Trades Centre
\$500	Community Elders Funeral
2008	
\$2,000	CJBS Students Participation in Dreamcatchers Conference
\$24,762	Literacy Project
\$700	National Aboriginal Day - Cultural Celebrations Whati
\$2,500	Behchokò Hand Games Tournament
\$7,500	Annual Tlicho Gathering Canoe Trip*
\$2,500	Whati Fun Hockey Tournament
\$500	Alexis Arrowmaker School Children's Christmas Party
\$2,500	Cultural Class at Snap Lake (Pauline Williah)
\$2,449	Mining Terminology Handbook - (1/2 of Total Cost)
2009	
\$2,000	Behchokò Children's Christmas Party
\$2,500	Cultural Class at Snap Lake (Eva Beaverho)
\$500	Wekweeti Student Christmas Celebration
\$27,179	Books in Homes
\$1,000	Gameti School Gym Equipment
\$2,500	Behchokò Hand Games Tournament
\$2,000	Tlicho Community Services Association - Tlicho Gathering
\$1,000	Whati Spring Carnival

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References

De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N*. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

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4. a De Beers will continue to be available to discuss, consider and partner with the Tłı́chō Government on initiatives that protect and promote cultural values that are important to the Tłı́chō citizens. De Beers welcomes opportunities to meet with the Tłı́chō Government and requests meetings with the leadership at least annually to provide updates on De Beers' activities and to discuss matters of concern to De Beers and to the Tłı́chō Government. De Beers' Community Liaison Coordinators are the first point of contact for the Tłı́chō Government, should the Tłı́chō Government have a particular matter, including matters regarding culture that they would like to discuss with De Beers. The De Beers' Community Liaison Coordinators are available to meet with representatives of the Tłı́chō Government at their request. In addition, the De Beers Community Liaison Coordinator arranges meetings on behalf of De Beers with representatives of the Tłı́chō Government. De Beers remains open to discussions with the Tłı́chō Government on matters of cultural importance.

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Information Request Number: TG_28

Source: Tlicho Government

Subject: Accommodation of Traditional Culture at the Mine site

EIS Section: Chapter 12, pp.105, 108, 110-3, 199, 201

Terms of Reference Section: 5.3.4

Preamble

In the Tlicho Government's experience, one of the major adverse influences on Tlicho employee retention at various diamond mine sites has been cross-cultural conflict and misunderstandings, and lack of flexibility with respect to Dene cultural priorities among mine management.

In addition, cultural accommodation in the form of respectful treatment of Dene culture at the mine site may prove to make the work environment more inviting to Dene workers.

Request

1. Please identify what cultural accommodation or cross-cultural issues have been raised by Dene (where possible, Tlicho) workers at the Snap Lake mine site, which are most common and most serious, how this information is gathered, and how DBCI has reacted to the raising of these concerns.
2. Please identify any sources other than De Beers' own direct experience that were examined when looking at mine site cultural accommodation issues.
3. Please provide additional clarity to what specific commitments the developer is making, and limits to same, when at page 12-105 it is stated that "*Traditional pursuits of Aboriginal employees will be accommodated within work schedules, in balance with the operational requirements of the Project where practicable and with appropriate notice*"

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4. Please provide De Beers' policy toward communal bereavement leave and how the cultural responsibilities of several workers from the same community would be accommodated in a communal bereavement scenario.
5. Please identify what specific type of programming for cross-cultural awareness is and will be provided to incoming workers and management (i.e., does the training focus on actual issues that may emerge at the worksite?).
6. Please identify De Beers' planned complaint, grievance and dispute resolution mechanisms for conflicts that occur at the mine site between workers and between workers and management, including any specific plans, policies and programs for cross-cultural conflict resolution.
7. The Tlicho Government has seen recent success in setting up a "listening post" where concerns of Tlicho mineworkers can be raised directly with a Tlicho Government representative, who can then act as an advocate or intermediary between the worker and DBCI. Does DBCI have plans to incorporate such a system at Gahcho Kue?
8. Please identify whether DBCI has plans, policies or commitments to any of the following cultural accommodation measures at the mine site:
 - a. Increased Dene language signage.
 - b. Incorporation of additional Dene names into the industrial complex.
 - c. Increased visits from elders and family members of Dene mine workers (it is unclear who would be invited to attend the mine site on page 12-113, section 12.4.16

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Response

1. Concerns raised by Dene employees are typically related to company decision making process regarding employee progression or promotion. Typically these concerns have been raised at the mine site when a northern aboriginal employee has not progressed or been promoted and they observe that another candidate who is not northern aboriginal has been promoted. In some cases, concerns about the advancement of Dene employees with the company have also been raised about the industry in general at community engagement sessions. At the mine site, this concern is typically raised in discussions between employees and their supervisor, with staff in the Human Resources Department or with management representatives at community meetings. To deal with this concern, the company takes a two pronged approach. First, opportunities for promotion or advancement are discussed twice annually as part of the employee performance management program. During these discussions, supervisors and their employees discuss what is required for advancement, what are the jobs within the company that are natural progression from the job an employee is current in, and what training or experience is required in order to progress or be promoted and how that training and experience can be obtained.

Where an employee is passed over for promotion or advancement, it is typically related to an employee's current work performance, their attendance history, and/or shortcomings in the compliment of skills and/or knowledge that an employee has relative to the position for which they are being considered. All of these factors are reviewed when considering any candidate for advancement/promotion opportunities.

Concerns that have been raised regarding advancement, hiring decisions or the selection of candidates for promotion are addressed directly with individual employee who has the concern. These are addressed by either their supervisor or the Human Resources Manager to ensure that the reason for the company's decision is clearly explained and to help the employee understand what the job requirements and skills are, and what the steps are for the employee to take in order to meet those requirements.

2. De Beers will utilize experience from the Snap Lake Mine to inform our consideration of cultural accommodations at the mine site.

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In addition, secondary sources and engagement results have informed the discussion of Aboriginal culture throughout the 2010 EIS (De Beers 2010, Sections 5 and 12 and Annexes K and M). Information pertaining to Aboriginal culture was incorporated into the effects assessment and mitigation recommendations, and will be considered by De Beers when developing cultural accommodations at the proposed Gahcho Kué mine site.

There are general measures that have been used by northern mining operations in Canada to validate and accommodate cultural practices on-site. Many of these measures have been in place since the 1970s and 1980s when the Nanisivik and Polaris mines began operations (1976 and 1981 respectively), and are now common practice for northern mines. The following are examples of cultural accommodation practices that are employed in the northern mining industry:

- providing core policies in English, French and northern Aboriginal languages (e.g., Tlicho and Chipewyan);
 - the use of Aboriginal languages while on-site when it does not compromise health and safety;
 - the provision of country foods and spaces for spiritual and cultural pursuits on-site;
 - collaborating with Aboriginal communities on the development and delivery of training programs based on cultural value systems;
 - the promotion of traditional culture through cultural celebrations and activities; and
 - maintaining work rotation schedules that allow for maximum continuous time spent in the employee's home community to promote participation in traditional activities (e.g., volunteering, hunting, trapping).
3. De Beers' commitment is to consider on a case by case basis, requests by Aboriginal employees who would like time off to participate in cultural activities and to working with the employee within operational constraints to enable their participation where ever possible. To illustrate the spirit and intent of this

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commitment, below is an example of how De Beers currently honours this commitment at the Snap Lake Mine.

Example: Key community cultural events such as annual gatherings, community hunts, community canoe trips and/or hand games competitions are identified by management. Notice of these events is provided to supervisors so they are aware of the importance of participation in these events by some employees. Supervisors are provided with the names of employees from communities who may be actively involved in or interested in attending these cultural activities in advance so supervisors can discuss with their employees whether they are planning to participate. Employees are proactively encouraged to identify as early as possible whether they will want time off for such events. By proactively encouraging employees to provide adequate notice for leave requests to participate in cultural activities, the De Beers is better prepared to schedule a replacement worker. This approach enables proactive planning for safety and operational requirements and communicates to employees that enabling their participation in these events is something that is also important to the De Beers.

4. De Beers' policy for bereavement leave is flexible and provides opportunity for employees to have paid leave to attend the funerals for immediate family members, extended family members, co-workers or close family friends. In the event of a communal bereavement, De Beers' Policy is to review the request on case-specific basis through liaison with community contacts. This has worked well for De Beers and for our employees to date. For example, in the event of a death of a significant community elder, where a number of community members including employees are compelled to attend, De Beers' community liaison staff will contact a representative in the community to obtain the details regarding the funeral so that this information can be conveyed to the Human Resources Manager on site. While some employees will apply for leave right away, the Human Resources Manager also works with all on site supervisors to help identify those employees who may be impacted and who may need leave so that leave options under the Policy can be explained and employees who may need leave are encouraged to quickly self identify. This gives the supervisors an opportunity to schedule replacement workers to ensure safety and operational requirements can be maintained. On a case by case basis, a determination is made as to whether employees can leave to attend the funeral using regularly scheduled flights to and from site, or whether a charter might be required to

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enable a large group of employees to participate in the funeral. Both options have been used in the past at Snap Lake mine, depending on the circumstances.

5. A mandatory Cross Cultural Course is offered to all employees. This course was developed by Joanne Barnaby, a well known northern cultural advocate. She was assisted by Dr. Alice Legat and Lutsel K'e Elder Vicky Desjarlais. Dr. Legat has extensive experience working with Tłı̄ch̓ elders. The course provides employees with a basic awareness and understanding needed to work in the Northern environment with Aboriginal peoples and with peoples from a variety of cultures. The course addresses the history of the north, the northern development experience and the cultural values shaping its' future. While this is mandatory for De Beers' employees and contractors working at the Snap Lake mine, De Beers has from time to time made this course available to its business and community partners when the course is offered in Yellowknife to Yellowknife based employees. Based on participant feedback, this one day mandatory course is well received by all participants.
6. De Beers has a workplace harassment and discrimination policy. The Policy is aimed at creating a working environment which is free from sexual, racial or any other forms of harassment and discrimination, or abuse of authority. This applies to all De Beers Canada work locations and would also apply to the proposed Gahcho Kué Project. Any employee, who believes that he or she has been subjected to harassment or discrimination, or who is aware of situations where such conduct may be occurring, is encouraged to report inappropriate behaviour in accordance with a formalized complaint procedure described under this Policy.

De Beers also has a formal Grievance Resolution Procedure. This procedure exists to enable any employee to raise a concern about a manager's or other individual's actions, the application of a policy or to raise a formal grievance when an employee believes they are being unreasonably or unfairly treated.

De Beers also has a NWT Procedure in place that establishes a Joint Consultative Committee (JCC). The JCC is designed to establish a flexible and responsive employee/management communication vehicle that encourages two way communications between management and employees. The committee seeks to promote positive initiatives aimed at continuous improvement in all

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matters related to employment conditions, employee relations, policy development, implementation, review, evaluation and improvement. The Committee's representation includes employee representatives that are reflective of the workforce across departments. Should none of the employee representatives are of Aboriginal ancestry, an additional appointment is made to ensure Aboriginal participation and perspective on the committee.

In addition, De Beers provides cross cultural training and supervisory training so that employees and supervisors have tools to help them avoid conflicts, and to seek resolution when conflicts of any kind, including cross cultural conflicts arise.

7. De Beers has only recently become aware of the Tłı́ch̓ Government's concept referred to as the "listening post". De Beers encourages all employees to bring their concerns directly to their supervisor, or if they are not comfortable to do so, to bring their concerns to the Human Resources Manager. The Company also recognizes that for cultural reasons, an employee may be hesitant to do so and so Community Liaison staff is also available to assist Aboriginal employees in bringing concerns forward. De Beers' welcomes hearing from the Tłı́ch̓ Government how they would like De Beers to incorporate this "listening post" concept into the current Policy. This should be discussed directly with the De Beers Human Resources Manager in the NWT.
- 8.a. De Beers plans for Dene language signage include the posting of main policies in English, French, Tłı́ch̓ and Chipewyan.
- b. De Beers has no plans at this point to use Dene names for the industrial complex.
- c. It is De Beers practice currently to work with communities through their specific community protocols regarding site visits to NWT Project sites. De Beers encourages visiting delegations to consider including representatives from community leadership, staff from the lands and environment department, and land and environment committee members. In some cases family members of those working at the mine have been included. In the Company's experience, it is the community that ultimately decides who will be in attendance on visits to the mine site and De Beers works with the community to make the visit an

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educational and rewarding experience for all participants. De Beers has developed an NWT procedure for the involvement of Elder's in the Company's visits and activities. This guides how all employees treat Elders and establishes respect for the important role that Elders have in the communities.

References

De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N*. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

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Information Request Number: TG_29

Source: Tłıchō Government

Subject: Traditional Economy

EIS Section: Chapter 12, pp.19, 38-9, 102, 186-7, 192, 203, 220, 293, 339

Terms of Reference Section: 4.1.7 (Long term social, cultural and economic effects)

Preamble

The developer identifies that traditional cultural practices of northern Aboriginal mine workers continue, which was not an expected outcome in early EIA predictions for previous diamond mines (e.g., at p. 12- 186). If this is true, this is beneficial for cultural retention. However, it is unclear whether existing information sources delve deeper than asking merely whether people still hunt and fish. Practice of the traditional economy is a complex set of activities, which a simple yes or no answer to a single question cannot examine in any depth. More information on the type, frequency, success, and other factors of traditional practices would be required before making any definitive statements about the effects working in the diamond sector has or hasn't had on traditional practices.

As the developer notes at page 12-19, while the number of people who say they hunt and fish has not recently declined, "The reliance on hunting and fishing as a source of food has decreased with the growth of the formal economy and greater access to store-supplied goods". This raises questions not only about the intensity of harvesting but also about Aboriginal health-related issues given the different qualities of country vs. store-bought food, and associated fitness, recreation, and cultural benefits of country food production. It would also seem important to the determination of how important an economic contributor country food and the land-based economy is to resident Aboriginal people.

At page 12-220, the developer states that "history ... shows that access to the wage economy has resulted in a revival of traditional skills (Hill et al. 1998)." The Tłıchō Government has not reviewed this single reference but is aware of a variety of other documented evidence, some of which supports the beneficial link between the wage and traditional economies, and some of which finds adverse outcomes. It is clearly context dependent and not worthy of definitive statements like the one noted above. While the Tłıchō Government will likely bring forward

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additional balanced evidence in its own submissions, we would like the developer to provide a more comprehensive literature review on this important subject.

Request

1. Please provide a copy of the data collected on mine worker practice of traditional culture in any studies the developer has reviewed, such as the studies referred to at page 12-339 (section 12.8.5) and at page 120-190, and please discuss the strengths and limitations of the data, such as:
 - a. Whether surveys of mine workers ask about harvesting levels, number of days spent on the land (in total, and per trip), areas utilized, and/or distance travelled.
 - b. Whether Aboriginal workers and northern non-Aboriginal workers were separated out from non-Aboriginal workers in the analysis, and more details on northern Aboriginal worker results.
 - c. Whether data was collected on levels of sharing of food among community members of harvested materials.
2. At p. 12-199, the EIS states that while taking care of your own family has become more important than communal sharing, "some mine employees do share the largess of the hunt especially with elders". Please identify what source or sources this conclusion is drawn from and place it/them on the public record.
3. Please identify any discussions with Tłı̨ch̓ citizens or representatives the developer has had related to the issue of the quality and quantity of traditional harvesting, and how this may have changed in recent years.
4. Please identify and summarize the results of any surveys or other research that has attempted to quantify the value of country food production among communities in the LSA.

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5. Please identify all sources the developer reviewed when looking at the relationship between increased wage economic activity and traditional Aboriginal harvesting practices, and provide a summary of the results of these studies.
6. Please identify whether and how the developer considered research into the population health implications of reduced reliance on country food for northern Aboriginal peoples, and whether “great consumption of store-bought food” (p. 12-102) was considered as a potential impact pathway associated with the proposed development.
7. It is not clear which culture groups and communities are represented by the areas identified in Figure 12.7-7 (Historical Traplines, Historical Camps/Cabins and Recent Traplines). Please clarify and if Tlicho traditional land use patterns are not described, please provide additional data on this or a rationale for not including it.
8. Please identify whether and how the developer suggests traditional harvesting data among the mine worker cohort should be collected in future monitoring systems, and what information would be valuable to better understand the relationship between mining jobs and traditional cultural practices.

Response

1. The references cited at pages 12-190 and 12-339 in the 2010 EIS refer to practice of traditional culture by the Northwest Territories (NWT) and NWT Aboriginal populations generally, and do not focus on the diamond mining labour force cohort. The 2009 Government of the Northwest Territories (GNWT) survey of mine employees discusses practice of traditional culture by mining employees (GNWT Bureau of Statistics 2009). Responses 1 a. and b. below discuss the 2009 survey further.
 - a. The 2009 GNWT survey of mine employees does not collect data pertaining to harvesting levels, number of days spent on the land or areas utilized. It does, however, collect information on recreational

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activities including hunting, fishing and time spent volunteering which are all attributes of 'The right Way to Live' discussed in the 2010 Environmental Impact Statement (EIS) Section 12.6.2.4 (De Beers 2010).

- b. Aboriginal and non-Aboriginal workers responses were disaggregated in the 2009 Survey of Mine Employees. There was no breakdown between northern and non-northern Aboriginals.
- c. The following secondary sources noted the importance of sharing in 'The Right Way to Live':
 - Gibson et al. 2007;
 - Kruse 1991;
 - Little et al. 2005;
 - Natcher 2009; and
 - Nuttall et al. 2005.

These sources do not, however, discuss the level of sharing in communities by diamond mine workers.

De Beers has noted that sharing of harvests is important to 'The Right Way to Live' and has developed Project design and mitigation features to support cultural programming, including support of volunteering initiatives, scheduling work to accommodate traditional pursuits, promoting cultural and community events and appreciation days.

- 2. As per Gibson and Klinck (2005), "increases in disposable income may even promote sharing within the wider community." Diamond mining employees have access to more resources, and are therefore able to purchase the equipment and goods necessary for hunting, and are thus able to hunt more effectively and share their subsequent harvests. Additionally, rotational work provides enough time in the community to partake in traditional pursuits such as hunting.

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3. De Beers has ongoing discussion with the Tlicho Government and its citizens through community meetings on a number of topics, and occasionally discussions have related to the quantity of traditional harvesting. These discussions are reflected in Community Engagement updates provided by De Beers with respect to the Snap Lake Mine regulatory applications in 2010 and 2011 and ongoing Gahcho Kué engagement activities. An update on the engagement with communities for the Gahcho Kué Project will be provided to the Panel and communities in Q2 2012.
4. Annex K of the 2010 EIS presents country food consumption rates data published by the GNWT's Department of Health and Social Services and the North Slave Métis Alliance (NSMA) for local study area (LSA) communities between the years of 2000 and 2008 (Tables TG_29-1 and TG_29-2; GNWT Department of Health and Social Services 2005, NSMA 2008). Łutselk'e had the highest country food consumption rate in the Territory in 2008 (82%), followed by Wekweètì (75%), and Whatì (73%). The consumption rate of country food in Yellowknife was only 10%, compared to the NWT average of 28% (Table TG_29-1). There was also a small decline in country food consumption from 2000 (87%) to 2004 to 2005 (81%) (Table TG_29-2).

Several tables in the 2010 EIS (Annex K) also analyze specific changes to household consumption of country food in LSA communities between the years of 1994 and 2004 (De Beers 2010, Annex K, Appendix K.I, Tables K.I.1-9, K.I.2-10, K.I.4-11, K.I.15-12, K.I.6-10, K.I.7-10, K.I.8-10, K.I.9-10, K.I.10-10, K.I.12-10, K.I.15-10, K.I.16-10 and K.I.17-10).

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Table TG_29-1 Percentage of Households Consuming Country Food, 2003 to 2008

Community	% of Households that Half or More of Meat and Fish Consumed Obtained through Hunting and Fishing	
	2003	2008
Northwest Territories	18	28
Behchokö	38	62
Detah	31	67
Enterprise	7	15
Fort Providence	39	64
Fort Resolution	44	68
Fort Smith	11	26
Gamèti	50	75
Hay River	9	14
Hay River Reserve	54	71
Łutsek'e	68	82
N'Dilo	36	70
Wekweèti	64	75
Whati	46	73
Yellowknife	5	10

Source: GNWT Bureau of Statistics 2007b and 2009b.

% =percent.

Table TG_29-2 North Slave Métis Alliance Households Consuming Country Food

Country Food Consumption	2000	2004 to 2005
% of Population	87%	81%

Source: NSMA 2008.

The GNWT Bureau of Statistics also collected information on the LSA community households in their 2004 and 2009 NWT Community Surveys.

Further information on households in the LSA that consume all or most of their meat and fish from hunting can be obtained from the GNWT's Bureau of Statistics publication on the 2002 Regional Employment and Harvesting Survey Results (GNWT Bureau of Statistics 2002). These survey results

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found a slight decrease between the years of 1999 and 2002 in the percentage of LSA households that consume either all or some of their meat and fish obtained through harvesting activities (GNWT Bureau of Statistics 2002). It was found that the NWT communities with lower percentages of country food consumption were the South Slave area communities and Yellowknife where 74.9% and 63.7% of respective households obtained their meat and fish from harvesting activities (GNWT Bureau of Statistics 2002).

Other literature available on methods used to quantify the production value of country food using 'substitution cost' or 'replacement value' is Peter Usher's 1976 article entitled 'Evaluating Country Food in the Northern Native Economy (Usher 1976). Usher describes how replacement values can be used to attempt to determine the economic value of country food; however, he does note that replacement value cannot incorporate the non-economic value associated with the harvesting of country food (i.e., cultural values associated with wildlife use).

The GNWT's Department of Resources, Wildlife and Economic Development applied Usher's replacement value technique in an attempt to calculate the production value of country food (specifically Caribou meat) in the LSA communities of Detah/N'dilo, Łutsek'e, Wekweètì and Yellowknife (GNWT Department of Resources, Wildlife and Economic Development 2000). In 2000, the community price indices for the LSA communities varied between a low of 100 for Detah and N'dilo and a high of 169 for Łutsek'e (the variation between communities is associated with the high freight costs in transporting food to the various LSA communities; 2010 EIS Section 12, Appendix 12.III [De Beers 2010]).

5. The human health risk assessment also considers the concerns of First Nation communities, regulators and the public regarding the health implications of reduced reliance on country foods due to increased development in the regional study area (RSA). The human health risk assessment is anticipated to be available in August 2012.

The availability of country foods is also examined in the Socio-economic pathways analysis (De Beers 2010, Section 12.5.4), where cultural needs

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relating to the Project examine the pathway effects associated with changes that affect the availability and enjoyment of wilderness and wildlife including fish, caribou, and other species, for harvesting. Table 12.5-1 in the 2010 EIS displays pathways considered in the EIS (De Beers 2010). One pathway is potential effects of the Project on traditional pursuits, which would include the harvesting of country foods.

The following sources were examined in determining the relationship between increased wage economic activity and traditional Aboriginal harvesting practices:

- Condon, R., P. Collings and G. Wenzel. 1995. The Best Part of Life: Subsistence Hunting, Ethnicity, and Economic Adaption Among Young Adult Inuit Males. *Arctic*. 48(1):31-46.
- GNWT Bureau of Statistics. 2003c. 2002 Regional Employment and Harvesting Survey. Yellowknife, NWT.
- GNWT (Departments of Health and Social Services, Education, Culture and Employment; Industry, Tourism and Investment; Justice; Bureau of Statistics; and Housing Corporation). 2006. Communities and Diamonds. Socio-economic Impacts in the Communities of: Behchokö, Gamètì, Whatì, Wekweètì, Detah, Ndilo, Łutsel K'e, and Yellowknife. 2005 Annual Report of the Government of the Northwest Territories under the BHP Billiton, Diavik and De Beers Socio-economic Agreements. Yellowknife, NWT.
- GNWT Bureau of Statistics. 2009. 2009 NWT Survey of Mining Employees. August 2009. Available at: <http://www.itl.gov.nt.ca/publications/2010/Diamonds/MESReportGNWT.pdf>. Accessed: May 2010.
- Kruse, J. 1991. Alaska Inupiat Subsistence and Wage Employment Patterns. *Understanding Individual Choice*. Human Organization 50(4), Winter 1991.
- LKDFN (Łutselk'e Dene First Nation) and M. Krieger. 2005. Ni hat'ni – Watching the Land: Results of 2003-2005 Monitoring Activities in the Traditional Territory of the Łutsel K'e Denesoline. Available at: http://www.nwtwildlife.com/WKSS/PDF/FINAL_Nihatni_Report_2003-05_March05.pdf. Accessed: June 2008.

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- Natcher, C. 2009. Subsistence and the Social Economy of Canada's Aboriginal North. *The Northern Review*. Spring 2009:83-98.
- Nuttall, M., F. Berkes, G. Kofinas, T. Vlassova, and G. Wenzel. 2005. Hunting, Herding, Fishing and Gathering Indigenous Peoples and Renewable Resources Use in the Arctic. In *Arctic Climate Impact Assessment*. Cambridge, UK. University of Cambridge Press. Pp. 649-690.

In Section 12.6.2.2.1 of the 2010 EIS, the literature review found that participation in the wage economy appeared to contribute to increased participation in harvesting activities as workers are more able to afford the cost of fuel and equipment required to participate in these traditional activities (i.e., fuel for snow machines and All Terrain Vehicles; GNWT Department of Health and Social Services et al. 2006b).

This is further documented in the GNWT's 2002 *Regional Employment and Harvesting Survey* which found that the highest percentage of NWT residents participating in harvesting activities in 2002 were Aboriginal males of prime income earning years (i.e., 25 to 59) (Table TG_29-3; GNWT Bureau of Statistics 2003c).

The *Ni Hat'ni – Watching the Land* (2005) report which summarizes the degree to which Łutselk'e residents are involved in traditional activities found that the majority of adults and youth did not participate in traditional activities but none of the reasons provided by residents in the survey for their lack of participation in such activities was because of conflicts with increased participation in the wage economy. Instead adults indicated that there was no one to teach them, no money for gas, no skidoos, no interest on the part of youth and no money for charter flights for community-sponsored hunts (LKDFN 2005).

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Table TG_29-3 Percentage of Persons Involved in Harvesting Activities by Selected Characteristics, Northwest Territories, 2002

	Trapped (%)	Hunted or Fished (%)	Gathered Berries (%)	Gathered Plants (%)
Northwest Territories residents 15 years and over	5.0	40.2	18.2	6.8
Males	7.6	51.4	12.8	5.7
Females	2.2	27.9	24.4	7.9
15 to 24 years	4.0	34.6	12.9	3.9
25 to 39 years	4.7	40.8	16.9	5.2
40 to 59 years	5.1	46.1	22.1	7.3
60 years and over	8.3	31.6	23.8	16.6
Aboriginals	9.9	44.9	23.6	13.0
Males	15.4	58.3	16.6	10.7
Females	4.3	30.7	30.9	15.5
Non-Aboriginals	0.7	36.5	13.2	1.3
Males	1.1	46.2	9.4	1.7
Females	0.3	25.4	17.9	1.0

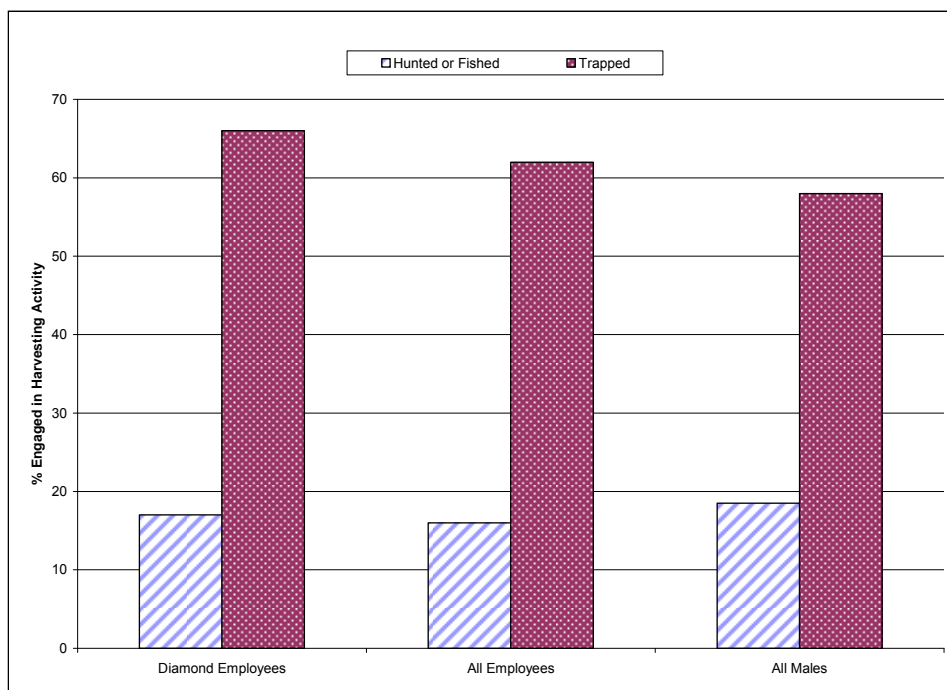
Source: GNWT Bureau of Statistics 2003.

% = percent.

The 2005 Communities and Diamonds report found that Aboriginal males involved in diamond mining continued to hunt and fish (Figure TG_29-1) at a marginally higher rate than other employed Aboriginal males (GNWT 2005).

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Figure TG_29-11 Harvesting Activity of Aboriginal Males



The GNWT undertook the *2009 NWT Survey of Mining Employees* to get a more complete look at what diamond mine employees do with their leisure time and they found that overwhelmingly, the respondents and their families were active in outdoor activities such as hunting or fishing. More than half the respondents, or 57.4%, hunt or fish in their time off, while by comparison about 52% of non-NWT residents or their families hunted or fished (GNWT Bureau of Statistics 2009).

In addition, participation in community activities such as harvesting is a direct connection to Aboriginal culture and is a fundamental basis for social identity, and cultural and spiritual survival (Kruse 1991, Natcher 2009, Nuttall et al. 2005, Condon et al. 1995). As mine workers reported, at least some of the time back home is spent “on-the-land” and that working has actually allowed them to continue harvesting activities (De Beers 2010, Annex K).

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6. The 2010 EIS reviewed the GNWT's 2005 *Health Status Report* which reported that traditional country foods are an important part of a healthy and nutritious diet and provide benefits not found in other food sources (GNWT Department of Health and Social Services 2005).

The GNWT also found that LSA communities continue to have high household country food consumption rates in 2008 (Łutselk'e-82%; Wekweètì and Gamètì-75%; Whatì-73%; N'dilo-70% and Behchokò-62%) compared to Yellowknife (10%) and the rest of the NWT (28%) Table TG_29-4; GNWT Bureau of Statistics 2007b and 2009b).

Table TG_29-4 Percentage of Households Consuming Country Food, 2003 to 2008

Community	% of Households that Half or More of Meat and Fish Consumed Obtained through Hunting and Fishing	
	2003	2008
Northwest Territories	18	28
Behchokò	38	62
Detah	31	67
Enterprise	7	15
Fort Providence	39	64
Fort Resolution	44	68
Fort Smith	11	26
Gamètì	50	75
Hay River	9	14
Hay River Reserve	54	71
Łutselk'e	68	82
N'Dilo	36	70
Wekweètì	64	75
Whatì	46	73
Yellowknife	5	10

Source: GNWT Bureau of Statistics 2007b and 2009b.

% = percent.

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Similar rates of country food consumption were found for NSMA members, which reported that 81% consuming country food in 2004 to 2005 (Table TG_29-5; NSMA 2008).

Table TG_29-5 North Slave Métis Alliance Households Consuming Country Food

Country Food Consumption	2000	2004 to 2005
% of Population	87%	81%

Source: NSMA 2008

7. Section 12, Figure 12.7-7 (De Beers 2010) identifies information related to the Lutselk'e First Nation. Tlicho land use patterns, based upon available information are found in 2010 EIS Section 12.7.5.3 and Section 5.3. The Tlicho have completed their own Traditional Land Use study for the Project. De Beers is reviewing it and will compare the results of the study with the results of the 2010 EIS. De Beers will discuss any identified impacts along with any reasonable mitigation and avoidance measures with the Tlicho.
8. De Beers is prepared to discuss traditional knowledge protocols and methodologies with the relevant Aboriginal groups with the purpose of coming to an agreement on appropriate monitoring strategies.

Monitoring is guided by assessment endpoints and any other priorities identified by the Socio-Economic Monitoring Committee for the Gahcho Kué Project. Assessment and Measurement endpoints that have been identified to support monitoring of mine workers include the following endpoints below. The Key Line of Inquiry (KLOI), valued components and assessment and measurement endpoints that relate to harvesting practices of mine employees have been summarized below. Table TG_29-6 (also see De Beers 2010, pg. 12-117) presents the full list of endpoints, as identified to date for the Project.

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Table TG_29-6 Socio-economic Valued Components and Endpoints

KLOI/SON	Valued Component	Assessment Endpoint	Measurement Endpoint
Culture, Heritage and Archaeology	Changes to cultural landscape	Continued opportunities for traditional pursuits Persistence of knowledge and pride of culture and heritage	Time spent on traditional pursuits Loss of cultural landscape features
Family and Community Cohesion	Family and Community Cohesion	Continued Opportunities for traditional pursuits	Country food harvesting during time off (percentage of households that report most or all of their meat or fish is harvested) Loss of volunteers Time spent on traditional pursuits
Social Disparity Within and Between Communities	Social Disparity Within and Between Communities	Continued opportunities for traditional pursuits	Volunteer / participation rates in communities Country food harvesting during time off
Tourism and Wilderness Character	Recreation Wilderness Character	Persistence of availability and enjoyment of wilderness and wildlife including fish, caribou and other species, for harvesting or viewing	Use of area for hunting, fishing and trapping Increased demand on other wilderness areas for tourism and hunting/ fishing/ trapping

Source: De Beers (2010, Table 12.5-1).

Additional considerations that will be used to guide monitoring practices include the monitoring indicators that are reported on by existing diamond mines. Comparable metrics are useful for socio-economic monitoring between LSA communities and mining projects (i.e., Diavik, Ekati, Snap Lake and Gahcho Kué). One clear benefit of comparable data is that it can be

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easily reported (for instance in the Community and Diamonds reports 2003 - 2011), and support the policy development process by local and territorial governments as well as by mining companies. It can be a useful tool to plan for the equal distribution of benefits between communities and address any inequalities.

References

- Condon, R., P. Collings and G. Wenzel. 1995. The Best Part of Life: Subsistence Hunting, Ethnicity, and Economic Adaption Among Young Adult Inuit Males. *Arctic*. 48(1):31-46.
- De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N*. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.
- GNWT Bureau of Statistics. 2003. 2002 Regional Employment and Harvesting Survey. Yellowknife, NWT.
- GNWT Bureau of Statistics. 2009. 2009 NWT Survey of Mining Employees. August 2009.
- GNWT Department of Health and Social Services. 2005. *The NWT Health Status Report 2005*. Yellowknife, NWT.
- GNWT (Departments of Health and Social Services, Education, Culture and Employment; Industry, Tourism and Investment; Justice; Bureau of Statistics; and Housing Corporation). 2006. Communities and Diamonds. Socio-economic Impacts in the Communities of: Behchokö, Gamèti, Whatì, Wekweèti, Detah, Ndilo, Łutsel K'e, and Yellowknife. 2005 Annual Report of the Government of the Northwest Territories under the BHP Billiton, Diavik and De Beers Socio-economic Agreements. Yellowknife, NWT.

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- Gibson, G., J. Martin, J.B. Zoe, K. Edwards and N. Gibson. 2007. Setting Our Minds to It: Community-Centred Research for Health Policy Development in Northern Canada. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health*. 5(2):33-54.
- Gibson, C. and Klinck, J. 2005. Canada's Resilient North: The Impact of Mining on Aboriginal Communities. *Pimatisiwin*, 3:1.
- Kruse, J. 1991. Alaska Inupiat Subsistence and Wage Employment Patterns. Understanding Individual Choice. *Human Organization* 50(4), Winter 1991.
- Little, L., S. Auchterlonie and B. Stephen. 2005. Continuing Strong Traditions: Aboriginal Participation in the Northwest Territories' Voluntary Sector. Prepared for the Native Women's Association of the Northwest Territories, Northwest Territories Literary Council, and YWCA of Yellowknife. Toronto, ON.
- LKDFN (Łutselk'e Dene First Nation) and M. Krieger. 2005. Ni hat'ni – Watching the Land: Results of 2003-2005 Monitoring Activities in the Traditional Territory of the Lutsel K'e Denesoline. Available at: http://www.nwtwildlife.com/WKSS/PDF/FINAL_Nihatni_Report_2003-05_March05.pdf. Accessed: June 2008.
- Natcher, C. 2009. Subsistence and the Social Economy of Canada's Aboriginal North. *The Northern Review*. Spring 2009:83-98.
- Nuttall, M., F. Berkes, G. Kofinas, T. Vlassova, and G. Wenzel. 2005. Hunting, Herding, Fishing and Gathering Indigenous Peoples and Renewable Resources Use in the Arctic. In *Arctic Climate Impact Assessment*. Cambridge, UK. University of Cambridge Press. Pp. 649-690.

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Information Request Number: TG_30

Source: Tlicho Government

Subject: Lessons Learned from Other Diamond Mines

EIS Section: Chapter 12, pp.20, 99, 103, 133, 190, 356

Terms of Reference Section: 4.1.5

Preamble

The developer identifies in a couple of locations surveys that separate out diamond mine workers from the overall populace. With the diamond mining sector resident in the NWT for the better part of two decades, the Tlicho Government would hope that enough data has been collected to distinguish socioeconomic characteristics of diamond mine workers in comparison with the NWT in general and the Tlicho region in particular. In order to make an independent determination of the comprehensiveness of available survey and other information where diamond miners are separated from the general population, the Tlicho Government requires additional information.

Given that DBCI already has an existing diamond mine in the NWT (Snap Lake) and another in northern Ontario in an area primarily populated by Aboriginal people. These two established ventures provide ideal case studies for socio-economic effects, mitigation and monitoring for the currently proposed development. The Tlicho Government is seeking more information from the developer on socioeconomic issues and outcomes from the Snap Lake and Victor mines.

Request

1. Please identify the commitments made and measures required on socio-economic and cultural issues by DBCI for the Snap Lake and Victor diamond mines, and report on whether and how these commitments have been adhered to by DBCI, and any issues with their implementation and effectiveness.
2. Please identify all efforts made by the developer to understand worker, family and home community issues for Aboriginal workers at its Snap

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Lake and Victor diamond mines, such as surveys or interviews, that were used to help understand social, economic and cultural issues that might be faced at the proposed Gahcho Kue development.

3. Please identify and place on the public record all available research over the past (approximately) 15 years which focuses on the NWT diamond mine worker cohort, and provide a more robust demographic portrait of the NWT diamond mine worker cohort, by itself and in comparison to the NWT population as whole (e.g., age, sex, education and training profile, community and culture group or origin, current residence, average years of service, annual wage, etc.).
4. Please identify, place on the public record, and provide an analysis of, any research identifying similarities and differences and changes over time between northern Aboriginal diamond mine workers, non-Aboriginal resident diamond mine workers, and non-resident diamond mine workers in the NWT diamond mining sector.

Response

1. Socio-economic commitments outlined in the socio-economic agreement (SEA) for the De Beers (*formally known as De Beers Canada Mine Inc. (DBCMI)*) Snap Lake Mine are provided in Table 30-1. Commitments relating to socio-economic and cultural issues are specific to the geographic region in which the Project lies. Thus, commitments made for the Victor Mine are not necessarily relevant to the context of NWT mines. De Beers reports annually to the Public regarding its activities and programs to meet all of its commitments, including those related to socio-economic and cultural issues, specific to the Snap Lake Mine. De Beers also provides the Tłı̄ch̓ Government and other Aboriginal communities with specific reports and presentations that provide updates on the Company's programs and activities which are undertaken by De Beers or in partnership with communities and/or governments.

The De Beers management team is available to meet with governments, including Aboriginal governments, communities and the public in presenting these reports, providing the Public and key communities of interest an opportunity to provide comments, make recommendations, or discuss concerns. To date,

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communities and governments have expressed satisfaction with both the process through which De Beers develops its annual plans for implementing its commitments and in the opportunity that De Beers provides for inputs into developing annual work plans to meet these commitments.

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Table 1 Snap Lake Mine Socio-Economic Agreement Commitments

Snap Lake SEA Section	De Beers Commitments
3.2	<p>Hiring Priorities means giving priority to hiring to the following groups in the following order:</p> <ul style="list-style-type: none"> a. members of the Aboriginal Authorities; b. Aboriginal people residing in the NWT; c. NWT Residents who have been continuously resident in the NWT at least six months prior to being hired; d. all others residing in or relocating to the NWT; and then e. all others.
3.3	<p>During Construction, Operations and Closure, DBCMI shall hire according to the Hiring Priorities set out in clause 3.2. DBCMI shall use best efforts to apply the Hiring Priorities across the entire spectrum of Project-based employment, including managerial, professional, technical and trades-related jobs.</p>
3.4.1	<p>DBCMI shall, and in keeping with the Hiring Priorities set out in clause 3.2, use best efforts to ensure that:</p> <ul style="list-style-type: none"> a. employment of NWT Residents, including employment by Contractors, will be at least 40% of the total employment throughout Construction; b. employment of NWT Residents, including employment by Contractors, will be at least 60% of the total employment on an annual basis throughout Operations; c. employment of NWT Residents, including employment by Contractors, will be at least 60% of the total employment on an annual basis throughout Closure.

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Snap Lake SEA Section	De Beers Commitments
3.5	<p>DBCMI will, through the tendering and contracting process, cause its Contractors to meet employment and recruitment targets consistent with DBCMI commitments in this Agreement by:</p> <ul style="list-style-type: none"> a. requiring all Contractors to expressly state in their bids their commitment to hiring in accord with the Hiring Priorities set out in clause 3.2; b. including in bid evaluation an assessment of whether appropriate commitments to the Hiring Priorities are included or planned for in the bid; c. incorporating in the contract document the successful bidder's commitments to hire in accord with the Hiring Priorities set out in clause 3.2; and d. requiring all Contractors to provide all relevant information to DBCMI to enable DBCMI to fulfill the reporting requirements of this Agreement.
3.6.1	DBCMI will offer incentives to assist Project employees who live in the Northwest Territories, including establishing and implementing northern benefits and relocation packages. All incentives and benefits packages will be established, managed and administered solely by DBCMI.
3.6.2	DBCMI will develop work schedules to accommodate traditional pursuits of Aboriginal employees in balance with the operational requirements of the Project.
3.6.3	<p>DBCMI will provide return direct air transportation at its expense and on company time, to employees between the following NWT communities and the Project:</p> <ul style="list-style-type: none"> a. Lutsel K'e, Gameti, Wha Ti and Wekweti; b. Yellowknife for the communities of Rae, Rae Edzo, Dettah, N'dilo, and Yellowknife; and c. Hay River for the Catchment Communities.
3.6.4	DBCMI will from time to time evaluate the feasibility of providing flights, at the company's cost and on the company's time, to employees living in NWT communities in addition to those listed in clause 3.6.3.

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Snap Lake SEA Section	De Beers Commitments
3.6.5	During Operations, the point for transportation to the Project for all Project-based employees shall be only those pick-up points set out in clauses 3.6.3 and 3.6.4. DBCMI will not pay or reimburse travel costs of Project-based employees living outside the NWT for transportation to and from the pick-up points set out in clauses 3.6.3 and 3.6.4.
3.7.1	DBCMI will establish Grade Ten as a minimum standard for trainable positions, but will consider the experiences of individuals not meeting the minimum education requirements for a position on a case-by-case basis.
4.1.2	DBCMI will implement and maintain the [Human Resources Development Plan] HRDP. In developing and amending the HRDP, DBCMI will give special emphasis to providing development opportunities, including training, to the Primary Communities.

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Snap Lake SEA Section	De Beers Commitments
4.2	<p>DBCMI will use best efforts to achieve the targets established in clause 3.4 using, among other methods, the following:</p> <ul style="list-style-type: none"> a. establish a recruitment, training and employment strategy that will include Northwest Territories recruitment plans, and development of career plans for employees during Construction and Operations; b. link employment initiatives to support implementation of impact benefit agreements with Aboriginal Authorities; c. collaborate with Primary Communities to identify opportunities for sponsoring and participating in community research projects directed at gathering information and addressing barriers to successful employment; d. actively promote and encourage careers in the diamond mining industry; e. promote and encourage partnerships with Northwest Territories schools for work experience and job placement programs as well as summer employment opportunities that allow Northwest Territories students to gain experience during Construction and Operations, while continuing to complete their education; and f. promote and encourage partnerships with Aurora College and other Canadian post-secondary education institutions to establish work experience and job placement programs, including summer employment opportunities, that enable Northwest Territories students to gain experience during Construction and Operations of the Project, while continuing to complete their post-secondary education.
4.3.1	<p>DBCMI will collaborate with GNWT, the Primary Communities and other organizations in the development of pre-employment preparation, skill development training, on-the-job training, and re-training programs to better enable NWT Residents to take advantage of employment opportunities deriving from the Project.</p>
4.3.2	<p>DBCMI will collaborate with Aboriginal Authorities to encourage development and delivery of training programs based on cultural value systems that include a cultural component that would introduce new employees to rotation employment and the intricacies of scheduled work.</p>

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Snap Lake SEA Section	De Beers Commitments
4.5.1	<p>In terms of Recruitment and Training, DBCMI will:</p> <ul style="list-style-type: none"> a. establish its human resource office in the Northwest Territories; b. cause its Contractors to achieve the goal of maximizing the training of members of Aboriginal Authorities and NWT Residents in accord with the provisions of this Agreement; c. link training strategies to support impact benefit agreement implementation with Aboriginal Authorities; d. establish a mine orientation program for all new employees, to be offered in the Primary Communities; e. establish a recruitment and training strategy for school students that encourages and promotes completion of secondary school; f. make best efforts to schedule training so that potential employees completing training will be able to take immediate advantage of employment opportunities at the Project and encourage its Contractors to do the same; g. participate in regional career fairs; h. develop and offer a "Summer Student Employment Program" and actively encourage women to apply; i. conduct a training needs assessment of potential employees that will identify the existing education and skill levels among the Aboriginal Authorities' member workforce and NWT Resident workforce, from among those who have applied to DBCMI for Project-related employment so that work can be offered to new recruits and opportunities for advancement can be offered to existing employees; j. train and offer advancement opportunities to existing employees in accord with the Hiring Priorities in clause 3.2 and subject to each employee's performance, training, skills, interest and the career plan developed for that employee as set out in clause 4.2.a.

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Snap Lake SEA Section	De Beers Commitments
4.6.1 and 4.6.2	<p>DBCMI will develop apprentice positions in accord with the requirements of the Northwest Territories <i>Apprenticeship, Trade and Occupations Certification Act</i> and will fill those positions in accord with the Hiring Priorities set out in clause 3.2. DBCMI will [...]:</p> <ul style="list-style-type: none"> a. establish an underground mining training program and provide a combined minimum of twenty (20) positions to be made available to Northwest Territories resident Aboriginals and NWT Residents within 3 years of commencement of Operations; b. establish a trades training program and provide a combined minimum of ten (10) positions for Northwest Territories resident Aboriginals and NWT Residents, within three years of production; c. provide a combined minimum of ten (10) apprentice positions for Northwest Territories resident Aboriginals and NWT Residents; d. organize and implement its training and apprenticeship programs so that employees completing the training will be able to use the skills acquired and time spent as credit towards certification or status recognized in the Northwest Territories under the <i>Apprenticeships, Trade and Occupations Certification Act</i>; e. record the details of employment and training in accord with the requirements of the <i>Apprenticeships, Trade and Occupations Certification Act</i>; f. fill the positions and carry out the commitments identified in this clause 4.6.2 in accord with the Hiring Priorities set out in clause 3.2 of this Agreement, subject to the availability of persons who meet the requirements of the Northwest Territories <i>Apprenticeship, Trade and Occupations Certification Act</i>.
4.6.3	DBCMI will cause its Contractors to fulfill the commitments in clause 4.6.2.
4.7.1	DBCMI will contribute to the improvement of literacy and technical skills of the Aboriginal and non-Aboriginal population of the Primary Communities by providing literacy programs on-site to its employees and by supporting literacy programs in the Primary Communities set out in 4.7.2 and 4.7.3

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Snap Lake SEA Section	De Beers Commitments
4.7.2	<p>In the Primary Communities, DBCMI will:</p> <ul style="list-style-type: none"> a. collaborate with those agencies that deliver literacy programs so that participants may further improve their qualifications towards employment. All DBCMI employees will be eligible to enrol in the program; b. through its community liaison personnel, assist Primary Communities and existing local learning institutions to encourage community members (including on-site employees) to upgrade their literacy levels; and c. work with the Government of the Northwest Territories and the Government of Canada to encourage continued and adequately funded and delivered mechanisms for community-based literacy programs in the Primary Communities.
4.7.3	<p>On-site DBCMI will:</p> <ul style="list-style-type: none"> a. establish and maintain a learning centre with equipment and resources to be fully funded by DBCMI and to include, at a minimum, suitable computers and a learning centre resource library; and b. ensure that on-site literacy programs will be linked to its recruitment and employment strategy to permit employees to take advantage of career advancement opportunities.
4.10.1	<p>DBCMI will support and encourage the participation of women on an equal basis with men in all aspects of work related to the Project.</p>

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4.10.2	<p>DBCMI will:</p> <ul style="list-style-type: none"> a. work to create formal partnerships with the following organizations to promote women in trades and mining occupations: Skills Canada, the Native Women's Association of the Northwest Territories, the Northwest Territories Status of Women Council, Aurora College, Aboriginal Authorities and the Government of the Northwest Territories; b. offer scholarships to female Northwest Territories students who are attending college and university programs related to mining; c. create a promotional campaign targeting young women for jobs at the Project; d. create and offer a "female role model school visit" program to promote women working at the Project; e. offer awards to elementary and high schools for success in mathematics and science by female students; f. develop and offer a "women in trades" program in the Primary Communities; g. offer tours of the Project aimed at women interested in the mining field; h. offer scholarships and awards for all women who are in an apprenticeship program at Snap Lake; and i. offer remedial training programs and personal development strategies to women who may not possess all of the requisite skills and knowledge for particular positions.
4.10.3	<p>DBCMI will encourage its Contractors to participate in and support DBCMI commitments to encourage the participation of women on an equal basis with men in all aspects of work related to the Project.</p>
4.11	<p>Transitioning upon closure: GNWT and DBCMI agree to collaborate to ease employees' transition to new jobs upon closure.</p>
5.1	<p>Wherever practicable, and consistent with sound procurement management, DBCMI will implement policies intended to maximize business and value-added opportunities for NWT Businesses.</p>

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5.2.1	DBCMI will source procurement needs from NWT Businesses as much as possible during Construction, Operations and Closure.
5.2.2	DBCMI will use its best efforts to ensure that special emphasis and priority will be placed on developing business opportunities within the Primary Communities.
5.2.3	<p>DBCMI will use its best efforts to ensure that:</p> <ul style="list-style-type: none"> a. purchases of goods and services through or from NWT Businesses during Construction will be at least 35% to 45% of the total annual value of goods and services purchased associated with Construction; b. purchases of goods and services through or from NWT Businesses during Operations will be at least 70% of the total annual value of goods and services purchased associated with Operations; and c. purchases of goods and services through or from NWT Businesses during Closure will be at least 70% of the total annual value of goods and services purchased associated with Closure.
5.3.1	<p>DBCMI will provide opportunities for sourcing procurements in the following order of priority:</p> <ul style="list-style-type: none"> a. Primary Communities; and then, following a reasonable amount of time, b. NWT Businesses and industry and business associations in the Northwest Territories; and then, following a reasonable amount of time, c. other businesses. <p>[*NB: Pursuant to clause 5.3.5] "The provisions of clause 5.3.1 respecting priorities do not apply to the retention of professional advisors or consultants."</p>
5.3.2	In the event of emergencies where goods or services are required for the Project, DBCMI will use its best efforts to provide Aboriginal Businesses and NWT Businesses with procurement opportunities in the order of priority set out in clause 5.3.1.

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5.3.3	DBCMI will cause its Contractors to make commitments similar to those set out in clause 5.3.1.
5.4	<p>DBCMI will take the following measures to maximize Project-related business opportunities for Aboriginal Businesses and NWT Businesses:</p> <ul style="list-style-type: none"> a. hiring a manager of business development to act as a liaison between DBCMI, GNWT, the Aboriginal Parties and NWT Business; DBCMI is wholly responsible for providing the salary and support for this position, which position will remain throughout mine Construction, Operations and Closure; b. designing and communicating clear business development strategies for Aboriginal Parties and communicating the scope and scale of business opportunities and project requirements in a timely and effective manner; c. identifying project components, at all stages of Construction, Operations and Closure of the Project, that should be targets for a business development strategy; d. identifying possible opportunities for joint ventures with Aboriginal Businesses; e. developing a Northwest Territories business policy that supports the objectives and commitments in this Agreement; f. providing business-related expertise with its industry contacts to Northwest Territories mine-related business initiatives; g. ensuring the size and scope of available contracts matches the capacity of Aboriginal Businesses and NWT Businesses where feasible; h. preparing an annual business opportunities forecast that will identify the i. reasonably foreseeable procurement requirements of the Project, and providing it to Aboriginal Businesses and NWT Businesses in accord with the priorities set out in clause 5.3.1; j. making available business opportunity information related to DBCMI business k. objectives and service requirements that will enable the completion of business plans or proposals by Aboriginal Businesses or NWT Businesses in seeking development support services through existing public and private sector programs; and l. ensuring broad communications of business opportunities to Aboriginal Businesses, NWT Businesses, and business-industry associations in the Northwest Territories.

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5.5	Interpretation Regarding Financing: Nothing in this Agreement commits DBCMI to provide nor restricts it from providing financing or other economic incentives to NWT Businesses in relation to the Project.
6.1.2	<p>In order to promote a healthy and stable workforce, DBCMI will assist employees in performing well in their jobs and careers and help communities address potential effects of the Project by working with the Parties to address issues of individual and family wellness as follows:</p> <ul style="list-style-type: none"> a. supporting initiatives and resources in the Primary Communities for addressing alcohol and substance abuse problems; b. seeking partnerships to ensure effective and recognized substance abuse, family violence and domestic abuse programs are made available for community members and Project employees; c. carrying out ongoing prevention and awareness programs on-site and collaborating or partnering with social services agencies and where available, with trained alcohol and substance abuse, family violence and domestic abuse counsellors, to ensure ongoing prevention and awareness program delivery in the Primary Communities; d. collaborating and partnering with social service agencies in the Primary Communities to provide ongoing family counselling services (which may include, for example, family and relationship counselling, stress management, anger management, support services for women and single mothers, child care services, and parenting training) in the Primary Communities for mine employees and their immediate family; e. providing on-site information regarding the existence of support services available in the Primary Communities to encourage full use of such services while off-site; and f. collaborating with agencies and counsellors that deliver addiction treatment programs, to enable individuals who have completed those programs to participate in DBCMI pre-employment and employment training.

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6.1.3	<p>DBCMI will:</p> <ul style="list-style-type: none"> a. staff at least two full time community liaison personnel, one of whom is preferably fluent in Chipewyan, one of whom is preferably fluent in Dogrib and both of whom are preferably members of the Aboriginal Authorities; b. provide money management training in each of the Primary Communities for employees and their spouses and make this training mandatory within the first six months for all newly hired employees; c. seek collaboration with recognized financial institutions to establish Internet and telephone based banking services in the Primary Communities; d. make available to all employees via a toll-free telephone number an “employee assistance program service”; e. in collaboration with the Primary Communities and GNWT, disseminate materials and information to employees and in communities related to substance abuse awareness and prevention; f. establish a sexual harassment policy and an alcohol-free and drug-free workplace policy at the Project site; g. actively manage those employee pension plans for which it is responsible, in a prudent and competent manner so as to preserve and protect those pension plans to the best of its ability; h. ensure that foods provided at the Project site promote healthy living, and are particularly appropriate for those who have or are at risk for developing diabetes; i. provide access to communications links from the Project site where DBCMI will provide the equipment and telecommunications access but the user will pay for long distance connection charges; and j. provide recreation facilities and equipment at the Project site.

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7.2.1	<p>DBCMI shall:</p> <ul style="list-style-type: none"> a. support the promotion of traditional cultural practices of the Aboriginal Authorities; b. work with community, government, and education institutions and agencies to promote use of resources in local schools that are culturally appropriate to Aboriginals; c. develop and implement a cultural exchange program to provide non-Aboriginal site employees with the opportunity to spend two to three days with Aboriginal employees while participating in traditional land practices; d. provide cross-cultural training to all on-site staff; e. in collaboration with the Aboriginal Authorities, sponsor community appreciation days in the Primary Communities; f. hold periodic mine site visits for employees' families; g. provide traditional foods on site when commercially available; and h. provide and maintain space at the mine site for spiritual or other similar employee-driven requirements.
7.2.2	<p>DBCMI may, from time to time, assist with funding support to existing or emerging community-based programs or agencies with the mandate to strengthen Aboriginal culture in the Primary Communities.</p>

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9.3	<p>DBCMI in coordination with its Contractors shall produce an annual report. In addition to the information set out in clause 9.2, the annual report may include a compilation of individual reports issued during or prior to Project phases. The DBCMI annual report will include but not be limited to data collection, analysis and projections on the following:</p> <ul style="list-style-type: none"> a. hiring by Hiring Priority and job category as defined by this Agreement and DBCMI respectively, in total numbers and percentage of total hires; b. hiring by Northwest Territories community in total numbers and percentage of total hires; c. total employment in person years by Hiring Priority and job category in total numbers and percentage of the workforce; d. total employment in person years by Northwest Territories community in total numbers and percentage of the workforce; e. participation in and results of training activities described in clauses 4.5.1, 4.6.2 and 4.7.2; f. report on the gross value of goods and services purchased during the calendar year by category of purchase in relation to each phase of the Project and the purchase priorities outlined in clause 5.2.3. 'Purchases' will be calculated based on the gross value of all purchases of goods and services including both goods and services produced in the Northwest Territories and goods and services produced outside the Northwest Territories that are purchased through NWT Businesses; and g. a business forecast and assessment for the upcoming year in accord with clause 5.4.h.
9.6.1	<p>DBCMI agrees to provide access to DBCMI employees on the Project site for GNWT to conduct a survey for the purpose of measuring the socio-economic impacts of the Project. The survey shall be conducted no more than annually at times and on terms that are mutually acceptable to GNWT and DBCMI.</p>
9.7.1	<p>DBCMI will use best efforts to collect from its employees and Contractors any personal information that may be required to provide the data necessary to compile and provide its reports contemplated by this Agreement and wherever necessary disclose it to the Agency or another Party for the purpose contemplated by this Agreement, subject to and in compliance with the <i>Protection of Personal Information and Electronic Documents Act</i> (Canada) or other applicable legislation.</p>
9.7.2	<p>Despite any provision of this Agreement, other than clause 9.3, DBCMI shall not be required to report or disclose information of a proprietary or commercially sensitive nature.</p>

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9.7.4	The reporting by DBCMI in clause 9.3.1.a and 9.3.1.b shall be subject to the information that employees of DBCMI and its Contractors agree in writing to provide in accord with the <i>Protection of Personal Information and Electronic Documents Act</i> .
11.1.1	During the course of the MVEIRB hearings, De Beers, through its corporate parent in Canada, De Beers Canada Corporation, made a commitment to establish in Canada, the De Beers Canada Fund (the Fund) for social investment in Canada. Monies in the Fund are to be used to support projects initiated and driven by those communities that are most likely to be affected by De Beers' mines. Specific criteria for expenditure of monies in the Fund will be defined by De Beers but key requirements for successful proposals will include sustainability of art, culture and heritage, promotion of literacy and building community capacity in affected communities.
11.1.2	<p>DBCMI commits as follows:</p> <ul style="list-style-type: none"> a. to establish within the Fund, the NWT Fund Committee for allocating funds to Northwest Territories proposals; b. to make available to the NWT Fund Committee a minimum level of 1.0% of net annual after tax cash flow from DBCMI operations in the Northwest Territories; c. the purpose of the NWT Fund Committee will be to represent the interests of DBCMI in the Northwest Territories to screen all grant applications received, to approve allocation of available funds and to ensure the fund is administered in accord with policies and guidelines established solely at the discretion of DBCMI.
11.1.3	The NWT Fund Committee will be structured by DBCMI to include representatives reflective of the communities affected by DBCMI Northwest Territories projects.
11.1.4	The allocation of available funds to the NWT Fund Committee will be made by DBCMI annually in accord with clause 11.1.2.b.

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11.1.5	Monies from this fund are not intended to be used to pay directly for commitments made by DBCMI during the Snap Lake environmental assessment process or as set out in this Agreement. However, the Parties acknowledge that community driven projects may arise over time from recommendations made through the adaptive management process and that the Fund will be free to respond to applications from affected communities for assistance in supporting projects that might be perceived as a commitment or part of a commitment DBCMI might otherwise have implemented unilaterally.
14.1	<p>This Agreement comes into effect immediately upon all of the following conditions being satisfied:</p> <ul style="list-style-type: none"> a. execution of this Agreement by DBCMI and by GNWT; a. delivery by DBCMI to GNWT of a certified copy of a resolution duly adopted by its Board of Directors approving and authorizing execution of this Agreement; b. delivery by GNWT to DBCMI of written notice that it has authorized this Agreement; and c. delivery by DBCMI to GNWT of copy of its written notice to the federal Minister of Indian and Northern Affairs of its intention to proceed with the Project.

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2. Open-ended interviews were conducted with community members and leaders for the socio-economic impact assessment section of the Snap Lake Environmental Impact Statement (EIS). In addition, members from De Beers NWT Human Resource and Aboriginal Affairs departments provide input based on experience working with employees and communities. These interviews identified issues of concern to community members. Community engagement is an ongoing process that continues throughout the life of the mine. Engagement activities identify issues and concerns raised by community members.

As signatory to Memorandum of Understanding Northern Mine Workers, De Beers works with the GNWT, BHP Billiton's Ekati Mine and Rio Tinto's Diavik Diamond Mine to develop the NWT workforce. The group conducted a survey of mine workers to determine benefits and barriers to living and working in the NWT. The results of these surveys were made available in early 2010.

In August 2010, De Beers conducted a workshop with 60 members of the Yellowknives Dene First Nation to undertake strategic planning and to set up a five-year action plan to address local health and wellness initiatives. Two of the main goals of the plan are to strengthen Dene cultural practice and language use and to strengthen connections and sense of community among Aboriginals.

The Victor Mine is not within the NWT. The discussion of socio-economic and cultural issues is specific to the geographic region in which the Project lies. Thus, the discussion of socio-economic and cultural features pertaining to the Victor Mine is not necessarily relevant to the context of NWT mines.

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3 and 4.

Socio-Economic Reports

The socio-economic monitoring reports for the Ekati, Diavik, and Snap Lake mines are a useful source of data profiling the demographic portrait of the NWT Diamond mining cohort.

Aboriginal Involvement in the NWT Diamond Mining Labour Force

Aboriginal involvement in the NWT diamond mining labour force has increased over the past five years. Aboriginals are most frequently employed during the operations phase of mining projects and to work in entry-level or semi-skilled positions (e.g., housekeepers, cooks and maintenance and janitorial staff). Non-Aboriginal Northern Residents and non-Northern Residents, conversely, are more frequently employed in semi-skilled, skilled and professional positions (BHP 2011; DDMI 2011; De Beers 2001).

According to the 2006 Statistics Canada Census of Aboriginal populations, the NWT Aboriginal population is 14,465, and the Aboriginal labour force is 9,455 individuals. Of the Aboriginal labour force, 7,555 (52%) are employed (Statistics Canada 2007). Of these employed, approximately 10% (751 as of 2010) are employed in the three operating NWT diamond mines (BHP 2011; DDMI 2011; De Beers 2011).

The Ekati, Diavik and Snap Lake mines have all seen modest increases (2%, 3% and 2% respectively) in **Aboriginal** participation in the diamond mining labour force between 2005 and 2010. In comparison, both the Ekati and Diavik mines saw a similarly modest increase (2% and 5% respectively) in the representation of **non-Aboriginal Northern Residents** in their labour forces between 2005 and 2010, while the Snap Lake Mine reported a decrease of 7% over the same period.

The decrease in non-Aboriginal Northern Residents at the Snap Lake Mine is due to the reduction of construction jobs at the mine between 2005 and 2008, and to the fact that much of the available non-Aboriginal Northern Resident operations labour force is already employed by the Ekati and Diavik mines, both

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of which began operations prior to Snap Lake. Aboriginal employment in the diamond mining industry is thus comparable, if not favourable, to that of other NWT residents (BHP 2011; DDMI 2011; De Beers 2011).

While the percentage of the labour force comprised by Aboriginal and Northern Residents is lower than predicted in the socio-economic agreements for the operating NWT diamond mines, the overall number of Aboriginals employed by the diamond mining industry in the NWT is higher (BHP 2011; DDMI 2011; De Beers 2011).

The breakdown of the NWT diamond mining labour force by hiring priority and job category is shown in Table 2. Table 3 details Aboriginal Employment at the operating NWT mines between 2005 and 2010.

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Table 2 Labour Force by Hiring Priority and Job Category (2010)

Mine	Hiring Priority	Total Employment	Employment by Job Classification				
			Management	Professional	Skilled	Semi-Skilled	Unskilled/Entry Level
Ekati	NWT Aboriginal # ^a (%)	352 (25)	n/a ^d	12 (5)	60 (12)	187 (42)	93 (47)
	Other NWT Residents # ^a (%)	395 (29)		101 (44)	137 (27)	98 (22)	59 (30)
	Non-NWT Residents # ^a (%)	634 (46)		115 (51)	313 (61)	160 (36)	46 (23)
	Total # ^a (%)	1,381 (100)		228 (100)	510 (100)	445 (100)	198 (100)
Diavik	NWT Aboriginal # ^b (%)	269 (30)	0 (0)	6 (6)	42 (12)	157 (52)	64 (50)
	Other NWT Residents # ^b (%)	291 (32)	16 (100)	54 (51)	90 (25)	89 (29)	42 (33)
	Non-NWT Residents # ^b (%)	348 (38)	0 (0)	47 (43)	224 (63)	56 (19)	21 (17)
	Total # ^b (%)	908 (100)	16 (100)	107 (100)	356 (100)	302 (100)	127 (100)
Snap Lake	NWT Aboriginal # ^c (%)	123 (19)	2.5 (13)	0.7 (3)	27.5 (10)	58.4 (23)	34.0 (60)
	Other NWT Residents # ^c (%)	106 (17)	8.1 (41)	8.3 (36)	45.9 (16)	27.4 (11)	16.2 (29)
	Non-NWT Residents # ^c (%)	406 (64)	9.2 (46)	14.1 (61)	211.2 (74)	164.6 (66)	6.5 (11)
	Total # ^c (%)	635 (100)	19.8 (100)	23.1 (100)	284.6 (100)	250.4 (100)	56.7 (100)

^a Number (head count).

^b Number in total average number of employees.

^c Number in person years.

^d Management jobs are included in the Professional job category for Ekati.

Note: Totals and percentages have been calculated independent of the socio-economic reports for the Ekati, Diavik and Snap Lake Mines and have been rounded for presentation purposes.

Source: BHP Billiton 2011, DDMI 2011, De Beers 2011.

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Table 3 Labour Force by Hiring Priority 2005 v. 2010

Hiring Priority	Ekati		Diavik		Snap Lake	
	2005	2010	2005	2010	2005	2010
Aboriginal (#/% in person years)	465 (26)	352 (25)	290 ^a (27)	269 ^a (30)	39 (17)	123 (19)
Northern (#/% in person years)	468 (26)	395 (29)	296 ^a (27)	291 ^a (32)	56 (24)	106 (17)
Non-Northern (#/% in person years)	843 (48)	634 (46)	586 ^a (54)	348 ^a (38)	137 (59)	406 (64)
Total Workforce (#/% in person years)	1,776 (100)	1,381 (100)	1,085 ^a (100)	908 ^a (100)	231 (100)	635 (100)

^a Diavik reports total average number of employees, not person years of employment.

^b Excludes Northern Aboriginals.

note: Totals and percentages have been calculated independent of the socio-economic reports for the Ekati, Diavik and Snap Lake Mines and have been rounded for presentation purposes.

Source: BHP Billiton 2011, DDMI 2011, De Beers 2011.

Employment by Gender

The Ekati and Snap Lake mines employed collectively about 286 women in 2010 (BHP Billiton 2011; De Beers 2011). This amounts to approximately 15% of the combined labour force at these mines. The majority (160/286 or 56%) of these women were employed in semi-skilled or unskilled/entry level positions. The Diavik Diamond mine does not, at present, report on employment by gender. Total female employment in the NWT diamond mining industry may, therefore, be higher than the total discussed above for the Ekati and Snap Lake mines.

The unskilled/entry level job category also saw the highest percentage of female representation, with women making up 37% and 47% of the job category at the Ekati and Snap Lake mines respectively. Female representation was moderately higher in the management and professional job categories than in the skilled or semi skilled categories at both mines (BHP Billiton 2011; De Beers 2011). This may be due in part to the fact that NWT women tend to have higher rates of educational attainment than males (GNWT Department of Education, Culture and Employment 2002).

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Employment by Home Community

The majority of the employees from NWT communities working at NWT diamond mines come from Yellowknife. Both Hay River and Behchoko also contribute a notable number of employees to the mines. The remaining small NWT communities contribute smaller numbers of employees to the mines. Employment by community for the NWT diamond mines is detailed in Table 4. The Ekati mine does not currently report on employment by community.

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Table 4 Employment by Community

Community	Ekati		Diavik		Snap Lake	
	#	% ^a	# ^b	% ^a	# ^c	% ^a
Behchoko	n/a ^d		43	8	16	7
Deline			2	<1	n/a	n/a
Detah			2	<1	n/a	n/a
Enterprise			2	<1	n/a	n/a
Fort Good Hope			1	<1	n/a	n/a
Fort Providence			4	1	n/a	n/a
Fort Resolution			13	2	n/a	n/a
Fort Simpson			5	1	n/a	n/a
Fort Smith			21	4	6	3
Gameti			5	1	1	<1
Hay River			59	11	28	12
Inuvik			2	<1	n/a	n/a
Lutselk'e			3	1	1	<1
N'dilo			2	<1	n/a	n/a
Norman Wells			1	<1	n/a	n/a
Wekweeti			2	<1	1	<1
Whati			12	2	3	1
Yellowknife			376	67	161	70
Kugluktuk			7	1	n/a	n/a
Other NWT			0	0	12	5
Subtotal Northern			558	100	229	100
Northern Employment	747	54^e	558	62^e	229	36^e
Southern Employment	634	46^e	349	38^e	406	64^e
Total	1,381	100	907^f	100	635	100

Source: BHP Billiton 2011; DDMI 2011; De Beers 2011

^a Percentage of the subtotal for Northern Employment.

^b Number in total average number of employees.

^c Number in person years.

^d The Ekati mine does not currently report on employment by community.

^e Percentage of the total employment at the mine.

^f Some totals may not match those in Tables 2 and 3 due to rounding in the source documents.

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Communities and Diamonds Report

The Communities and Diamonds report (GNWT 2010) provides a qualitative description of the effects of mining on demographic and socio-economic trends related to the NWT population. The report does not break out the specific diamond mining cohort labour force, but rather reports on effects to Small Local Communities¹ and Yellowknife.

Other Sources

Canada's Resilient North: The Impact of Mining on Aboriginal Communities (Gibson and Klinck, 2005)

This paper reports on the mining labour force cohort, and does not break out the specific diamond mining labour force. Thus, the discussion includes those individuals employed by mining operations extra to diamond mines. The results of other research efforts focusing on the effects of mining on the NWT labour force are summarized throughout the report.

According to Gibson and Klinck (2005), the mining labour force is characterized by the following trends:

- higher average incomes than the labour forces of other industries;
- highly mobile;
- prone to psychological disorders, depression, mental stress and anxiety due to lengthy shifts and rotational nature of mining work (North Slave Métis Alliance 2002);
- prone to increased incidences of alcoholism² due to enhanced access as a result of higher incomes (North Slave Métis Association 2002) and psychological disorders (Holahan et al. 2003);

¹ Behcholo, Detah, Gameti, Lutselk'e, N'dilo, Wekweètì and Whatì.

² Other studies (e.g., Hobart 1989) have noted that initial increases in drinking associated with the opening of a mine may be only temporary, subsiding after a few years.

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- greater access to equipment such as ATVs and guns (via higher incomes) that aids in traditional activities (e.g., hunting);
- increased sharing of hunting equipment (Brubacher and Associates 2002).

References

- BHP Billiton. 2011. Unearthing Potential: Ekati Diamond Mine 2010 Year in Review.
- Brubacher and Associates. 2002. The Nanisivik Legacy in Arctic Bay. Ottawa: Department of Indian Affairs and Northern Development.
- Diavik Diamond Mines Inc. (DDMI). 2011. 2010 Socio-Economic Monitoring Agreement Report.
- De Beers Canada Mining Inc (De Beers). 2011. Socio-Economic Report 2010, Snap Lake Mine.
- Gibson, G. and Klinck, J. 2005. Canada's Resilient North: The Impact of Mining on Aboriginal Communities.
- Government of the Northwest Territories. 2010. Communities and Diamonds. 2009 Annual Report of the Government of the Northwest Territories Under the BHP Billiton, Diavik and De Beers Socio-economic Agreements. July 2010.
- Government of the Northwest Territories. Department of Education, Culture and Employment. 2002. NWT Labour Force Development Plan 2002-2007.
- Holahan, C.J., C.K. Holahan, R.H. Moos, and R.C. Cronkite. 2003 "Drinking to Cope and Alcohol Use and Abuse in Unipolar Depression: A 10-year Model." *Journal of Abnormal Psychology* 112(1): 121-134.

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North Slave Métis Association. 2002. Can't Live Without Work: North Slave Métis Alliance Environmental, Social, Economic and Cultural Concerns. Yellowknife, NWT: North Slave Métis Association.

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Information Request Number: TG_31

Source: Tlicho Government

Subject: Women in Workforce

EIS Section: Chapter 12, pp.16, 70, 98, 107, 216

Terms of Reference Section: 5.3.1

Preamble

The developer place some emphasis in the EIS on challenges to women entering the diamond mining workforce and mitigation proposed to overcome these barriers. However, information seems sparse in the document on the actual experience of the work environment for female mine workers (existing and previous), retention and advancement rates, and other key considerations that would add to an understanding of barriers and how they can be overcome.

Request

1. Please provide additional information on the following, with special emphasis on the existing DBCI Snap Lake mine:
 - a. How many women work in the NWT diamond mining sector.
 - b. What types of jobs they have.
 - c. Issues current and former female mine workers have raised with their work and home environment.
 - d. Rates of turnover among female employees versus male employees, and issues raised by outgoing female mine workers that have led to them leaving the workforce.
2. Where gaps in available information about female mineworkers exist, please identify how the developer's proposed monitoring system for the Gahcho Kue Mine will attempt to overcome these limitations.

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3. Please identify how results of female participation initiatives such as those identified on page 12-107 will be reported on and assessed for effectiveness by the developer to interested parties.
4. At page 12-216, the developer notes that among other factors, a lack of child care support is a constraining factor for women entering the diamond mining workforce. The EIS at page 12-70 also identifies that community child care placements are effectively already 100% full at this time. Please identify any plans, policies or programs the developer has or suggests other parties consider to overcome this barrier to employment for women.
5. Please identify which groups the developer has engaged with on this topic (e.g., any groups like the NWT Status of Women Councils, Mines Training Society), and what suggestions for improvement have been provide by these groups.

Response

1: a and b.:

The Ekati and Snap Lake mines employed collectively about 286 women in 2010 (BHP Billiton 2011; De Beers 2011). This amounts to approximately 15% of the combined labour force at these mines. The majority (160/286 or 56%) of these women were employed in semi-skilled or unskilled/entry level positions. The Diavik Diamond mine does not, at present, report on employment by gender. Total female employment in the NWT diamond mining industry may, therefore, be higher than the total discussed above for the Ekati and Snap Lake mines.

The unskilled/entry level job category also saw the highest percentage of female representation, with women accounting for 37% and 47% of the job category at the Ekati and Snap Lake mines respectively. Female representation was moderately higher in the management and professional job categories than in the skilled or semi skilled categories at both mines (BHP Billiton 2011; De Beers 2011). This may be due in part to the fact that NWT women tend to have higher

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rates of educational attainment than males (GNWT Department of Education, Culture and Employment 2002).

Table 31-1 provides a breakdown of female employment in the NWT diamond mining industry by job classification.

Table 31-1 Women in the NWT Diamond Mining Workforce

Mine	Gender	Total Employment	Employment by Job Classification				
			Management	Professional	Skilled	Semi-Skilled	Unskilled/ Entry Level
Ekati	Female # ^a (%)	202 (16)	n/a ^b	49 (24)	53 (12)	47 (11)	53 (37)
	Male # ^a (%)	1,027 (84)		154 (76)	407 (88)	376 (89)	90 (63)
	Total # ^a (%)	1,229 (100)		203 (100)	460 (100)	423 (100)	143 (100)
Diavik	n/a ^c						
Snap Lake	Female # ^a (%)	84.1 (13)	4.1 (21)	1.1 (5)	19.4 (7)	33.1 (13)	26.4 (47)
	Male # ^a (%)	549.8 (87)	15.7 (79)	22.0 (95)	265.2 (93)	217.0 (87)	30.0 (53)
	Total # ^a (%)	634 (100)	19.8 (100)	23.1 (100)	284.6 (100)	250.1 (100)	56.4 (100)

^a Number in person years.

^b Management jobs are included in the Professional job category for Ekati.

^c Diavik does not report on employment by gender.

Note: Totals and percentages have been calculated independent of the socio-economic reports for the Ekati, Diavik and Snap Lake Mines and have been rounded for presentation purposes.

Source: BHP Billiton 2011, DDMI 2011, De Beers 2011.

- c. One issue that have been raised at the Snap Lake Mine by current and former female mine workers has been the issue of returning to work following the birth of a child, and the conflicted choices faced by female employees about returning to work at a remote mine site to return to the workforce which means being away from children. De Beers' does have a policy for Parental Leave and this policy does provide opportunities for flexibility to extend leave for parents who may wish to consider this option.

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The other issue that has been raised by female employees is the accessibility to bathrooms in the underground mine and the use of underground bathroom facilities by male co-workers. To address these concerns, De Beers has increased the number of underground bathrooms, has introduced dual latrine units so that use can be segregated by gender. De Beers has follow-up on suggestions by female employees regarding privacy and cleanliness of latrines by ordering new latrines that are scheduled to be installed underground in 2012.

- d. In 2011, females accounted for 13% of total turnover at the Snap Lake Mine. Females account for approximately 13% of the Snap Lake Mine Workforce. The turnover rate for females is consistent with the turnover for males at the Snap Lake Mine. De Beers does conduct exit interviews with employees. Interviews with female employees show that some female staff members have chosen to leave employment at Snap Lake as a result of starting a family and/or no longer wanting to work at a remote location. De Beers has also had female employees who have left for other growth opportunities, both within and external to the mining industry, reasons which are common to their male counterparts.
2. De Beers currently monitors and reports annually regarding employment by gender across all job categories for the Snap Lake Mine. The data collected is reported publicly and it provides the Company and others with an opportunity to review De Beers' achievements in terms of female employment. De Beers will expand this monitoring to include the Gahcho Kué Project and will upgrade its current employment tracking system to incorporate monitoring and reporting for the Gahcho Kué Project upon commencement of construction.

De Beers reviews this data with governments and other training partners in the context of the Company's and other parties' initiatives to promote opportunities for women in mining. This will enable the company and key partners to identify opportunities to work together or separately on programs, support and strategies to encourage an increased female participation across all job categories.

3. De Beers currently monitors and reports publicly the participation of NWT Residents in trades training, underground mine training and apprenticeships at the Snap Lake Mine. De Beers will provide the same information with respect to the Gahcho Kué Project, with the exception of underground mine training, as the

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Gahcho Kué Project will be an open pit mine. This information will be made available as part of De Beers' annual reporting upon commencement of construction for the Gahcho Kué Project. De Beers will also report on its female participation initiatives such as those identified in the 2010 EIS, Section 12, page 12-107 (De Beers 2010) to provide context to the training and employment numbers being reported.

De Beers will continue its current practice of meeting with Governments, Aboriginal community leadership, and holding information updates in communities close to the mine. This will enable opportunities for discussion regarding the company's activities, training and employment opportunities and challenges, and identification of areas where communities, governments and De Beers can work together to encourage increased female participation in the workforce.

- 4: De Beers acknowledges that working at a remote project site is not the choice that everyone will make, when choosing employment especially when childcare is an issue. The company also acknowledges that access to quality childcare is not only a limiting factor for women pursuing careers in the mining industry, but for women choosing to enter or re-enter the workforce generally. Quality childcare for all families can contribute positively to participation in the labour market.

Given the rotational nature of mining employment, De Beers recommends that the GNWT work with local community governments to identify, design and pursue business development and training initiatives that lead to the growth of new childcare programs. De Beers recommends that the planning of these initiatives involve input from females who are already working in the mining industry and who have childcare needs as well as experience in managing childcare matters while working at the mines. One way that De Beers can contribute to the development of such an initiative is to make available some of the company's female employees who are using a childcare service that enable them to work at the Snap Lake Mine. These employees would be able to provide valuable input into the design of programs and services as well as training programs that will increase the availability of childcare services.

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- 5: De Beers has engaged with the NWT Status of Women through the Women in Mining, Oil and Gas Project, (noted in the 2010 EIS, Section 12, page 12-217) to undertake research aimed at identifying barriers to female participation in the workforce. Through the Company's participation in this three-year project, De Beers promoted fully-paid work experience terms, apprenticeship programs and mine-related employment for women. In addition to being a financial sponsor of the project, De Beers was an active member on the Project Advisory Committee. Working with Skills Canada NWT, De Beers has been engaging in discussions and activities that plan and facilitate female role modeling for young NWT resident females. De Beers has also participated in discussions with the GNWT, other industry members in the NWT and the NWT Mine Training Society to advance the development of the *Northern Minerals Workforce Development Strategy* which has included sitting as a member of the Working Committee to advance this strategy aimed at increasing the success of attracting, retaining and training NWT workers to the mining industry workforce. Through participation in this working committee, discussions have examined barriers to employment, including those for females.

De Beers Canada has also been involved in the Mining Human Resource Council (MiHR) since 2006 as well as participates in the Canadian Institute, Metallurgy and Petroleum (CIM) through which forums the subject of "Women in Mining" is reviewed, discussed and promoted. Strategies and initiatives in support of attraction, recruitment and retention for women have been introduced to the Canadian mining industry whereby any gender-specific barriers to career success are examined and means and ways of alleviation are addressed. The ultimate aim is to increase the number of the female workforce in mining in Canada and to create a culture and working conditions commensurate with the needs of our female employees.

References

BHP Billiton (BHP). 2011. Unearthing Potential: Ekati Diamond Mine 2010 Year in Review.

Diavik Diamond Mines Inc (DDMI). 2011. 2010 Socio-Economic Monitoring Agreement Report.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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De Beers Canada Mining Inc (De Beers). 2009. Socio-Economic Report 2008, Snap Lake Mine.

De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N.* Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010

De Beers Canada Inc (De Beers). 2011. Socio-Economic Report 2010, Snap Lake Mine.

GNWT Department of Education, Culture and Employment. 2002. *NWT Labour Force Development Plan 2002-2007.* Yellowknife, NWT.

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Information Request Number: TG_32

Source: Tlicho Government

Subject: Expected Employee Numbers

EIS Section: Chapter 12, pp.20, 56, 74, 99, 102, 142, 144, 178, 245, 327, 356

Terms of Reference Section: 5.3.1

Preamble

At page 12-327, the EIS estimates 137 of 365 direct operations level jobs will be held by "locals" (NWT residents), and that all told, an estimated 554 full-time equivalent jobs will be created annually during operations (page 12-20). It is estimated that 26.5% of the construction workforce will be "local". Both estimates of "local" employment ratio appear to be based solely on the percentage of "local" employment that occurred or is currently occurring at the Snap Lake Mine. If the developer has conducted the required assessment of the local, regional and NWT-wide labour pools identified in section 5.3.1 of the ToR, a qualified estimate of the percentage of the workforce that is likely to come from different regions and demographics would be possible. No such estimate is provided in the EIS.

Request

1. Please identify whether original predictions of expected worker numbers at the existing three NWT mines (for both construction and operations) were accurate, low or high, and what lessons learned from expected versus actual employee numbers were incorporated into the predictions of expected workforce for the Gahcho Kue mine.
2. Please provide a breakdown of how many of the developer's current employees at Snap Lake and at the Gahcho Kue site are northern Aboriginal, Tlicho citizens, and residents of each Tlicho community. If this data is not being collected, please identify why not and whether the developer is committed to collecting it in the future.
3. Given increasing demands on employment from other sources and concerns raised that most of the available mine-ready "local" labour pool

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is already gainfully employed elsewhere (page 12-237), both issues raised by the developer in the EIS, please identify how DBCI justifies its estimate that about 37% of direct operations and 26.5% of direct construction workforce will come from the NWT. If these estimates are not justified, please reconsider them in light of the above-noted factors.

4. Please break down the estimated construction and operations “local” workforce into northern Aboriginal and northern non-Aboriginal.
5. Please identify, based on NWT Bureau of Statistics data and any additional labour pool analysis conducted by the developer, what the size of the current excess labour pool is in the following areas:
 - a. The NWT
 - b. The North Slave and South Slave regions
 - c. At the individual community level within these regions

Response

1. Table 32-1 shows the predictions for employment made for the EKATI, Diavik and Snap Lake Mines, along with the actual employment numbers reported from each mining company’s 2010 Socio Economic Annual Reports. The predictions made for employment during the operation phase of their mines were less than actual employment. All three mines are employing greater numbers of employees in the operations phase than predicted. The learning from these results is that:
 - Collectively, all three mines are employing more northern residents than collectively they predicted would participate in the diamond industry workforce;
 - The available northern workforce in the NWT for the Snap Lake Mine has been more difficult to find than predicted;
 - The training programs implemented by the diamond industry in partnership together and with the GNWT, Aurora College and the Mine

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Training Society have been successful in the development of a northern skilled workforce and these kinds of partnerships should continue.

Table 32-1: EKATI, Diavik and Snap Lake Mines Employment: Predictions versus Actuals

	Predicted Employees Operations Phase	Actual Employment December 2010	# Northern Residents Predicted	Actual Northern Resident Employment	Northern Residency Employment Variance (Actual vs Predictions)
Ekati Mine	926	1229	574	670 (62%)	+96
Diavik Diamond Mine	400	972	264	579 (60%)	+315
Snap Lake Mine	500	635	300	229 (36%)	-71
Total Operations Workforce for all 3 Mines	1826	2836	1138	1478	+340

- De Beers Canada monitors and reports employment data for the Snap Lake Mine only at this point in time. The Company will implement the same monitoring for the Gahcho Kue Project upon receipt of permits to construct and operate the mine.

In 2011 Tłı̨ch̨o citizens represented 7% of the total employment at the Snap Lake mine and 25% of total Aboriginal employment.

Employment at the Snap Lake Mine, in person years, for the period January 1, 2011 to December 31, 2011, is provided in Table 32-2.

**Table 32.2 Person Years of Employment – Snap Lake Mine
January 1, 2011 to December 31, 2011**

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Tlicho Citizens	55 (7% of total employment)
Northern Aboriginals	95 (12% of total employment)
Other Aboriginals	74 (9% of total employment)
Non Aboriginal	534 (67% of total employment)
Choose not to Self Identify	44 (5% of total employment)

De Beers also collects data on where employees live (i.e. NWT Community), but this data is not currently available with respect to Tłıchō citizens. Data that is available by community is provided in Table 32-3.

Table 32-3 2011 Snap Lake Mine - Employment by NWT Community (Person Years) (Figures are rounded)	
Deline	4
Fort Good Hope	1
Fort MacPherson	1
Fort Providence	5
Fort Resolution	1
For Smith	6
Hay River	33
Gameti	2
Bechoko	18
Tulita	1
Wekweeti	2
Whati	3
Yellowknife	169

- There are many factors that will affect the labour market over the life of a Project. In considering the employment impacts for the Project, De Beers looked at a number of factors. Factors can be separated into two general categories - factors that affect demand and factors that affect supply.

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At the time the Economic Impact Assessment (De Beers 2010) was completed, the demand scenario included the following highlights:

- Ekati Diamond Mine closure in 2021
- Diavik Diamond Mine closure in 2022
- Snap Lake Diamond Mine closure in 2026
- Gahcho Kue Diamond Mine construction in 2013, operating in 2015
- Prairie Creek Mine construction in 2012, operating in 2014
- NICO Mine construction in 2015, operating in 2017

The supply of labour can be affected by changes in the population, migration, and price (wages). The quality of that labour is affected by graduation rates, the quality of schooling, post-secondary graduation rates, and training programs. With respect to demographics, it was assumed that fertility rates would decrease slightly over time, but this may not impact the source population since the planned mine life is eleven years. Nevertheless, this assumption was put in place for estimating population growth. It was assumed that the persistent out-migration that the NWT has experienced over the past decade will continue. There was no explicit assumption on changing graduation rates or the quality of graduates. De Beers acknowledges that lower levels of education can mean potential labour will not qualify for some of the skilled positions that will be available at the Project. De Beers will offer its employees a competitive compensation package, however recruitment and retention will be in a highly competitive Canadian marketplace for skilled mine workers.

With these supply and demand conditions established, De Beers was able to estimate the changes to the labour market using the NWT Economic Impact Model (see 2010 EIS, De Beers 2010, Appendix 12.II). It includes a detailed demographic model and a labour market model. The results are shown in the table below. These results show the cumulative effects of the changes in labour demand and supply. The model has a dynamic component (it is reactionary), so when Ekati and Diavik diamond mines close, a portion of the population respond by migrating away from the NWT. This lowers the population, source population,

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and labour force, and prevents the unemployment rate from climbing higher. It also means there are fewer people living in the NWT who are out of work.

Table 32-4: Predicted Labour Force (2000-2030)

Year	Labour Force	Employment	Unemployment Rate
2000			
2005	23,895	22,700	5.0%
2010	22,878	21,200	7.3%
2015	24,258	22,656	6.6%
2020	24,838	23,155	6.8%
2025	25,278	22,960	9.2%
2030	25,118	21,936	12.7%

From 2010 to 2025, the number of NWT residents who are unemployed and in the labour force will grow from 1,678 to 2,318 (Table 32-4). When Ekati and Diavik close, the assumption is that these newly unemployed people will have a variety of valuable work skills that the Gahcho Kue Project will need.

While not modelled explicitly, the employment impacts had to consider the fact that the Gahcho Kué Project is an open-pit mining operation. By the time it becomes operational, most other mining activities in the NWT will be underground operations. De Beers believes that some NWT resident labour prefer the jobs that are available at open-pit operations, thus there is some expectation that employees will move to Gahcho Kue as the open-pit operations elsewhere wind down.

Over time there have been some changes to this scenario, most notably, the announcement by BHP Billiton that its Ekati Diamond Mine will close 2 or 3 years earlier than originally planned. The timing of the three included mining projects might also change, with short delays being the most likely new scenario. All of these changes will have the effect of lowering the overall demand for labour during the life of the Gahcho Kue Project. This improves its chances of attracting and retaining a strong northern workforce.

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The estimated impact for employment has to consider the demand and supply conditions in each year that the Project will be operating. De Beers believes that the project's northern workforce will grow throughout its lifespan. This growth will come from new graduates entering the workforce, success in training some of the existing unemployed labour, some transfers from other projects that are looking to access the open-pit operation jobs, and then later, from workers who have lost their job at another mine due to its closure.

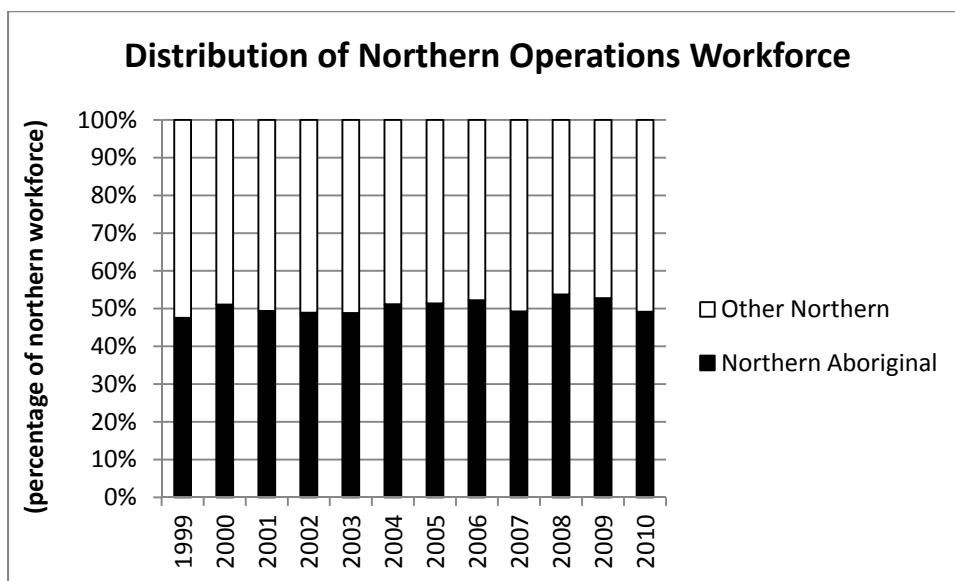
With all the factors considered, the figures presented in the 2010 EIS (De Beers 2010) are reasonable. But it is important to note that these figures do not represent targets. The company wants to have as large an NWT resident workforce as possible. Regardless of the number of NWT resident employees it hires, the Company is committed to working with all of the affected communities to improve their participation in the employment opportunities throughout the entire life of the Project. With this approach, De Beers is confident that it can have a strong NWT resident workforce at the Gahcho Kue Project.

4. Historically, northern Aboriginal and northern non-Aboriginal employment has been similar, but there is some difference between construction and operations.

During construction, northern non-Aboriginal workers form a small majority (53%) of the total northern workforce. At the Snap Lake Diamond Mine, northern Aboriginal employment totalled 258 person-years of employment while northern non-Aboriginal employment totalled 329 person-years of employment. During the construction of the Diavik Diamond Mine, the two groups accounted for the same amount of labour, equal to 537 person years. During the construction of the Ekati Diamond Mine, northern Aboriginal workers contributed 356 person years, while northern non-Aboriginal workers contributed 427 person years.

During operations, the number of northern Aboriginal workers and northern non-Aboriginal workers has been very close throughout the past ten years (see Chart). The data presented in this chart is taken from the SEMA reports published by the three diamond producers.

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De Beers expects the workforce representation during construction and operations will follow patterns similar to work has happened over the past decade and across the three operating diamond mines.

5. The most up-to-date labour statistics on a community and regional basis are those collected by the NWT Bureau of Statistics. Statistics Canada conducts a monthly labour force survey for the territory as a whole. The two data sets should not be compared directly since the survey methodologies are different.

a) NWT Labour Market Data for January 2012

- Population 15 and Over: 32,100
- Labour Force: 23,900
- Employed: 22,000
- Unemployed: 1,900
- Not in Labour Force: 8,200

Source: Statistics Canada's *Labour Force Survey*

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b/c) Regional and Community labour data is presented together in the table below (Table 32-5). The NWT Bureau of Statistics published the regional and community data that was gathered from their own community survey. The latest regional and community data are for 2009.

Table 32-5 Community Labour Force Activity, 2009

	Population 15+	Labour Force	Employed	Unemployed	Participation Rate (%)	Unemployment Rate (%)	Employment Rate (%)
South Slave	5,702	4,065	3,657	408	71.3	10.0	64.1
Enterprise	87	69	64	5	79.3	7.2	73.6
Fort Resolution	390	202	152	50	51.8	24.8	39.0
Fort Smith	1,966	1,367	1,228	139	69.5	10.2	62.5
Hay River	2,973	2,289	2,113	176	77.0	7.7	71.1
Kakisa	43	24	18	6	55.8	25.0	41.9
Lutselk'e	243	115	83	32	47.3	27.8	34.2
Tłı̨chǵ	2,029	1,072	822	250	52.8	23.3	40.5
Behchokǵ	1,374	666	515	151	48.5	22.7	37.5
Gamèti	214	137	104	33	64.0	24.1	48.6
Wekweètì	81	55	47	8	67.9	14.5	58.0
Whatì	360	214	156	58	59.4	27.1	43.3
Yellowknife Area	15,957	13,449	12,664	785	84.3	5.8	79.4
Detah	182	124	89	35	68.1	28.2	48.9
Yellowknife	15,775	13,327	12,576	751	84.5	5.6	79.7
N'dilo	262	168	115	53	64.1	43.9	31.5

Note: Sum of categories may not always equal the total due to weighting.

Source: 2009 Community Survey

Prepared by: NWT Bureau of Statistics

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References

De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

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Information Request Number: TG_33

Source: Tlicho Government

Subject: Tlicho Workforce and Barriers to Employment

EIS Section: Chapter 12, pp.31, 36, 97, 108, 151, 155, 175, 221, 224, 230, 234, 237-8, 328

Terms of Reference Section: 5.3.1

Preamble

The developer identifies several barriers to employment in the NWT in the EIS (e.g., at page 12-36).

The Tlicho Government is very concerned about the potential for diminishing employment prospects and declining employment numbers from the diamond mining sector for Tlicho citizens. The EIS does little to assuage those concerns, given that it does not identify changes over time in the number of Tlicho citizens or even northern Aboriginals in the the NWT diamond mining sector. The EIS thus fails to identify trends in this critical indicator of how much benefit the mining sector brings against which to assess environmental impact tradeoffs the Tlicho citizenry faces with industrial development on its traditional land base.

Despite the fact the developer indicates that "education and skill levels of NWT residents have greatly improved over the past 10 to 15 years" (page 12-99), Tlicho graduation levels remain low, a major barrier to employment in the mining sector. The creation of additional hurdles (e.g., credit checks) would likely exacerbate these existing barriers and lead to lower Tlicho engagement in the diamond mining economy.

Request

1. Is De Beers aware of any issues raised by communities, Aboriginal workers, or Aboriginal governments about gaps in the recruitment, retention and advancement of northern Aboriginal workers? Currently, how would such issues be raised at Snap Lake for example; what mechanisms are in place for organizations like the Tlicho Government to raise issues on behalf of its citizens?

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2. The EIS (page 12-108) identifies that “credit checks” will be included in the screening process for potential workers, alongside criminal record checks. Please identify on what basis this is justified and enumerate what effect this may have on northern Aboriginal employment if implemented.
3. At page 12-155, Table 12.6-8 identifies reasons NWT residents gave in 2004 for not looking for employment. Please identify:
 - a. Whether there is any more recent data of a similar nature available.
 - b. Whether Table 12.6-8 refers only to Aboriginal people or all NWT residents, and if the latter, whether Aboriginal-specific data is available.
4. At page 12-175, the EIS commits the developer to “identifying opportunities for gathering information and addressing barriers to successful employment”. Please clarify:
 - a. What “opportunities” have been identified from DBCI’s Snap Lake experience.
 - b. What specific plans, policies and programs for gathering information on employment barriers DBCI will commit to, and given the importance of prior preparation of a mine ready workforce, when these systems will be implemented.
5. The developer raises but does not delve into the fact that the NWT labour force is limited due to structural and frictional unemployment issues (page 12-334). Please identify with a more detailed labour pool analysis how these unemployment issues affect the ability of primarily Aboriginal communities and the Tlicho region to engage in the diamond mining sector in general, and the Gahcho Kue Mine in particular.

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Response

1. De Beers provides a number of avenues for employees, governments and members of the public to review the company's progress with respect to hiring, retention and advancement of northern and northern Aboriginal workers. For the Snap Lake Mine, De Beers produces an annual report that measures the company's progress in hiring and employment; and that reports these statistics by NWT Community, by NWT Residency, by gender, and by hiring priorities established for the Snap Lake Mine.

De Beers provides the Tłı̄ch̄o Government with an Annual Activity Report that breaks the above information down further, so that hiring and employment of Tłı̄ch̄o citizens is clearly reported. The Company also breaks the annual results down by contractor and provides reporting separately for De Beers and its contractors.

Members of the De Beers management team are available to meet with communities, governments and others and do so annually to discuss these results when they are published and any other matters that communities or Aboriginal governments wish to discuss. Monitoring and providing data is a starting point for discussion, and discussions about these results is just one avenue communities, Aboriginal workers, or Aboriginal governments have to examine how the company is doing in terms of recruitment, retention and advancement.

There are currently a variety of ways issues can be raised with De Beers regarding hiring, and employment and advancement, or any other issues that are of concern. For members of the communities, and Aboriginal governments, these include, but are not necessarily limited to the following:

- Discussions during meetings with mine liaison staff, by phone in their offices in Yellowknife or when they visit the communities;
- Bringing concerns directly to De Beers' Human Resource Manager;
- Meetings with the mine management team during visits by De Beers to the community;

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- Community visits to the Mine site, which include meetings with management;
- The company's website provides an opportunity to raise concerns at http://www.debeerscanada.com/files_3/Feedback.php

Employees can raise concerns about recruitment, retention or advancement of northern Aboriginal workers, or about any issues of concern, and there are a variety of avenues for employees, which include, but are not limited to:

- Direct meeting with their supervisor or any member of the management team,
 - Discussion with De Beers community liaison staff;
 - Meetings with De Beers' NWT Human Resource Manager or other management representatives;
 - Discuss concerns with members of the Joint Consultative Committee, which meets monthly, and which includes a designated representative from among Aboriginal employees to ensure representation of Aboriginal perspectives and concerns; and
 - Identifying concerns for Employee Town Hall meetings to be addressed by management either directly or through a mechanism that allows the employee the ability to raise the issue, without having to be identified as the person raising the issue.
2. De Beers is currently examining the implementation of a policy requirement for credit checking of new employees. The purpose of this is to increase the risk management mitigation strategies of the company and ensure that employee's integrity is properly protected. As part of this policy development, the Company is working to ensure that credit checks do not become a barrier for employment. Credit checks are only planned for jobs categories where a poor credit record and high debt load may increase the company and the employee risk profile. De Beers will focus this policy on those positions where job responsibilities provide regular access to rough diamonds, and to areas in the company where a particular job function will have access to intellectual property, financial transactions and procurement mechanisms. Workers with credit issues could potentially be of higher risk when employed in these particular areas given the

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nature of our business and therefor the company has a duty to engage and train employees appropriately to understand and respond to these risks.

- 3.a. The data presented in the 2010 EIS, Section 12, Table 12.6-8 (De Beers 2010) was the most recent public information focused on those specific indicators noted within the table available to De Beers at the time of the writing of the EIS. To the best knowledge of De Beers, this data is still the most up-to-date information available at this level of detail for these indicators.
- b. Table 12.6-8 in the 2010 EIS refers to the aggregate NWT population as a whole. Information is not available for specific Aboriginal groups. The source from which Table 12.6-8 derives its data breaks down the analysis into three categories: 1) Yellowknife; 2) Hay River, Fort Smith and Inuvik; and 3) Other communities.
- 4.a. Based on De Beers' Snap Lake experience, opportunities for gathering information and addressing barriers to successful employment are occurring through a variety of means, including but not limited to the following:
- Meetings, discussions and cooperative planning with GNWT Department of Education, Culture and Employment, Aurora College, the Mine Training Society, and other community or Aboriginal government representatives who are involved in education, training and career development with the goal of identifying industry needs, explaining De Beers programs, challenges and opportunities and finding opportunities to work together to deliver training and development programs that help match available workers to De Beers' employment needs ;
 - Visiting schools to promote literacy, and exposing students to Aboriginal role models who speak to the importance of staying in school;
 - Partnering with GNWT to bring representatives from the Student Financial Assistance office to communities close to the mine to meet with high school students to assist students in understanding funding options considering options for post secondary school and funding to attend;
 - Providing inputs into the GNWT's labor force development framework to assist the GNWT in planning its priorities for training, education and career development;

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- Scheduling training, including those scheduled in partnership with other training partners enables trainees to take immediate advantage of the education and training they have received through employment opportunities; and
 - Linking training strategies and goals to support work in partnership with communities to address challenges and to identify areas where the company and the community should be focusing their collaborative efforts.
- b. All of De Beers existing Human Resource Policies, and the NWT Business Policy will apply to the Gahcho Kué Project. The NWT Business Policy will be updated upon receipt of permits to incorporate the Gahcho Kué Project.

De Beers will prepare a Human Resource Strategy for the Gahcho Kué Project, which will be updated and will become more detailed as the company begins to build its operational readiness plan. De Beers will work with community directors, community employment and career officers and the GNWT Education Culture and Employment offices, the Mine Training Society, Aurora College and others to share information regarding our Human Resources Strategy, to invite input and to identify areas where collaboration can strengthen the strategy. De Beers is currently funding in partnership with Government and other industry partners, the development of a pan-northern minerals workforce development strategy, and has been actively participating on the Working Group for this strategy, to ensure that the company's needs are identified and incorporated into this northern workforce initiative. The development of this strategy has included identification of barriers, and is making recommendations for addressing those barriers. The draft report has been issued and the final report will be issued by the Mine Training Society in the near future. Representatives at the Steering Committee and Working Group committees include governments, communities and industry.

5. Aboriginal Employment Information

The relatively high unemployment rates in primarily Aboriginal NWT communities present the opportunity for the diamond mining industry to draw upon an available labour force. The barriers to employment creating this high

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unemployment, however, hinder the primarily Aboriginal NWT communities' ability to participate in the labour force.

Unemployment rates in the NWT (10%), Yellowknife (6%) and predominantly non-Aboriginal NWT communities (i.e., Hay River, Fort Resolution and Fort Smith – 6-17%) are low, and participation rates are high. In the predominantly Aboriginal NWT communities, unemployment rates are comparatively high (17-30%) and participation rates tend to be lower than other study area communities, especially Yellowknife. This implies that the available workforce in the socio-economic study area largely resides in NWT's smaller communities and in Aboriginal communities; and that these communities have the potential to engage in the diamond mining sector.

The overall employment trend (between 1994 and 2006) in Aboriginal communities is toward higher participation rates and lower levels of unemployment. The diamond mines created 720 jobs (in person years, in 2010) in construction and operations phases for Aboriginal workers, thereby improving the employment situation for NWT Aboriginal people. The Gahcho Kué Project is expected to continue this beneficial employment situation beyond the closure of the Ekati and Diavik mines.

Constraints to Project-Related Employment

De Beers recognizes that the challenge in addressing the issue of potential lost employment benefits for NWT Aboriginals is to identify the specific issues and barriers that prevent some communities from participating fully in the emerging economy, including increased employment opportunities. Those that have benefited the least are those with less than high school completion (EIS Section 12.6.3.5).

High school completion rates average around 39% in predominantly Aboriginal NWT communities. This is a barrier to employment in the mining industry, as many occupations require that employees have at minimum a secondary school diploma or equivalent (though De Beers does consider the experiences of individuals not meeting minimum education requirements for entry level positions

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on a case-by-case basis). Entry requirements for most training programs require a high school diploma.

If the available but non-participating members of the Aboriginal community labour forces are to become employed, secondary school completion rates will have to increase. While this is the current trend, this will not happen instantaneously. Rather, it is expected to occur (at a predicted rate of 0.7%/annum¹) slowly over the coming decades.

References

De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N*. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

¹ based on an 11% increase between 1991 and 2006.

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Information Request Number: TG_34

Source: Tlicho Government

Subject: Education and raining Needs and Developer's Initiatives

EIS Section: Chapter 12 pp. 36, 72, 98-100, 109, 118, 150, 228, 234-5, 237-8, 240, 355

Terms of Reference Section: 5.3.1

Preamble

Section 5.3.1 of the ToR requires the developer to *“assess the current capacity of training programs and of Aboriginal and northern people to engage in these training programs. The developer is encouraged to present its views on how the development can address the issue in conjunction with exiting or possible future government programs.*

In several places (e.g., at page 12-36), the EIS refers to an existing trained labour pool gap facing the NWT, as many as 5000 skilled, semi-skilled and professional workers. The developer also makes some rather vague statements about training specific to the project such as:

“The Project requires a training program to address the shortage of trades people in the NWT. Maximizing skills development for employees required for the Project cannot be predicted with high certainty. How many people will need to be trained or how effective the training will be is unknown.” (page 12-238).

In the opinion of the Tlicho Government, the developer can and should – based on requirements of the ToR, identify with a great deal more specificity what type of training should be focused on and how many NWT people should be trained in order to maximize “local” engagement in the Gahcho Kue Project. This can be accomplished by comparing Gahcho Kue’s construction stage and operations stage labour requirements against the skills available in the existing NWT labour pool and existing training programs available in the NWT or available in other jurisdictions to NWT residents.

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The Tlicho Government recognizes that regional, territorial and federal governments all also have a role to play in development and implementation of successful training initiatives and will likely ask for additional information from the territorial and federal governments on this issue during the course of the environmental impact review.

Request

1. Please identify how much funding DBCI has provided toward MTS and other training programs in the NWT annually and in total to date, and what those training programs have focused on.
2. Please identify how many "mine ready" workers MTS has generated, annual training completion rates broken down between northern Aboriginal and northern non-Aboriginal trainees, and any issues identified with MTS' ability to supply the required workforce to date and initiatives to overcome any gaps.
3. Please identify any recommendations DBCI has made to the federal or territorial government or the MTS or other training programs, related to priority training needs for the NWT workforce to be "mine ready".
4. At page 12-109, the developer identifies that it has developed a specific training approach for its northern operations, which includes *"conducting a training needs assessment to identify existing educational and/or skill levels of Aboriginal community members and other NWT residents who apply for positions"*. Please identify how often this type of training needs assessment has been conducted by DBCI and results of this/these training needs assessment(s) to date, specifically related to educational and/or skill levels of Aboriginal community members.
5. Please identify why there are not measurement endpoints for employment and training identified in Table 12.5-1 at page 12-118. Is it not essential to determining the impacts of the project and success of (mitigation to define indicators to measure and goals (e.g., increased northern Aboriginal tradespeople) against which progress can be measured?

Response

1. In partnership with the Mine Training Society (MTS), and De Beers' contractors, De Beers has participated in the Underground Mine Trainee Program, the Mineral

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Process Operator Trainee Program, the Drillers Helper Program, a Protective Services Officer Training Program and various specific initiatives, including the creation of an apprenticeship position for a Northern Aboriginal female placed with De Beers as part of the Women in Mining Oil and Gas research project with the NWT Status of Women. Since DBC has started working with the MTS, De Beers has contributed close to \$3 million dollars towards these programs in cash and in-kind funding.

2. For the period September 2004 to March 31, 2012, the Mine Training Society of the Northwest Territories has assessed 1,902 potential training program participants. Of those, 1,357 have participated in training programs, and 737 of them have been employed following completion of training. Of those 737 who have completed training programs, 732 have been Aboriginal trainees and 3 have been non-Aboriginal.
3. De Beers has been in discussions with the GNWT, MTS and the two other Northern diamond mines regarding training overall and how we can work together to improve the efficiency and the availability of training that is provided both in communities and at the diamond mines. Recommendations have been made by De Beers through our participation with the GNWT and the other two NWT diamond producers in an MOU to develop and retain a northern workforce as well as through the company's recent participation in the working group to develop the northern minerals workforce development strategy, which includes federal representation have included:
 - a. Continue the support for the NWT Mine Training Society, as this program has been a successful partnership for developing employment capacity in the NWT;
 - b. Strengthen programs that help NWT Residents choose healthy lifestyles and overcome addictions so that they can be ready to access and retain employment;
 - c. Development of training programs that meet the needs of adult learners with limited education and workplace literacy skills and for those whose first language is not English is important;
4. When recruitment is underway, the hiring team always considers the applications of those in the first hiring priority first. The first step is to review the applicants' resume to determine whether their education and skills compared to the requirements of the particular job that they are applying to fill is a match. Although there may be a stretch, if the hiring team, after interviewing the individual believes that the individual,

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with additional training/education and support, can be successful in the role, the candidate will be hired despite the fact that they might not yet meet minimum requirements. When they are employed, it is a continual effort to ensure that the individual is receiving the training/education and support from supervisors and from any mentor assigned to coach to assist them in success. This analysis is done through all recruitment efforts.

5. De Beers understands that its operations in the NWT will eventually come to an end. Its contribution to the territory's labour market will be best measured by comparing the quality of labour when it began its operations to the quality of labour when its operations end. De Beers also understands that to have a positive impact on the territory during its operations, it must attract and retain resident labour. De Beers wants to employ NWT residents at the proposed Gahcho Kué Project and will build on its experience gained in the construction and operation of the Snap Lake Mine to recruit, train and retain NWT residents.

Toward that end, De Beers is committed to establishing hiring priorities for NWT residents and to training NWT residents as part of the human resources strategy for the Gahcho Kué Project.

However, determining an endpoint for employment can be problematic. The endpoint for employment is actually zero because there will be no jobs left after the Project's reclamation apart from monitoring. If one considers the last year of operations as an endpoint, the employment record at that point in time may not be an accurate reflection of the employment impacts over the life of the entire project. Similarly, the NWT resident labour that the Project employs in year one may not equal the NWT resident employment number in year eleven.

Establishing an endpoint for employment also assumes that NWT resident labour is a static variable that a firm can control; that is, it assumes that the labour market conditions in the territory, region, and each community do not change with time and that the firm is able to control the number of employees it takes from a territory, region, and community. There are several problems with this assumption.

The labour market is not static. Over the next fifteen years, there will be substantive changes to the NWT economy and its labour force. In that time, the Ekati Diamond

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Mine is scheduled to close. If and when that occurs, the approximately 1,200 employees working directly for the project will lose their jobs. Additional indirect and induced jobs will be lost. The Diavik Diamond Mine is also scheduled to close. This will bring another round of job losses. Direct employment at the mine is approximately 900, along with more indirect and induced jobs.

While those events will reduce the demand for labour, potential resource-based projects could add jobs. It was assumed that the NICO Project and the Prairie Creek project would proceed. At the time the Economic Impact Report (Appendix 12.II) was written, these were the most advanced mining projects in the NWT. These are small mining projects when compared to Ekati or Diavik, so their impacts will be small. The cumulative economic impacts of these two projects and the Gahcho Kue Project will not equal that of the Ekati Diamond Mine.

The opening and closing of resource projects will mean the demand for labour will see a lot of variation over the next fifteen years.

There is also unknown variation in the timing of these projects and the possibility of other projects coming on- or offline. In the past year, we have heard announcements from BHP Billiton that the Ekati Diamond Mine will close earlier than was expected. Prior to that, the world recession in 2008-09 brought unexpected changes to the NWT economy. The possibility of another recession still exists. All of these factors represent risks to a forecast for labour demand.

Earlier than expected closure of a mining project would actually benefit the NWT resident labour participation at the Gahcho Kue Project, but would mean less employment for the NWT as a whole. Later than expected closures would have the opposite effect; that is, it would mean a lower NWT resident participation for Gahcho Kué Project, but more jobs for the territory as a whole.

The supply of labour must also be considered. The labour supply that existed in 2010 when the Economic Impact Report was written is not what it is today, and not what it will be when the Gahcho Kué Project starts. The 2010 Environmental Impact Statement (EIS) (De Beers 2010) used 2013 as the Project start date. As such, De Beers looked at the labour supply that would exist at that time and the supply that would exist over the life of the project. The supply of labour can be affected by

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population growth, graduation rates, and migration. It is also affected by the ability and willingness of potential labour to join the workforce. A firm can identify a potential employee, create a job, and then offer that job to the potential employee, but he or she is under no obligation to take the job. These factors influence the final employment numbers and the developer cannot know how the existing labour market will react to changing conditions.

To identify a precise employment endpoint, the developer would have to include considerations for all of the variation in demand and supply for each and every year the project is scheduled to be open. With each year, the variance gets wider and wider.

This variation in the NWT labour market is in stark contrast to conditions that existed in the late-1990s and the first few years of this century. There are more opportunities available to labour, both in terms of jobs and training. Some of these opportunities exist outside the territory. Demand for labour, especially skilled labour, in the mining industry has risen throughout Canada and the world. This change has many implications in terms of attracting and retaining NWT labour. It also introduces additional variation.

The solution to this challenge is to make prudent assumptions on the demand and supply conditions for the entire NWT economy; what is a reasonable demand profile, and what changes can be anticipated in the supply of labour. It is possible to consider many different scenarios, but to choose a single number, one must commit to a single scenario.

From that one scenario, one can make an assessment of how the proposed Gahcho Kue Project fits into this larger economy, how many direct jobs it will create, and what indirect and induced opportunities will exist. De Beers would prefer that every job it creates is filled by resident labour, but understands that outcome is not possible. Therefore, its approach is to recruit, train, and retain as many NWT residents as are willing to work at the Project and commit to this strategy for the duration of the Project's life.

The scenario used in the 2010 EIS (De Beers 2010) shows a gradual increase in the number of unemployed NWT residents, growing from 1,678 in 2010 to 2,318 by 2025

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(see Appendix 12.II Table 12.II.11.4-2, De Beers 2010). This is the cumulative effect from:

- the addition of the proposed Gahcho Kué Project
- the addition of the proposed Prairie Creek Project
- the addition of the proposed NICO Project
- the closure of the Ekati Diamond Mine in 2021
- the closure of the Diavik Diamond Mine in 2022
- a slow decline in fertility rates over time
- a net loss of population through out-migration

The projected labour market is derived from this profile. There are changes in the overall population through births, deaths, and migration. The resident population reacts negatively to the closure of the diamond mines, causing an increase in out-migration. This effectively lowers the overall population and labour force, which impacts the number of unemployed residents, the unemployment rate, and the participation rate.

What it means for employment prospects at the Gahcho Kué Project is that there are unemployed residents within the current labour force and that the number of unemployed residents will increase throughout the life of the Project. It is also understood that conditions will change that will alter the assumptions. The best example is the recent announcement for the early closure of the Ekati Diamond Mine. This will result in a higher than expected available workforce. It means higher participation at the Gahcho Kue Project when measured over the life of the Project, but less employment for the NWT economy.

References

De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N.* Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

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Information Request Number: TG_35

Source: Tłıchō Government

Subject: Aboriginal Hiring Targets

EIS Section: Chapter 12 pp. 60, 106, 239, 243, 245

Terms of Reference Section: Table 7.5 (Community Wellness Issues)

Preamble

Given the mine-ready workforce shortages expected in the NWT in coming years (as reported at pages 12-98, 150, and 242 of the EIS), it would seem to the Tłıchō Government that increased focus on maximizing the training and hiring of Aboriginal northerners who represent a large and growing portion of the NWT's population would be a primary goal of the GNWT and all would-be mine developers in the NWT. While this goal is evident in the terminology of the EIS, the developer does not identify any specific northern Aboriginal hiring targets. This is disconcerting to the Tłıchō Government because it effectively means that the developer does not want to be held accountable to meeting a specified goal for northern Aboriginal hiring.

Request

1. Please summarize available data on the demographic structure of the NWT diamond mine workforce over time in order to give parties a sense of how (for example) the percentage of northern Aboriginals in the overall workforce has changed over time.
2. Please identify why the developer does not provide a specific northern Aboriginal hiring target in the EIS.
3. Please identify how, in the absence of a northern Aboriginal hiring target:
 - a. The developer would be accountable to northern Aboriginal groups and the GNWT on the issue of northern Aboriginal recruitment and retention.
 - b. The developer and other parties would determine the success or failure of initiatives to maximize northern Aboriginal hiring.

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4. Please identify what percentage of GK mine workers is expected to be northern Aboriginals, including identification of what assumptions the prediction is based on.

Response

1. According to the 2006 Statistics Canada Census of Aboriginal populations, the NWT Aboriginal population is 14,465, and the Aboriginal labour force is 9,455 individuals. Of the Aboriginal labour force, 7,555 (52%) are employed (Statistics Canada 2007). Of these employed, approximately 10% (751 as of 2010) are employed in NWT diamond mines (BHP 2011; DDMI 2011; De Beers 2011).

The diamond mining labour force is trending towards increased Aboriginal involvement. The Ekati, Diavik and Snap Lake mines have all seen modest increases (2%, 3% and 2% respectively) in Aboriginal participation in the diamond mining labour force between 2005 and 2010. Aboriginals are more frequently employed during the operations phase of diamond mining Projects (BHP 2011; DDMI 2011; De Beers 2011).

In comparison, both the Ekati and Diavik mines saw a similarly modest increase (2% and 5% respectively) in the representation of Northern Residents in their labour forces between 2005 and 2010, however, the Snap Lake Mine reported a decrease of 7% over the same period. This decrease is due to the reduction of construction jobs at the mine between 2005 and 2008, and to the fact that much of the available Northern Resident operations labour force is already employed by the Ekati and Diavik mines, both of which began operations prior to Snap Lake. Aboriginal employment in the diamond mining industry is thus comparable, if not favourable, to that of other NWT residents (BHP 2011; DDMI 2011; De Beers 2011).

While the percentage of the labour force comprised by Aboriginal and Northern Residents is lower than predicted in the socio-economic agreements for the operating NWT diamond mines, the overall number of Aboriginals employed by the diamond mining industry in the NWT is higher (BHP 2011; DDMI 2011; De Beers 2011).

For example, the Diavik socio-economic agreement predicted Aboriginal participation in the labour force to amount to 180, or 40% of the mine's workforce (450). Due to increasing employment opportunities at the mine, the number of Aboriginals employed by 2010 exceeded the predicted number

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(180), rising to 269 Aboriginal employment positions. The size of the labour force at the mine, however, also grew larger than expected. This means that, while the total number of Aboriginal employment positions rose to 269, it amounts to 30% of the overall workforce (907) (DDMI 2011). Both the Snap Lake and Ekati mines experience a similar pattern, with Aboriginal employment (in person years) growing beyond predicted levels as a result of increased employment opportunities.

2. The De Beers Snap Lake Mine outlined NWT Resident Hiring targets (40% for construction and 60% for both operations and closure). These targets were subject to the availability of NWT Residents with the required skills, training and experience for employment in the mining industry.

With both Yellowknife and the non-Aboriginal NWT communities having high participation levels, the potential to employ a local northern labour force lies primarily with the Aboriginal communities. High school completion rates in these communities average around 39%.

This low level of high school completion is a barrier to employment in the mining industry, as many occupations require that employees have at minimum a secondary school diploma or equivalent (though De Beers does consider the experiences of individuals not meeting minimum education requirements for entry level positions on a case-by-case basis). Entry requirements for most training programs require a high school diploma.

If the available, but non-participating, members of the Aboriginal community labour forces are to become employed, secondary school completion rates will have to increase. While this is the current trend, this will not happen instantaneously. Rather, it will occur (at a predicted rate of 0.7%/annum¹) slowly over the coming decades. Thus it is difficult for De Beers to accurately predict the future availability of NWT residents for work in the Gahcho Kue Mine.

Given the current labour force shortage of qualified workers, and the inability of De Beers to predict future labour force availability, it would be unrealistic to set hiring targets such as those outlined for Snap Lake for the De Beers Gahcho Kué Project. De Beers believes a good measurement against which it can assess its performance in employing Aboriginals is to establish hiring

¹ Based on an 11% increase between 1991 and 2006 (GNWT Bureau of Statistics 2010).

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priorities and then measure the actual hiring and employment in accordance with those hiring priorities. Hiring priorities were established by De Beers in the 2010 EIS Chapter 12.4.3 on Pages 12-106 and 12-107 (De Beers 2010).

3. a. De Beers will track and report publicly regarding hiring, employment and training of NWT Residents and Aboriginals. De Beers will produce an annual report that will include:

- Hiring by Hiring Priority and job category, in total numbers and percentage of total hires;
- Hiring by Northwest Territories community in total numbers and percentage of total hires;
- Total employment in person years by Hiring Priority and job category in total numbers and percentage of the workforce;
- Total employment in person years by Northwest Territories community in total numbers and percentage of the workforce;
- Participation in and results of training activities undertaken by the company to increase NWT and Aboriginal employment in the Project

De Beers will also continue to track and make available to Aboriginal groups the same data specific to their members as it does for Snap Lake.

3. b. De Beers will include in its annual report referenced in 3.a. above additional analysis/comments by the company regarding its initiatives undertaken to maximize Aboriginal and NWT Employment. By meeting with other parties to discuss the results and the analysis of the results, there will be an opportunity for DBC and other parties to determine not only successes and failures, but opportunities to work together to make improvements that will maximize northern and Aboriginal employment.
4. The EIS predicts local (to the NWT) participation in the Gahcho Kue labour force to be 27% during construction and 38% during operations. These predictions are based on the local participation record from the construction and operations phases of the Snap Lake Diamond Mine, and are not employment targets (De Beers 2010, Section 12.6.1.2.2, page 12-143).

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References

- Statistics Canada. 2007. Northwest Territories (Code61) (table). Aboriginal Population Profile. 2006 Census. Statistics Canada Catalogue no. 92-594-XWE. Ottawa. Released January 15, 2008.
- BHP Billiton. 2011. Unearthing Potential: Ekati Diamond Mine 2010 Year in Review.
- Diavik Diamond Mines Inc (DDMI). 2011. 2010 Socio-Economic Monitoring Agreement Report.
- De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.
- De Beers Canada Inc (De Beers). 2011. Socio-Economic Report 2010, Snap Lake Mine.
- Government of the Northwest Territories (GNWT) Bureau of Statistics. 2010. Summary of NWT Community Statistics 2010. March 2010. Yellowknife, NWT

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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Information Request Number: TG_36

Source: Tlicho Government

Subject: Mining Workforce - Direct vs. Contractor

EIS Section: Chapter 12 p. 102

Terms of Reference Section: 4.1.7

Preamble

At page 12-102, the EIS estimates that the Project will employ and average of about 372 full-time equivalents per year. It is unclear whether these are all direct employment for DBCI or includes a contractor workforce.

Request

1. Please identify the expected number of contract workers versus salaried employees at the GK site during operations, over the life of the mine.
2. How does this expected employee: contractor ratio compare to reality at Snap Lake and the other diamond mines?
3. Please identify what factors DBCI considers when determining whether to hire direct employees versus hiring contractors to fulfill tasks at its operations.

Response

1. Throughout the life of mine, it is anticipated that De Beers will directly employ 327 with an additional 45 employees being employed through contractors on site. The ration of direct employees to contractors may vary depending on operational requirements.
2. Employment by hiring priority and by employer (i.e., contractor or proponent) is detailed below in Table TG_36-1. At the Ekati, Diavik and Snap Lake mines, the employee:contractor ratio (in percentage) is 63:37, 58:42 and 59:41, respectively.

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Table TG_36-1 Employment by Hiring Priority and Employer

Mine	Hiring Priority	Total Employment	Employment by Job Classification	
			Proponent	Contractor
Ekati	NWT Aboriginal # ^a (%)	326 ^c (27)	240 (74)	86 (26)
	Other NWT Residents # ^a (%)	344 ^c (28)	240 (70)	104 (30)
	Non-NWT Residents # ^a (%)	559 ^c (45)	292 (52)	267 (48)
	Total #^a (%)	1,229^c (100)	722 (63)	457 (37)
Diavik	NWT Aboriginal # ^b (%)	269 (30)	107 (40)	162 (60)
	Other NWT Residents # ^b (%)	291 (32)	198 (68)	93 (32)
	Non-NWT Residents # ^b (%)	348 (38)	218 (63)	130 (37)
	Total #^b(%)	908 (100)	523 (58)	385 (42)
Snap Lake	NWT Aboriginal # ^a (%)	123 (19)	65 (53)	58 (47)
	Other NWT Residents # ^a (%)	106 (17)	64 (60)	42 (40)
	Non-NWT Residents # ^a (%)	406 (64)	247 (61)	158 (39)
	Total #^a (%)	635 (100)	377(59)	258 (41)

^a Number in person years.

^b Number in total average number of employees.

^c These figures differ from those in other IR responses due to rounding and reporting style in the source document. Previous IR responses indicate a total employment number at the Ekati mine of 1,381 (number as determined by a head count, rather than person years).

Source: BHP Billiton (2011), DDMI (2011), De Beers (2011)

3. De Beers considers a couple key factors in determining which positions are direct employment positions and which will be staffed by contractors. In particular, De Beers will determine whether a particularly required function is a specialized function that may best be obtained by a contractor that specialized in that function. De Beers will consider whether that skill set is required throughout the year, or whether it uses that skill set occasionally. Also, De Beers will

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consider whether key functions on site can be potential business opportunities for NWT and Aboriginal Businesses.

References

BHP Billiton. 2011. Unearthing Potential: Ekati Diamond Mine 2010 Year in Review.

Diavik Diamond Mines Inc. (DDMI). 2011. 2010 Socio-Economic Monitoring Agreement Report.

De Beers Canada Mining Inc (De Beers). 2011. Socio-Economic Report 2010, Snap Lake Mine.

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Information Request Number: TG_37

Source: Tlicho Government

Subject: Women in Workforce

EIS Section: Chapter 12, pp. 106, 108, 130, 221-2, 239

Terms of Reference Table 7-5 (Community Wellness Issues)

Preamble

Minimum hiring requirements and the recruitment process, as well as Tlicho citizen's perspectives on working in diamond mining, are important factors in the level of Tlicho recruitment in diamond mining.

Request

1. To what does DBCI attribute the decline in willingness of NWT Residents, and in particular residents of Tlicho communities, to rotational work in recent years, as reported in Table 12.6-7 (page 12-151)? Has this issue been raised in community engagement by the developer with more information being sought to clarify reasons behind this declining interest in rotational work?
2. Please clarify DBCI's minimum educational requirements for hiring. At different points in Section 12, Grade 10 (page 12-130) or grade 12 are identified as minimum entry requirements to work at the mine.
3. Please identify and provide for the public record any studies accessed by the developer or completed by the developer that identify northern Aboriginal perspectives toward working in the diamond mining sector, and what issues related to recruitment (desire to work in mining) have been raised by northern Aboriginal people.
4. Please identify how, as identified in section 12.4.3 (Staffing), DBCI "identifies Aboriginal people who meet the minimum entry-level qualifications for hiring preference" (page 12-106). Please identify whether Tlicho Government departments or other local or regional

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liaisons are used to assist in identifying Aboriginal people who may be a good fit for the diamond mining sector,.

5. Please identify what specific criteria are used “on a case-by-case basis” to identify whether to hire workers who do not meet the minimum education requirements” (page 12-108).

Response

1. Table 12.6-7 details the available labour supply and labour force characteristics (including willingness to do rotational work) in the NWT and study area communities.

Table 12.6-7 Labour Supply in the Northwest Territories and Potentially Affected Communities, 2004 and 2009

Community		Available Labour Supply	% Willing to do Rotation	% Male	% Aboriginal	% Less Than High School
NWT	2004	2,454	70.3	64.4	77.3	52.3
	2009	4847	57.1	59.1	77.2	55.9
Behchoko	2004	193	90.7	67.9	96.9	54.9
	2009	507	77.3	52.3	99.2	75.5
Detah	2004	29	93.1	65.5	100.0	62.1
	2009	46	41.3	63	100	80.4
Fort Resolution	2004	42	73.8	73.8	100.0	50.0
	2009	89	53.9	69.7	91	47.2
Gamèti	2004	51	70.6	68.6	100.0	66.7
	2009	53	64.2	50.9	100	83
Łutselk'e	2004	28	60.7	82.1	100.0	85.7
	2009	87	64.4	57.5	100	70.1
N'Dilo	2004	33	72.7	63.6	97.0	66.7
	2009	n/a	n/a	n/a	n/a	n/a
Wekweètì	2004	20	55.0	50.0	100.0	60.0
	2009	20	55	65	100	60
Whatì	2004	65	90.8	72.3	100.0	76.9
	2009	85	58.8	64.7	100	60
Yellowknife	2004	609	59.4	64.7	31.5	29.7
	2009	1209	46.4	59.5	34	36.1

Source: GNWT Bureau of Statistics 2010b.

% = percent; n/a = not available.

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Willingness to do rotation work has declined throughout the NWT by 13% from 2004 to 2009 (from 70% in 2004 to 57% in 2009). There was a decline in willingness to do rotational work in each of the LSA communities except Lutselk'e where it rose by 4% over the period. Tlicho communities have been highlighted in green above.

The percentage of Aboriginals in the available labour supply, however, who are willing to do rotational work, remains high across all communities (> 70% across the territory). The majority of the available labour force is men (over 50% in all communities). Women face different challenges to accessing rotational work described in EIS Section 12.8.4.1.1 Rotation (De Beers 2010). Attracting women from small communities to work in mines is difficult as they tend to be the primary caregivers of children and are unable to work either full time or outside the community (pg. 12-334, De Beers 2010).

However, Aboriginal males are still the majority of people willing and able to do rotational work. One challenge is their educational attainment as highlighted in the table above.

Without conducting further qualitative studies aimed at determining why NWT residents are less likely to work rotational schedules, further assertion about why there has been a decline in willingness to do rotation work would be speculative.

2. On page 12-224 of the EIS, the requirement for Grade 12 is identified as a factor that can be a barrier to employment (De Beers 2010). In Section 12.5.6 of the EIS (Page 12-130), De Beers confirms that as a mitigation measure, to remove barriers to employment, the company will offer employment for those with Grade 10 or equivalent skills. The company further notes on Page 12-222 that there are a combination of things the company can do to remove barriers to employment, one of which is to require completion of Grade 10 or General Equivalency Diploma (GED) and that the company will make these hiring decisions on a case-by-case basis (De Beers 2010).

To be clear, depending on the specific position that is available at the mine, the minimum education level required may be Grade 10; however, hiring decisions in these situations will be made on a case by case basis. For positions that will

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require an understanding of technical terms and an ability to analyze, the minimum level may be Grade 12. This approach to hiring is intended to position both the employee and the company for success.

De Beers is committed to assisting those working at the mine sites who have a below Grade 12 education to work towards obtaining their GED so that they may further their careers.

De Beers further notes on Page 12-210 of the EIS, while it is possible to be employed with less than a Grade 12 education, the overall long term success of employees at the mine is linked to their educational achievement (De Beers 2010).

- 3.a. In addition to information derived from employee surveys at the Snap Lake Mine, De Beers has considered the sources below in the EIS when identifying northern Aboriginal perspectives toward working in the diamond mining sector.

GNWT Department of Education, Culture and Employment 2008

This source notes that, from a local perspective, increased training and education, and increased incomes associated with mining have their downsides. People have lifestyle options. These include taking their newly acquired skills and applying themselves elsewhere (i.e., other communities) and altered discretionary spending (i.e., purchase of alcohol, recreational equipment and other discretionary items) (GNWT Department of Education, Culture and Employment 2006).

GNWT Department of Health and Social Services et al. 2006.

This 2005 survey noted that rotational schedules and the resulting absence from family was not a specific concern identified by mine employees. Only 2% of all employees surveyed reported growing apart from family, 20% reported improved relationships, and 36% reported no change at all. The results were similar among the smaller diamond communities. The results for employees from the

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small NWT diamond communities reported that 3% grew apart, 12% reported improvements, and 47% reported no change.

In the same survey, families reported remaining supportive of working at the mine and more specifically, children in the small diamond communities reported that the impact was positive (35%), or had no impact (23%). Only 15% reported a negative impact (GNWT Department of Health and Social Services et al. 2006).

A Critical Ethnography Among the Tłı́chô First Nation of Behchoko (Davidson 2007)

The following quotations from Davidson's work in Behchoko (2007) summarize some Aboriginal perspectives towards mining employment:

"[There is a] more transient population now, working at the mine, having more money to travel. People moving around even in small remote communities" (Administrator, interview, primary source).

"...they are away from the homes for two weeks yeah, but now days it is consuming eh? It's Walmart, its Extra Foods, it's Edmonton. They go to Edmonton, they just pick up and go to Edmonton...every weekend" (Elder, interview, primary source).

"...the kids really run the show. I think that there is more money in town, because of the mine but now parents are hardly ever at home... They have replaced parenting and guidance and caring with money (Elder, interview, primary source).

In general, this study notes that there are concerns among the northern Aboriginal population pertaining to the transience of mine workers, their discretionary spending habits and the involvement of mine workers in their home communities and families.

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GNWT 2009 Survey of Mining Employees (EIS Reference: GNTW Bureau of Statistics 2009c)

The 2009 NWT Survey of Mining Employees was conducted by the NWT Bureau of Statistics on behalf of BHP Billiton, Rio Tinto, De Beers and the Government of the Northwest Territories (GNWT). The survey focused on things diamond mine employees like and dislike about their current community of residence, factors they consider when thinking about relocation and barriers to moving to the Northwest Territories. Some of these factors interact with employment at a mine, altering the employee's feelings towards their communities. The survey was designed to shed light on the residency issues faced by diamond mines and the GNWT.

Employment at a mine may promote those features about residence in a home community that survey participants identified as positives. De Beers will provide pick-up points in designated NWT communities, thereby removing the need for local workers to leave their home communities and/or to move to larger centres to seek employment at the Mine. Workers who remain in their home community will continue to be able to participate in those activities deemed positive about life in the community (i.e., proximity to family, opportunities for recreation, and people within the community).

4. The Human Resource Department maintains a contact list of key positions in local communities that are responsible for career development and employment. For example, in the case of the Tlicho Government, De Beers maintains contact with the Community Career Development Coordinators so that training and employment opportunities are provided to them directly. De Beers has also established community liaison positions for the Snap Lake Mine. With respect to hiring, employment and training, the community liaison coordinators work in collaboration with De Beers' Human Resources department to optimize connections at the community level so that potential employees who have the skills the company is seeking can become aware of the job or training opportunities and how to apply.

For example, when visiting the communities, the community liaison coordinators contact representatives in local communities, such as the Career Development

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Coordinators to check in and determine that information is flowing, to see if there are any follow up actions the company needs to take with their offices to help them with matching possible candidates to job opportunities at De Beers. De Beers Human Resources staff and community liaison staff are available to assist these community contacts in understanding what the skills and education requirements are for available opportunities. Whether De Beers is meeting with community employment officers, holding public meetings or providing information sessions to those involved in employment and career development, De Beers advises that resumes being submitted to De Beers should clearly self identify in accordance with De Beers' hiring priorities. This helps the company identify which applicants are Aboriginal candidates and what hiring priority they fit into. In many cases, assistance with resumes and applications comes directly from the community career development coordinators, and they assist De Beers in understanding the hiring priority of the applicants.

De Beers has also held sessions with employment officers to provide information regarding its hiring priorities, to explain the supports in place that the company has for transportation to and from the mine, and to provide clarity on our apprenticeship policies. These initiatives are aimed at building an understanding among employment officers/career development officers regarding the supports the company will put in place for trainees and apprentices.

When there have been significant training program intakes in partnership with the Mine Training Society, De Beers has encouraged community career development officers to help candidates apply and to work toward meeting the entrance requirements.

5. When considering on a case-by-case basis the possibility of hiring a candidate that does not meet the minimum education requirements for a position that is available, the criteria will vary depending on the job requirements and the individual's skills, experience and education.

Each job has a role profile (job description) that clearly establishes the roles and responsibilities of that position, as well as the skills, education, and experience required to be successful in it. The first set of criteria considered by the company is what the job requires. The company then evaluates the skills, experience and

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education of the potential employee to identify what gaps exist, and to determine how hiring a person with fewer qualifications will affect the ability of the employee to succeed in the job, and the company's operation. The company determines what steps the company will need to take to ensure success for the employment candidate and the company and considers hiring priority as part of this decision.

References

BHP Billiton. 2011. Unearthing Potential: Ekati Diamond Mine 2010 Year in Review.

Brubacher and Associates. 2002. The Nanisivik Legacy in Arctic Bay. Ottawa: Department of Indian Affairs and Northern Development.

Diavik Diamond Mines Inc. (DDMI). 2011. 2010 Socio-Economic Monitoring Agreement Report.

De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

De Beers Canada Mining Inc (De Beers). 2011. Socio-Economic Report 2010, Snap Lake Mine.

Gibson, G. and Klinck, J. 2005. Canada's Resilient North: The Impact of Mining on Aboriginal Communities.

Holahan, C.J., C.K. Holahan, R.H. Moos, and R.C. Cronkite. 2003 "Drinking to Cope and Alcohol Use and Abuse in Unipolar Depression: A 10-year Model." *Journal of Abnormal Psychology* 112(1): 121-134.

North Slave Métis Association. 2002. Can't Live Without Work: North Slave Métis Alliance Environmental, Social, Economic and Cultural Concerns. Yellowknife, NWT: North Slave Métis Association.

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Information Request Number: TG_38

Source: Tlicho Government

Subject: Aboriginal Employee Retention Issues

EIS Section: Chapter 12 pp. 106-7, 151, 154

Terms of Reference Section: 5.3.1

Preamble

The Tlicho Government remains concerned about turnover rates among Tlicho citizens at NWT diamond mines, but this issue is not treated in any quantitative way in the EIS, and only limited discussion occurs on potential factors behind workforce turnover.

Request

1. What has been the workforce annual turnover rate at Snap Lake and (where information is available) the other mines, broken down between northern Aboriginal, northern non-Aboriginal, and non-northern employees?
2. Figure 12.6-8 (page 12-154) identifies "Aboriginal employment at the Northwest Territories Diamond Mines, 1997 to 2007". Please identify:
 - a. Whether these numbers including only northern Aboriginal or all Aboriginal and if the latter, whether additional breakdown is available.
 - b. Whether similar data is available for any of the years 2008 to 2011, and what the original source material is for the graph by Impact Economics.
 - c. What percentage of total diamond mine employment these Aboriginal numbers represented in any given year.
 - d. If the absolute percentage of Aboriginal workers in the diamond mine workforce is or has dropped, what factors may have led to this occurrence.
3. Please identify issues that have been raised in relation to employee turnover at Snap Lake or any other diamond mines in northern Canada, including DBCI's Victor Mine.

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4. Please identify the results of dialogue between Tlicho Government representatives and DBCI representatives about Snap Lake workforce issues since the mine opened, including what issues have been raised and how DBCI reacted.
5. Please identify whether DBCI has an exit interview process for employees leaving its workforce in northern Canada (including Victor) and if not, why not.

Response

1. The average turnover rate for Snap Lake over the last three years has been 12%. The greatest turnover has been with the non-northern employee base at 61% of total turnover in 2011. Of the turnover attributed to Northern employees, 50% of northern turnover was northern Aboriginal employees.

2.a) The data in Figure 12.6-8 are from the Socio-economic Monitoring Agreement (SEMA) reports produced by De Beers, BHP Billiton, and DDMI.

b) The Aboriginal employment data represents northern Aboriginals. This is presented explicitly in De Beers's SEMA reports, and is implied in those of BHP Billiton and DDMI whereby they state employment figures as "Aboriginal" and "Other Northern." This implies the Aboriginal figure is northern. Table TG_38-1 displays employment at the operating NWT diamond mines, by hiring priority, from 2008 to 2010. Data is derived from the Ekati, Diavik and Snap Lake mines' SEMA reports. The data set for 2011 is incomplete at this time.

Table TG_38-1 Employment by Hiring Priority in the NWT Diamond Mining Industry

	2008	2009	2010
Northern Aboriginal	857	787	720
Other NWT	755	712	762
Total Northern Employees	1,612	1,499	1,482
Other	2,093	1,434	1,329
Total Employees	3,705	2,933	2,811

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c) Table TG_38-2 below provides the percentage of northern Aboriginal employment from 1999 to 2010. Data for 2011 is incomplete at this time. These data are compiled from SEMA reports published by the three diamond operators.

Table TG_38-2 Aboriginal Employment in the NWT Diamond Mining Industry (1999-2010)

Year	1999	2000	2001	2002	2003	2004
% Northern Aboriginal	33%	31%	27%	24%	29%	32%
Year	2005	2006	2007	2008	2009	2010
% Northern Aboriginal	26%	22%	18%	23%	27%	26%

d) The participation rate of northern Aboriginal labour in the diamond mining employment has remained relatively steady over the past decade. Fluctuation is largely the result of construction activities, whether it be new construction or major capital projects at an existing mine. Northern Aboriginal labour participation in construction activities is smaller when measured as a percentage of the total construction workforce. The northern Aboriginal workforce in operations has been relatively stable at all three diamond mines.

3. De Beers is able to speak to turn over in our own mines and does not have access to information regarding turn over at the other two diamond mines in the NWT. In 2011, the primary reason employees chose to leave the Snap Lake Mine has been that they have been able to find employment closer to family. This is not surprising, given the survey conducted by the three diamond mines with the GNWT Bureau of Statistics in 2009 showed that the reason that most employees chose to relocate to the NWT or out of the NWT was influenced by a need for proximity to family as the top reason. Results obtained from the exit interview process at the Victor mine indicate that the main reasons for employees leaving is also to be closer to home in order to spend more time with their families or to pursue opportunities that enable them further career advancement.

4. There have been a number of visits by Tlicho Government representatives and Human Resource professionals from the Tlicho Group of companies to the Snap Lake Mine since operations commenced in 2008. In 2011, De Beers was

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advised by the Tlicho Government that all mining liaison regarding matters at the Snap Lake Mine should be discussed through the Kwe Beh Working Group. De Beers has met twice with the Kwe Beh Working Group in the past year and has hosted representatives from the Kwe Beh Working Group at the Snap Lake mine in 2012. Depending on the topics that these groups wish to discuss, De Beers generally provides these delegations with updates on the mine, including production, environmental performance, participation of Tlicho businesses in our operation, as well as achievements and challenges faced by the company in terms of participation by Tlicho citizens in employment and training opportunities.

De Beers also provides the Tlicho Government with an annual report that identifies all the steps the company has taken in the previous year to optimize the participation of the Tlicho citizens and Tlicho businesses in our Snap Lake Mining Operation. The report provides an update on the number of trainees, apprentices and underground mine trainees that the company has hired and identifies where the company and the Tlicho Government can work together to address challenges and to maximize opportunities. This report quantifies employment of Tlicho citizens by job category for De Beers and for our contractors. De Beers also monitors and makes available to the Tlicho Group of companies statistics on how their companies are doing in terms of employment across job categories.

It is in these conversations and in the conversations the company has in the Tlicho communities with individuals, community career development coordinators and representatives attending public meetings that we have active discussions about concerns Tlicho citizens may have. Employment concerns that are raised have generally fallen into three key areas, namely the hiring process and ensuring hiring priorities are being followed, the opportunities for advancement to management positions and the rate at which Tlicho citizens are advancing to management, and finally how the company handles disciplinary action and employee complaints. De Beers' reaction to these matters is always to thank representatives for raising these concerns, and to encourage dialogue on these concerns with the appropriate management representative. For example, concerns about hiring priorities and how the company manages them are responded to by having the Human Resources Manager meet to hear the specific concerns, to confirm what the company's policies and procedures are

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relative to those concerns and how those are being implemented and to work through any specific examples that are raised them.

5. De Beers does have an exit interview process in Canada.

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Information Request Number: TG_39

Source: Tlicho Government

Subject: Issues and Supports for Aboriginal Workers, Families and Communities

EIS Section: Chapter 12 pp. 32, 55, 99, 110, 184-5, 201, 204

Terms of Reference Section: 5.3.1

Preamble

The Environmental Impact Statement (EIS) argues that the development is likely to have a positive (beneficial) effect on community and family cohesion and that the developer has systems in place to support mineworkers and their families.

Request

1. At page 12-203 of the EIS, the developer states that *divorce [rate] is unchanged or declining*".

Please:

- a. Provide the data used to support this contention.
 - b. Identify whether divorce rates are consistent across the NWT (e.g., are their identifiable differences between Yellowknife, smaller communities, and regional centres).
 - c. Identify whether divorce rate data is available for the NWT diamond miner cohort.
 - d. Reconcile the above-noted finding on divorce rates versus the finding elsewhere in Section 12 that diamond mining has been correlated to increasing single-parent families in select communities in the LSA.
2. Please identify what sort of money management training programs DBCI offers to its workers.
 3. Please identify any "home community" supports the developer provides to mineworkers' families, how these are advertised to both workers and families, and the level of uptake on available counselling and other services using the Snap Lake experience.

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4. Please identify whether in preparation of the EIS, DBCI sought to interview portions of its Snap Lake workforce and their families to identify potential family cohesion issues. If not, please identify why the availability of this "captured cohort" was not taken advantage of to confirm or refute impact estimations made by the developer on this issue.

Response

- 1 The 2010 Environmental Impact Statement (EIS) Residual Effects Summary states that "the potentially affected communities are improving on many indicators that have been used to measure cohesion. Income is increasing; economic security is improving, divorce is unchanged or declining..." (De Beers 2010, Section 12.6.2.6: pg. 12-203).

a. The data that was used to support the statement that 'divorce is unchanged or declining' was found in:

The 2005 Communities and Diamond Report, in the section on "Family Impacts," they report that:

- Many employees with a spouse or partner saw that they have grown closer to their spouse or partner since their employment at the mines. Fewer employees from Small Local Communities felt this. Almost no employees felt that they had grown apart from their spouse, down from 2000.
- Differences in abilities to cope with rotational work, or differences in spouse or partner values, may explain the difference in perceptions. It appears that the diamond mines have had a positive impact as a whole on spousal relationships but less impact in Small Local Communities.
- One key difference between the 2000 and 2005 surveys is the large increase in single employees. It is unknown if this is because workers are getting divorced or because the mines are hiring more young single people (GNWT Departments of Health and Social Services, Education, Culture and Employment, Industry, Tourism and Investment, Justice, Bureau of Statistics, and Housing Corporation 2006: 55).

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The 2005 Communities and Diamond Report also cautions, however, that rotational work may potentially have negative impacts on marriages. For instance, the report cites the BHP Billiton EIS, which predicts:

- Absence from the home for two weeks at a time (rotation shift work) could have an impact on marriages (including common-law relationships); particularly if they are not stable to start with. Stress caused by a number of factors – need for money, separation, suspected infidelity, are major causes of marriage breakdown. With a rotational work system, marriages are likely to experience some of the stress of separation. At the same time, the availability of jobs may relieve some financial stress (GNWT 2006: 13)
- Rotational shift work could create marital pressure for families not used to separation. Studies indicate that 68% of the Canadian LDC work force are married (includes non-Aboriginal people as well); however, the number of divorced employees is double that of the general public.

Additionally, the 2005 Communities and Diamond Report notes that:

- The Diavik Socio-Economic Environmental Effects Report (SEER) notes, “Income and absence due to rotational employment may result in... family conflict.” It also talks of “in-migration to Yellowknife, Ndilo and Detah affecting interpersonal and family relations (GNWT 2006: 13).
- The De Beers Snap Lake Environmental Assessment Report (EAR) states, “...families may break up as the educated or skilled family members go elsewhere to seek employment.” It notes, “There is increased risk of marital and family breakdown associated with stop-overs in Yellowknife as some employees (mostly male) engage in extra-marital affairs.”(GNWT 2006: 13)
- Largest change in single-parent families since 1991 was in Small Local Communities between 1996 and 2001. There was an increase of 258 single-parent families, or 10%, during this time. Remaining NWT Communities went up by only 6.2%. Yellowknife and Canada had a faint rise of 2% and 1%, respectively (GNWT 2006: 13).

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The earlier 2003 Communities and Diamond Report also corroborates the findings about single parent families in Small Communities. Their findings indicate that “some Small Local Communities report they are seeing marriage separations and divorces for the first time. This is supported by the data, which shows a large increase in lone families since 1996 in Small Local Communities” (GNWT 2003: 22)

On the other hand, the 2010 EIS cites the 2008 Community and Diamonds Report (De Beers 2010, Annex K, Section K3.3), which reports that the number of children being born to teenagers (teen births) has been decreasing. The report indicates that this decrease may be due to more planned parenting, delayed childbirth, increased use of birth control, or more teens pursuing education (GNWT 2009). From this data, it can be inferred that more women are planning when and how to be parents, which likely includes decisions about being in a serious relationship prior to parenthood.

From an examination of this data, it is likely that initially, when diamond mining and rotational work was new to the Northwest Territories (NWT) there was an increase in the number of separations and divorces (See above 2003 Communities and Diamonds Report that notes some communities are seeing divorce for the first time; GNWT 2003). As the sector has become more developed and families have adapted to the rotational work lifestyle, and teenagers are realizing the potential benefits of employment within the sector, single parent families are decreasing (See Statistics Canada data below about reduction in divorce rates from 2001 to 2005) and families are adapting to rotational work (and its benefits – higher incomes, more financial capacity to engage in traditional activities when have 2 weeks off) and there is a reduction in the number of divorces.

For the NWT in general, however, the data is slightly different. Statistics Canada reports that divorce rates have been in decline for the years 2001 to 2005. They dropped from 83 divorces in the NWT in 2001 to 65 divorces in NWT in 2005 (Statistics Canada 2008b). In fact, the divorce rate (per 100,000) in Northwest Territories is the lowest in Canada at 117 per 100 000, followed by Newfoundland at 146 per 100,000. Yukon, on the other hand, a territory with similar demographic profile, had one of the highest divorce rates at 319 per

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100,000 (Department of Justice 1997). Key challenge is that this data is old and precedes diamond mining developments in the Territory.

b. Identify whether divorce rates are consistent across the NWT (e.g., are their identifiable differences between Yellowknife, small communities, and regional centres).

The 2010 EIS reports that “In 2006, the family structure in the NWT was predominantly couples (79% including common law and husband-wife couples; De Beers 2010, Annex K, Section K3.4.3). In Yellowknife, 84% of families were couples (both married and common-law). Most local study area (LSA) communities also had a higher percentage of couples, as compared to lone parent families, ranging from 82% in Fort Providence to 57% in Wekweètì. In 2006, there were a large proportion of single parent families in the LSA communities, particularly in the communities of Wekweètì (43%), Whatì (35%), Behchokö (32%), Detah (31%) and Gamètì (31%) (De Beers 2010, Annex K, Section K3.4.3: K3-9/10). This data indicates that there are more single parent families (unmarried, separated or divorced) in small communities than in large communities such as Yellowknife in 2006. The Statistics Canada Data on Divorce and Separation Rates, presented below, shows that the Tłıchō communities of Behchokö, Gamètì, Wekweètì, and Whatì have exceptionally low divorce rates compared to the rest of NWT and Canada. One explanation for the difference in data presented in Annex K (De Beers 2010, Annex K, Section K3.4.3) and by Statistics Canada (below) is that people are more likely to have children in small communities when they are unmarried. This would explain why divorce rates are so low, but there are many single parent families.

The higher than average divorce rates in Yellowknife (Table TG_39-1), however, cannot be fully attributed to diamond mines and rotation work – “the trend in Yellowknife follows the national trend and reflects general changes in society. This means the trend is not likely to be a result of diamond mine development” (Community and Diamond Report 2009: 10).

The data collected indicates that there is no clear information or pattern regarding divorce rates in LSA communities. Additionally, the data does not present any clear information that changes to divorce rates and single parent

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families is related to diamond mining and/or rotational work. It also finds that divorce rates in larger urban cities cannot be attributed to diamond mining.

One point that must be highlighted is that divorce rates and single parent families, while correlated, cannot be directly used as a comparison. More information must be obtained about the number of people who have children without being married and/or the rate of common law couples in these communities. Divorce rates may not be the best indicator to examine family structure and family and community cohesion in this context. For instance, getting married and divorced can be costly and people may choose to either live in common law rather than get married and/or get separated rather than divorced. A better indicator may be the percentage of families that are in lone parent or dual parent households.

Table TG_39-1 Statistics Canada Data of Divorce and Separation Rates by NWT Communities in 2006

Community	Total Population 15 Years and Over	Divorces	Separated, but Still Legally Married	Total Population Divorced and/or Separated	Percent Divorced and/or Separated [%]
Canada	26,033,060	2,087,385	775,425	2,862,810	11.0
NWT	31,545	1,815	935	2,750	8.7
North Slave Administrative Region					
Detah	160	5	10	15	9.3
Behchokö	1,270	15	20	35	2.8
Gamèti	185	0	5	5	2.7
Wekweèti	90	5	0	5	5.6
Whati	320	5	5	10	3.1
Łutselk'e	225	15	0	15	6.7
Yellowknife	14,685	1,090	445	1535	10.5
South Slave Administrative Region					
Hay River	2,810	185	100	285	10.1
Hay River Reserve	215	10	15	25	11.6
Enterprise	75	0	5	5	6.7
Fort Providence	560	20	15	35	6.3
Fort Resolution	365	20	5	25	6.8
Fort Smith	300	25	10	35	11.7

NWT= Northwest Territories; %= percent.

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c. Identify whether divorce rate data is available for the NWT diamond miner cohort.

Information collected for this response is from the 2009 NWT Survey of Mining Employees (NWT Bureau of Statistics 2009). The Survey was conducted by the NWT Bureau of Statistics on behalf of BHP Billiton, Rio Tinto, De Beers and the Government of NWT. In total, 1,705 persons responded to the survey, yielding a response rate of 93.5%. Analysis and conclusions resulting from the survey refer to survey respondents only.

The survey found that when looking at family units, a greater proportion of the non-NWT residents are married or common law, at 74.5% compared to 62.0% of NWT residents. Overall, 20.7% have never been married, while 67.2% are married or common law. The data found that 64.5% of employees survey reported currently living with a spouse or common law partner.

The survey found, that of the total 1,705 respondents, 169 people report being separated or divorced. 90 of these people (of a total population of 994) currently live in NWT however they are not originally from the territory, while 51 people are originally from the NWT (or a total population of 539 people interviewed who are originally from NWT).

Therefore, this survey suggests that the rate of divorce amongst miners (particularly diamond miners) living in NWT is 9.1%. The rate of divorce amongst miners (particularly diamond miners) originally from NWT is 9.5%. That is, the divorce rate is marginally higher for miners originally from NWT, than those living in NWT, but not necessarily originating from there. Both these rates are slightly higher than the divorce rate for all of NWT which is 8.7%, but lower than the Canadian rate of 11.0%.

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d. Reconcile the above –noted finding on the divorce rates versus the findings elsewhere in Section 12 that diamond mining has been correlated to increasing single-parent families in select communities in the LSA.

The 2010 EIS does not state that diamond mining has been correlated to increasing single-parent families in select communities in the LSA. The document has been checked for this statement, particularly, the page references given by the Tłıchō Government (including: De Beers 2010, Chapter 12: 32, 55, 99, 110, 184-185, 201, 204).

As mentioned above in part B of this question, divorce rates and single parent families, while correlated, cannot be directly used as a comparison. More information must be obtained about the number of people who have children without being married, qualitative information on the reason for divorce and separation rates and any other information that might add values such as the rate of common law couples in these communities.

Information presented in the 2010 EIS on lone parent families is highlighted below:

- Family and Community cohesion was identified as a Valued Component for the assessment that would be measured from baseline conditions. One of the measurement endpoints (indicators) selected was “Lone Parent Families” (De Beers 2010, Section 12.5.2.1, Table 12.5-1).
- The 2010 EIS introduces some baseline conditions and notes that “in 2006, the family structure in the NWT was predominantly couples (79%), including common law and husband-wife couples (GNWT Bureau of Statistics 2010a). In contrast, in 2006, single parent families in the North and South Slave region were relatively common, particularly in the communities of Wekweètì (43%), Whatì (35%), Behchokö (32%), Detah (31%), and Gamètì (31%) (De Beers 2010, Section 12.3.4.1.4: 12-32).
- Supplementary data on Lone Parents (measured by the rate of teenage pregnancies) is presented in the 2010 EIS (De Beers 2010, Section 12.3.4.4.4). This section notes that “While more recent data are unavailable, the NWT had the second highest teenage pregnancy rates

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in the country in 2003, at a time when teenage pregnancies in Canada were declining (Statistics Canada 2008a). The NWT had about 79 births per 1,000 women in 2003, more than double the national average of 32 (Statistics Canada 2008a). In the regional centers (Fort Smith and Hay River), from 1990 to 2002, the teen birth rate dropped 49% (from 93 to 48 births per 1,000 women aged 15 to 19) and 47% in the smaller communities (from 140 to 74 births per 1,000). During the same period, the teen birth rate for Yellowknife decreased marginally, from 45 to 39 births per 1,000 women (GNWT Department of Health and Social Services 2005a). The overall decrease in teenage pregnancies can be attributed to increased access to reproductive health services and information, and improved economic conditions (De Beers 2010; Section 12.3.4.4.4: 12-41; McKay 2006). This data does not indicate that diamond mining has been correlated to increasing single-parent families in selected communities in the LSA. The 2010 EIS also notes that "Not everyone will benefit from the Project and other developments. Increased access to money has also aggravated addictions and strained family structures" (De Beers 2010, Section 12.2.4).

Response 2:

Please identify what sort of money management training programs DBCI offers to its workers.

The 2010 EIS states that "more money management training has been identified as of primary importance in the LSA, not just for mine employees, but for families and communities of those employed" (De Beers 2010, Section 12.2.1: 12-17).

These money management courses will begin early in De Beers engagement with employees. For instance, the 2010 EIS establishes that money management training will start during the employee orientation program (De Beers 2010, Section 12.4.6: 12-110).

The 2010 EIS also states that De Beers will "bring money management courses to communities through banking establishments" (De Beers 2010, Section 12.5.6: 12-132).

At Snap Lake operations, the De Beers also committed to the following:

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- provide money management training in each of the Primary Communities for employees and their spouses and make this training mandatory within the first six months for all newly hired employees (De Beers Canada Mining Inc. 2009, Section 6.1.3)
- Bring money management courses to communities through banking establishment

Money Management Training at Snap Lake

In 2011, De Beers Canada offered personal financial management training in seven NWT communities. The course is entitled ‘Your Money Matters’ and is a self-paced, Internet-based, financial planning tool designed to help individuals and families better manage their personal finances (De Beers 2011). The program is licensed by De Beers for use in communities close to the Snap Lake Mine from the British Columbia based Association of Service Providers for Employability and Career Training (ASPECT), a non-profit association of community-based trainers.

Residents of Whatì, Gamètì, Wekweètì, Behchokö, N’dilo, Detah and Łutselk’e can access the program on computers at the Aurora College Community Learning Centre in their communities, or from their home computer. The five-step course offers easy-to-understand information about reading your pay stub, working with banks, understanding the costs of debt, personal budgeting, and ways to save money. The program is also available to De Beers and contractor employees working at the Snap Lake Mine.

Response 3:

Please identify any ‘home community’ supports the developer provides to mineworkers’ families, how these are advertised to both workers and families, and the level of uptake on available counselling.

The type of ‘home community’ support offered by De Beers to mineworkers, their families and their communities include:

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- De Beers will encourage, and provide opportunities for employees to volunteer and/or 'help out' in their communities (De Beers 2010, Section 12.6.2.7: 12-204 and Section 12.6.2.2: 12-185).
- De Beers will support community based skill development programs, particularly to people who are not directly employed by the mine, for work in contracts and procurement (De Beers 2010, Section 12.6.2.7: 12-204).
- De Beers will offer a variety of benefits to help employees and their families adjust to the rotational nature of mine work (De Beers 2010, Section 12.6.2.7: 12-204), including community support and money management programs (De Beers 2010, Section 12.6.2.2.1: pg. 12-185).
- De Beers will support community cultural activities, literacy programs and other activities that have the effect of promoting community cohesiveness (De Beers 2010, Section 12.6.2.7: 12-204).
- De Beers, through its employee benefits package, does offer counselling and mentoring to employees who pursue it (De Beers 2010, Section 12.6.2.4: 12-200). This includes drug and alcohol counselling (De Beers 2010, Section 12.6.3.4: 12-222).
- De Beers, through its employee benefits package, also arranges for family counselling services for mine employees and their families. Such services might include family and relationship counselling, stress management, anger management, support services for women and single mothers, child-care services and parenting training (De Beers 2010, Section 12.6.2.5: 12-201).

De Beers will advertise its outreach programs and employment opportunities by working with local employment officers, advertise in northern newspapers and the company website. They will also work through Skills Canada, the Native Women's Association of the NWT, the NWT Status of Women Council, Aurora College, Aboriginal communities, and the Government of NWT. De Beers also maintains a 1-800 number in the NWT for employment information, employment services and job opportunities.

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References

De Beers. 2009. *Snap Lake Mine Socio-Economic Report*. Yellowknife, NWT

De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N*. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

De Beers. 2011. Media Release: De Beers launches online money management training. Available from:
http://www.debeerscanada.com/files_3/pdf_documents/2011-04-19_Media-Release_De-Beers-offers-online-money-management-training-in-communities.pdf.

Department of Justice. 1997. Marriage, Divorce and Separation. Table 3: Number and Rate of Marriages and Divorces, Canada and Provinces/Territories, 1997. Source: Statistics Canada. Marriages 1997, and Divorces 1996-1997. Available from <http://www.justice.gc.ca/eng/pi/fcy-fea/lib-bib/rep-rap/2000/stat2000/p2.html>.

GNWT Bureau of Statistics. 2010a. *Summary of NWT Community Statistics 2010*. March 2010.

GNWT (Departments of Health and Social Services, Education, Culture and Employment; Industry, Tourism and Investment; Justice; Bureau of Statistics; and Housing Corporation). 2003. *Communities and Diamonds. Socio-economic Impacts in the Communities of: Behchokö, Gamètì, Whatì, Wekweètì, Detah, Ndilo, Łutsel K'e, and Yellowknife. 2003 Annual Report of the Government of the Northwest Territories under the BHP Billiton, Diavik and De Beers Socio-economic Agreements*. Yellowknife, NWT.

GNWT Department of Health and Social Services. 2005a. *The NWT Health Status Report 2005*. Yellowknife, NWT.

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- GNWT. 2006. *Communities and Diamonds. Socio-economic Impacts in the Communities of: Behchokö, Gamèti, Whati, Wekweètì, Detah, Ndilo, Łutsel K'e, and Yellowknife. 2005 Annual Report of the Government of the Northwest Territories under the BHP Billiton, Diavik and De Beers Socio-economic Agreements.* Yellowknife, NWT.
- McKay, A. 2006. *Trends in Teen Pregnancy in Canada with Comparisons to U.S.A. and England/Wales.* The Canadian Journal of Human Sexuality 15:157-161. Yellowknife, NWT.
- NWT Bureau of Statistics. 2009. NWT Survey of Mining Employees Report.
Available from:
<http://www.iti.gov.nt.ca/publications/2010/Diamonds/MESReportGNWT.pdf>.
- Statistics Canada. 2008a. *Community Profiles 2006.* Released July 24, 2008.
Catalogue no.: 92-591-XWE. Ottawa, ON.
- Statistics Canada. 2008b. Divorces, by province and territory 2001 to 2005. CANSIM tables 053-002 and 101-6501, available from:
<http://www40.statcan.gc.ca/l01/cst01/famil02-eng.htm>.

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Information Request Number: TG_40

Source: Tlicho Government

Subject: Aboriginal Employee Advancement

EIS Section: Chapter 12 pp. 111, 240, 359

Terms of Reference Section: 5.3.1

Preamble

The advancement of Tlicho workers from unskilled into semi-skilled, skilled, and professional occupations within the diamond mining workforce is an important goal - not only for the individual, but for future economic sustainability for the Tlicho region beyond the life of the mine.

Request

1. Please identify how appropriate candidates among the Aboriginal workforce are identified for "fast tracking" or other promotions (e.g., to team leader positions).
2. Please identify whether each northern Aboriginal employee at DBCI operations has a mentor and a training and career path plan and if so, how often these plans are revisited.
3. Please identify what percentage of each category of employee at Snap lake is northern Aboriginal:
 - a. Unskilled
 - b. Semi-skilled
 - c. Skilled
 - d. Professional
 - e. Managerial
4. At page 12-359, DBCI identifies that in 2010, it had its first apprentice achieve journeyman status.

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- a. It is not clear whether this apprentice was a northern Aboriginal employee; please clarify.
- b. Please identify how many apprenticeships have been entered into by Snap Lake northern Aboriginal workers, their success rate to date, and any issues with completion rates identified by DBCI or other parties.
5. Please identify how DBCI currently reports on Aboriginal employee advancement at Snap Lake and what reporting systems it proposes to use at the Gahcho Kue mine, should it proceed.
6. Please identify any publicly available documents that show trends in skill development at the NWT diamond mines over the years, and summarize the relevant results.

Response

1. De Beers requires managers and supervisors to complete performance reviews twice annually with all employees. A key part of De Beers' retention strategy is to advance employees to grow their skills and help them progress to higher levels. During employee performance appraisals, a discussion with the employee regarding their current skills and their interest in advancing to other positions is undertaken. During these discussions with the employee's supervisor and/or manager, gaps in the employee's training, skills or education are discussed and additional training or education required to advance is identified, including what aspects the company can provide and what aspects need to be undertaken by the employee and how the company can provide support. This helps clarify for each employee what is required for advancement from their current position. In finalizing the performance appraisal, the supervisor or manager identifies the training, mentorship on new skills on the job or the formal education required to pursue the advancement options discussed and these are reviewed by the Human Resources department which plans all training and development. Performance and development of employees is reviewed by the management team so that the company can put in place the supports to achieve its human resource objectives.

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2. All employees are required to complete mandatory training upon their hiring. Additional training that is specific to their role and responsibilities are provided to ensure they are fully trained so that they have support for success from point of hire. As noted above, the twice-annual performance appraisals are used to identify gaps that might exist in the employee's performance and any training the employee needs to advance within their field is identified. Between the Supervisor and the Training team on site, any required training discussed during the performance review period is planned organized for the employee. This may include identification of a staff member who will coach or mentor the employee in particular aspects of his or her job where development is required and mentorship is determined to be the avenue for the development needs that have been identified. The review of an employee's skill level and performance is an ongoing activity, and this is the role of the supervisor.
3. The percentage of each job category that is filled by NWT Aboriginal employees is noted below. These are for the period January 1, 2011 to December 31, 2011.
 - a. Unskilled – 71%
 - b. Semi-skilled – 20%
 - c. Skilled – 9%
 - d. Professional – 4%
 - e. Managerial – 12%
4.
 - a. The employee who was De Beer's first apprentice to achieve journeyman status was a northern Aboriginal employee. In fact, all apprentices at the Snap Lake Mine are filled with NWT Aboriginals. This reflects our commitment as a company to apply our hiring priorities to our training opportunities and that we have been able to recruit northern Aboriginal candidates who are interested in these apprenticeship opportunities.

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- b. To date, De Beers has directly employed 17 apprentices. Of these 17 apprentices, 4 have achieved journeyperson status. De Beers is anticipating that during the 2012 - 2013 school year, one more apprentice will achieve journeyperson status.
5. De Beers monitors employment monthly by hiring priority, job category and NWT residency. These statistics are provided in the company's annual report and trends in the numbers of Aboriginal people in different job categories can be identified from these statistics. More detailed information is provided to the Tlicho Government regarding Tlicho citizens specifically in an annual report provided to the Tlicho Government. De Beers takes pride in ensuring employees are congratulated for their successes, holding celebratory town halls at the mine site to acknowledge the achievement of its trainees and apprentices, and actively promotes these training successes in our annual reports and in newspaper advertising in the NWT. De Beers will continue to measure this data, report this data and celebrate these successes for the Gahcho Kué Project. A tracking mechanism, similar to the manner with which De Beers tracks productive hours of its employees and contractor employees can be developed to better report progress of Northern Aboriginal employees and their advancement to higher level job categories.
6. The following sources identify skills development in the NWT diamond mining workforce.

Socio-Economic Reports

The socio-economic reports for the Ekati (BHP Billiton 2011), Diavik (DDMI 2011) and Snap Lake (De Beers 2011) identify training initiatives at each of the mines.

Ekati

As of 2010, there were 34 employees at the Ekati Mine in various stages of trades training or apprenticeship programs. Of these, 16 (47%) were employed by BHP Billiton, and 18 (53%) by contractors. Northern residents

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held 33 (97%) of the 34 apprenticeship positions at the mine. Of these 33, 21 (64%) were Northern Aboriginals. A further 39 employees were enrolled in the Mineral Processing Plant Technician program. There were 39 Northern graduates from the Ekati Leadership Development Program (BHP Billiton 2011).

Diavik

The following training and skills development programs are available on-site at the Diavik mine:

- fixed plant operations
- surface operations
- open pit mining operations and equipment
- underground mine orientation and equipment training
- mine maintenance
- safety systems including fall arrest, confined space, job hazard analysis and isolation officer certification
- industrial standard first aid
- WSCC Level 1 and 2 supervisor certification
- WSCC blaster and shift boss certification
- mine rescue certification
- electrical hazard and radiation training
- Delta-V process control
- continuous business improvement processes such as 6 Sigma.

As of December 2010 there were seven DDMI apprentices working towards certifications. In addition, DDMI contractor Bouwa Whee Catering employed three apprentices as cooks and DDMI contractor Tli Cho Logistics employed three apprentices in the roles of electrician and heavy equipment technician. One DDMI individual was working towards a dual apprenticeship. Of the

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total of 13 DDMI apprentices, 12 are northern and of these 12, seven are Aboriginal.

In 2010, Diavik participated in the MTS underground miner training program in partnership with Aurora College. Through this program, Diavik provided placements for six underground miner trainees. All six trainees have received permanent employment offers. Diavik also provided work experience placements for three mineral processing operator trainees in 2010. All three are now permanently employed at Diavik.

Diavik also has an Aboriginal Development Program aimed at increasing the number of qualified Aboriginal people at the supervisory level. This program is a partnership with SAIT Polytechnic. Participants in the Program are matched with a DDMI supervisor for mentoring. Since 2005, 55 individuals have completed the program. All graduates receive a certificate from SAIT recognizing their achievement (DDMI 2011).

During construction, Diavik contributed to communities through mine construction trades training courses which raised skill levels among northerners and improved community infrastructure. Participants gained hands-on trades experience and during this three year period 237 northerners completed some 16 training programs. Many of the graduates went on to work for contractors who built the mine. These individuals gained new skills and new levels of confidence, and helped Diavik exceed its northern hiring commitment for mine construction. The training courses, which mirrored mine site work rotations, provided participants with entry level trades skills. Of the 16 courses completed, 12 were based in northern communities, three focused on heavy equipment and process plant operations, and one focused on construction of the main accommodations modules (DDMI 2011).

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Snap Lake

De Beers has surpassed their commitment to providing 40 training positions during the first three years of operations. Table TG_40-1 details trainee and graduate numbers in Trades, Apprenticeship and Underground Mine Training programs at the mine since Inception.

Table TG_40-1 Trainees Since Inception at the Snap Lake Mine

Training	Training Commitment	Trainees Since Inception	Graduates
Trades	10	18	14
Apprenticeship	10	17	4
Underground	20	29	18
Total	40	64	36

Source: De Beers 2011.

There were 15 apprenticeship positions at the Snap Lake Mine in 2010. Eight were employed by De Beers, and the rest by contractors. In 2010, Snap Lake's first apprentice earned journeyman status.

Snap Lake also hosted five Underground Miner Training Program graduates for work experience in 2010. All five found employment at the mine. An additional four graduates of the Mineral Processing Operator Training program graduates were hosted for work experience stays. Since 2007, 53 Mineral Processing Operator graduates, Underground Miner graduates and Women in Mining, Oil and Gas students have done fully-paid work experience terms at the mine (De Beers 2011).

The Northern Mining Workforce Initiative (2008)

The Northern Mining Workforce Initiative (DDMI et al. 2008) was agreed to by BHP Billiton, Rio Tinto (DDMI), De Beers and the GNWT. The purpose of the initiative is to train, develop and retain a NWT diamond mining workforce. Reporting by this initiative is forthcoming.

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2009 GNWT Survey of Mining Employees

The 2009 GNWT Survey of Mining Employees (GNWT Bureau of Statistics 2009) provides a demographic profile of the NWT diamond mining workforce, and a discussion of issues faced by this labour force cohort. This report discusses the highest level of schooling achieved by NWT and non-NWT workers. Of the NWT diamond mining workforce, 25% of NWT residents did not have a high school diploma, compared to 9% of non-NWT residents. For nearly a quarter of both groups, high school was the highest level of education obtained. Fifty five percent of non-NWT residents had a trade, college certificate or diploma, compared to 34% of NWT residents. A total of 16% of NWT residents had a university degree, compared to 10% of non-NWT residents (GNWT Bureau of Statistics 2009). The report also notes that those workers who obtained higher levels of education are more likely to consider moving to a community other than their home community.

References

- BHP Billiton. 2011. *Unearthing Potential: Ekati Diamond Mine 2010 Year in Review*.
- Diavik Diamond Mines Inc. (DDMI). 2011. *2010 Socio-Economic Monitoring Agreement Report*.
- Diavik Diamond Mines Inc. (DDMI), BHP Billiton Diamonds Inc. (BHP Billiton), De Beers Canada Inc. (De Beers) and the Government of the Northwest Territories (GNWT). 2008. *Northern Mining Workforce Initiative between Diavik Diamond Mines Inc., BHP Billiton Diamonds Inc., and De Beers Canada Inc., and the Government of the Northwest Territories (GNWT)*.
- De Beers Canada Inc (De Beers). 2011. *Socio-Economic Report 2010, Snap Lake Mine*.
- Government of the Northwest Territories (GNWT). 2009. *2009 NWT Survey of Mining Employees*.

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Information Request Number: TG_41

Source: Tlicho Government

Subject: Aboriginal Business Procurement Issues

EIS Section: Chapter 12 pp. 16, 68, 98, 113-4, 129, 164-5, 232-3, 323, 357

Terms of Reference Section: 5.3.1

Preamble

Maximizing business procurement accruing to Tlicho-owned and operated companies is another important way for the Tlicho citizens to benefit from the diamond mining sector.

Request

1. Please identify why Tlicho-community based businesses would be treated with a lower preference than Yellowknife-based businesses.
2. Please identify which Tlicho-based businesses were involved in interviews for the EIS, and what issues those Tlicho based businesses raised in terms of procurement opportunity availability and preference.

Response

1. De Beers has reviewed the approach to business procurement since submitting the EIS (De Beers, 2010). As noted in the Environmental Impact Statement (EIS), in Table 12.6-21, the procurement needs for the Gahcho Kué Project will be sourced from NWT Businesses as much as practical during construction, operations and closure. What is practical will be guided by De Beers' NWT Business Policy which articulates the company's commitment to sustainable development, and in particular the framework through which the company will contribute to the development of a sustainable economy in the NWT through the provision of business opportunities to NWT and Aboriginal businesses.

Although De Beers' NWT Business policy was developed with respect to the Snap Lake Mine, this policy will also apply to the Gahcho Kué Project. The NWT Business Policy will be updated to incorporate the Gahcho Kué Project upon receipt of permits to proceed.

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De Beers' track record with the Snap Lake Mine demonstrates a commitment to sustainable development through the provision of business opportunities and to the success of De Beers' NWT Business policy. Since commencement of construction in 2005 to December 31, 2011, De Beers has spent \$1,593,733,484 to construct and operate the Snap Lake Mine. Of that total expenditure, \$1,110,000,796 (69.65%) has been spent with Northwest Territories businesses. The expenditure with Aboriginal businesses for the same time period is \$681,407,382 which is 61.39% of the De Beers' Northwest Territories expenditure.

Underpinning De Beers' NWT Business Policy is the supply chain services department, which has established policies and procedures that enable De Beers Canada to obtain goods and services that meet the company's needs for best price, quality assurance, achievement of technical standard requirements, timeliness in the delivery of goods, excellence in service support and economies of scale that address De Beers' purchasing requirements across its Canadian projects.

To ensure these needs can be measured and factored into the De Beers' decisions regarding which service provider the company selects for the provision of goods and services, and to uphold the company's reputation for fairness, De Beers will be actively pursuing and demonstrating fair and open competition for the acquisition of goods and services for the Gahcho Kué Project.

De Beers has developed relationships with a number of NWT and Aboriginal businesses both through its current competitive tendering and contracting process, and also through the contractual relationships De Beers has with its current goods and services providers. De Beers will build on the successful track record of the Snap Lake Mine by aiming to achieve economies of scale through contracts that can supply both the Snap Lake Mine and the Gahcho Kué Project. By promoting the Gahcho Kué business opportunities early through its annual Business Opportunities event in Yellowknife, De Beers has already begun flowing information to NWT and Aboriginal businesses regarding the kinds of goods and services the Gahcho Kué Project will be

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requiring so that NWT and Aboriginal Businesses can plan for their own growth strategies.

De Beers also notes that with more than ten years of supplying goods and services to the diamond industry, NWT and Aboriginal businesses have developed a compliment of skills and business capacity to address the needs of both De Beers and the diamond and mining industries generally. This has resulted in a number of NWT and Aboriginal businesses demonstrating in the Snap Lake tendering process that they are successful competitors. With knowledge of De Beers, its processes and business needs, De Beers believes that NWT and Aboriginal businesses can and will build on their current capacity, positioning themselves for significant participation in the supply of goods and services to our business.

2. As noted above, although De Beers' NWT Business policy was developed with respect to the Snap Lake Mine, this specific measure will also apply to the Gahcho Kué Project. The NWT Business Policy will be updated to incorporate the Gahcho Kué Project upon receipt of permits to proceed.

De Beers has reviewed Section 12, Page 12-129 and notes that there is an error in Table 12.5-3 (De Beers 2010). An interview with Mr. Dan Marion, President of the Tlicho Investment Corporation was undertaken to obtain input from the Tlicho Group of Companies. This should have been reflected in Table 12.5-3.

References

De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N.* Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

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Information Request Number: TG_42
Source: Tlicho Government
Subject: Cumulative Effects Assessment
EIS Section: Chapter 12 pp. 307, 309, 312, 322, 327
Terms of Reference Section: 6.1.2

Preamble

At page 12-307, DBCI states:

"Cumulative effects also include changes from natural processes in the socioeconomic system and cultural environment that are not related to industrial development. One example would be the effects of climate change on wildlife habitat, which in turn could affect hunting, trapping, and fishing activities."

Request

1. Is DBCI asserting that climate change is "not related to industrial development"? Please clarify.
2. Please clarify whether the following assumptions from page 12-253 of the EIS still apply or whether they should be updated in the assessment of reasonably foreseeable future winter road traffic.

"In forecasting winter road usage, it is necessary to look at other potential developments along the route including the following:

- a. *Jericho Diamond Mine has ceased operations;*
- b. *Peregrine Diamonds has scaled back exploration activities; and*
- c. *BHP Billiton Inc. has re-evaluated its use of the winter road and as a result has reduced the tonnage of freight hauls by truck to site."*

Response

De Beers understands that industrial development has had an influence on climate. Changes in climate are also a function of natural feedback relationships and cycles that occur over larger scales of time and space. The intention of this statement was to recognize that some changes in the socio-economic system

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and cultural environmental are also related to natural factors and not only the influences from industrial development. It may be better stated that *“One example would be the influence of natural climate cycles on wildlife habitat, which in turn could affect hunting, trapping, and fishing activities”*.

The analysis of the effects from the Project on the Tibbitt-to-Contwoyto Winter Road is not influenced by any anticipated changes to the assumptions concerning the three projects listed above, or by any of the reasonably foreseeable future projects considered in the 2010 EIS (De Beers 2010). The analysis used the predicted peak number of vehicles for the Tibbitt-to-Contwoyto Winter Road. Construction represents the period of maximum vehicle traffic for a project. De Beers is not aware of other proposed mines that may also be in construction at the same time as the Gahcho Kué Project and that will also use the Tibbitt-to-Contwoyto Winter Road. Further, the projected maximum of 2,000 trips required during construction of the Gahcho Kué Project will not cause winter road traffic to exceed the range of historic numbers. For example, the mean number of north-bound haul trucks leaving Yellowknife from 1998 to 2011 was 6,132 (standard deviation = 2,621). By comparison, the maximum anticipated number of vehicles during the two-year construction period for Gahcho Kué Project is 2,000 haul trucks, and 1,200 during operations (see Figure TG_42-1). More recently, the Tibbitt-to-Contwoyto Winter Road now uses a secondary route for returning south-bound traffic, which increases road capacity.

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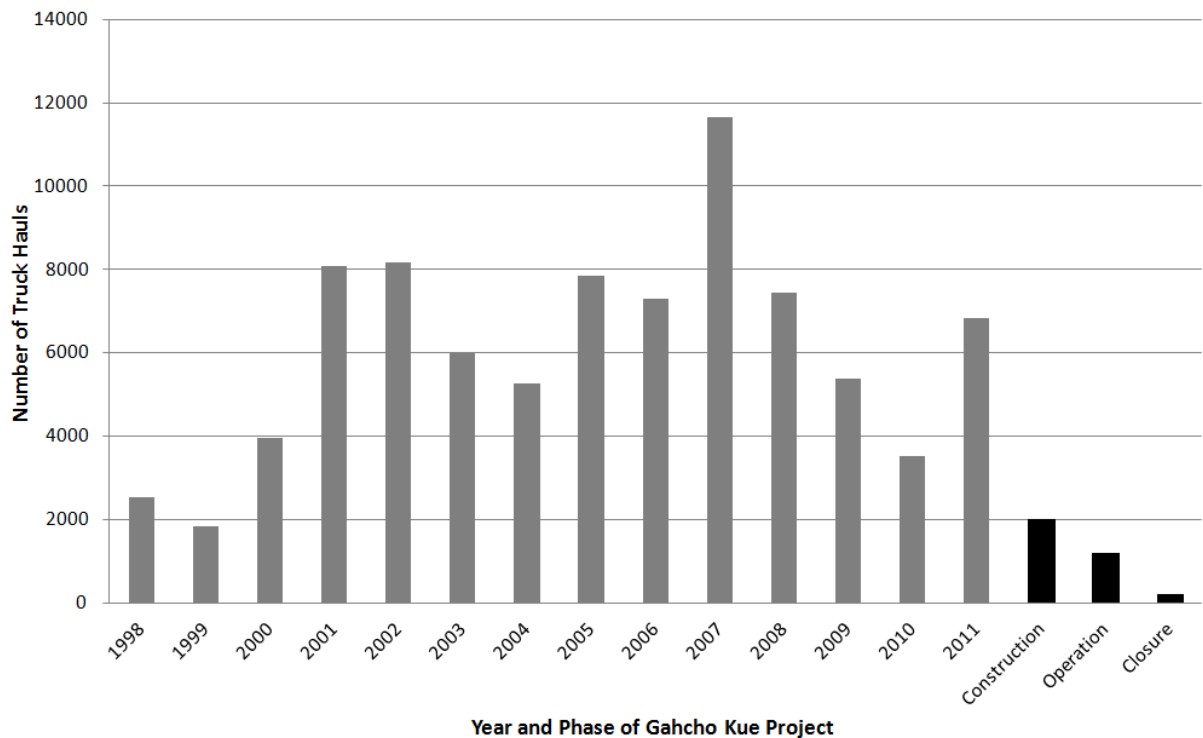


Figure TG_42-1. Northbound Haul Truck Volume from 1998 to 2011 and Maximum Predicted Volume for the Gahcho Kué Project during Construction, Operation and Closure (dark bars). Data presented for 1998 to 2009 were obtained from the Government Northwest Territories (GNWT 2009, internet site) and for 2010 to 2011 were obtained from the Tibbit-to-Contwoyto Winter Road Joint Venture (TCWRJV 2012, internet site).

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References

- De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.
- GNWT (Government Northwest Territories). 2009. Northwest Territories Highway Traffic, 2008. September 2009. Department of Transportation, Yellowknife. 22 pp + Appendices.
http://www.dot.gov.nt.ca/_live/documents/documentManagerUpload/HighwayTrafficStats_2008.pdf. Website accessed: April 2010.
- TCWRJV (Tibbit to Contwoyto Winter Road Joint Venture). Historical winter road statistics. <http://www.jvwcwinterroad.ca/jvwr/>. Website accessed: March 12, 2012

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Information Request Number: TG_43

Source: Tlicho Government

Subject: Socio-economic Monitoring and Adaptive Management

EIS Section: Chapter 12, pp. 24, 124, 200, 224, 254, 363

Terms of Reference Section: 3.2.7

Preamble

One of the key differences between an environmental assessment and an environmental impact review under the MVRMA is the specific reference in section 134(2) to the Panel's right to include in its conclusions "a follow-up program". This is understood by the Tlicho Government to include the setting up of any number of different monitoring systems to track the development and its effects as it proceeds.

The Tlicho Government is aware of concerns that have been raised in relation to previous socioeconomic monitoring agencies, most notably the Diavik Communities Advisory Board (DCAB). Critiques appear to centre around the lack of ability for these monitoring boards to actually have their recommendations implemented when an issue is identified. Monitoring agencies that have little capacity to require that adaptive management be put in place are not, in our opinion, best practice, and lessons learned from gaps in the current link between monitoring and action should be incorporated into the development of a more effective monitoring system for Gahcho Kue.

The Tlicho Government suggests it is important for the developer to start the dialogue about the type of monitoring systems that should be put in place for the proposed development, should it proceed. Nonetheless, the EIS refers only to environmental and not socio-economic, monitoring systems.

Request

1. Please identify why monitoring costs for the Gahcho Kue mine are identified as a negative impact in the EIS, when their function is to confirm the human and biophysical environments are being appropriately protected.

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2. Please identify which aspects of socio-economic and cultural monitoring the developer expects to bear versus those likely to be borne by governments and taxpayers.
3. Please provide further details on what the developer envisions as the structure and function of socio-economic and cultural monitoring related to the Gahcho Kue mine.
4. Is De Beers aware of any critiques of the indicators and monitoring systems for the human environment for other diamond mines in the NWT?
 - a. If so, what has the developer designed into its data collection and monitoring plans to overcome current issues?
6. Diamond mines have been operating for well over a decade now, including several years for the De Beers owned Snap Lake mine. Please identify:
 - a. How data is collected on human resources and community relations issues at these existing mines.
 - b. Whether in DBCI's opinion there are gaps in the current monitoring system, and how these gaps will be overcome in the Gahcho Kue environmental monitoring systems.
 - c. Whether any of the monitoring systems/programs developed for the diamond mines identified systemic issues that merit closer attention and adaptive management steps to improve socio-economic outcomes.

Response

1: 2010 EIS Section 12.7.2.4 'Government Monitoring and Regulatory Capacity' assesses the capacity of government, Aboriginal communities, technical scientist and project proponent to effectively monitor GK project impacts and track project commitments and effectiveness of mitigation strategies (De Beers 2010).

Table 12.7-14 Classification of Residual Impacts to Infrastructure (De Beers 2010, pg. 12-258) identifies that 'costs to monitor and regulate as a negative impact. See excerpt of table below:

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Potential Effect	Direction	Magnitude	Geographic Extent	Duration	Likelihood
Cost to Monitor and Regulate	Negative	Low	Regional	Medium-term	Likely

The context in which this potential effect was assessed is that the monitoring required for the GK project would require additional capacity from the government, communities and other stakeholders to participate in monitoring initiatives. This additional demand for government and community capacity for GK project monitoring can be regarded as a negative impact to the government and community, due to additional opportunity costs from participating in monitoring activities.

The residual impact classification did not assert that monitoring activities were not useful to tracking GK project effects or for implementing adaptive management strategies. Additionally, the project proponent will provide funding for the Environmental Monitoring Agency for the GK mine, as stated in EIS Section 12.7.2.4.1 (De Beers 2010, pg. 12-254).

2. The aspects of socio economic and cultural monitoring that De Beers will undertake and report on are activities undertaken by De Beers that:

- support initiatives and resources in communities to address health and wellness initiatives,
- support the promotion of traditional cultural practices at the mine site or in communities;
- measure participation in the Project through employment, as currently measured and reported for the Snap Lake Mine;
- training initiatives undertaken by the company, including participation of NWT Residents and Aboriginal people in the training annually;

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- Annual procurement by De Beers with NWT Businesses and Aboriginal Businesses;
- Contributions to NWT Communities through Corporate Social Investment

De Beers anticipates that other activities and measures taken by governments or communities would be monitored and reported on by those parties specifically.

3. De Beers is currently providing an annual Socio Economic Monitoring Report for the Snap Lake Mine, which is made available on the company's website and is presented and sent to communities of interest. De Beers has established systems and procedures to gather and track the information presented in these annual reports. De Beers plans to update these systems to incorporate the addition of the Gahcho Kué Project so that the same reporting can be provided for the Gahcho Kué Project, following receipt of permits.

4. a. MVEIRB has several general socio-economic monitoring requirements that apply to all mining and oil and gas developments in the NWT. Additionally, project-specific socio-economic agreements are arrived at between the proponent and the GNWT. These agreements detail project-specific monitoring requirements. The agreements for mining projects include the Ekati (1996), Diavik (1999), Snap Lake (2004) and Prairie Creek (2011) mines monitoring agreements.

Socio-Economic Monitoring Requirements for Mining Developments

All socio-economic agreements for NWT mines require monitoring of the following socio-economic indicators (or a broader category into which these features fall such as community wellbeing):

- employment by residency, hiring priority (i.e., Aboriginal and Northern Residents) and community;
- expenditures (use of goods and services) by priority (i.e., Aboriginal businesses and Northern businesses) and category;

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- training and education initiatives (trades and apprenticeship); and
- community wellbeing¹.

In addition to the precedent general monitoring requirements applicable to all mines in the NWT, all socio-economic agreements require the establishment of a socio-economic monitoring committee. Canadian Zinc Corporation's Prairie Creek Socio-Economic Agreement mandates that the Parties to the agreement implement a socio-economic advisory committee prior to the commencement of construction, composed of representatives from NAEC² Communities. The Snap Lake Socio-Economic Agreement requires the establishment of a socio-economic monitoring agency comprised solely of the Parties³ to the agreement. The Diavik Project Communities Group Advisory Board was established for socio-economic monitoring and is comprised of GNWT, proponent and Aboriginal representatives. The Ekati Socio-Economic Agreement is the least specific in terms of identifying a monitoring group, requiring the establishment of working groups, when necessary, to discuss matters related to monitoring and reporting. All monitoring committees are charged with monitoring the socio-economic agreement and reporting commitments detailed under point 2.0 above.

Reporting of Socio-Economic Indicators

The current standard format for the reporting and dissemination of socio-economic monitoring findings as required by Socio-Economic Agreements is an operation-specific socio-economic report or review. Large operations such as

¹ Community wellbeing is not defined.. The Diavik Socio-Economic Agreement (1999) notes that features pertinent to community wellbeing include use of Aboriginal language, consumption of country foods, provision of recreational facilities and space for spiritual pursuits, and contact with family members and home communities. The Communities and Diamonds Reports (GNWT 2009) do not provide a definition for community wellbeing, but list the following indicators that are measured in communities affected by diamond mines and communities that are not: number of potential years lost of life, number of injuries, number of suicides, number of communicable diseases, number of teen births, number of children in care, number of complaints of family violence, number of alcohol – and drug-related crimes, number of property crimes and housing indicators.

² NAEC Communities means those groups that are currently members of the Nahendeh Aboriginal Economic Council, which are Nahanni Butte Dene Band, Liidlii Kue First Nation, Acho Dene Koe First Nation, Sambaa K'e Dene Band and Jean Marie River First Nation.

³ Parties to the Snap Lake Socio-Economic Agreement (2004) are De Beers Canada Mining Inc., GNWT, Dogrib Treaty 11 Council, Yellowknives Dene First Nation, Lutsel K'e Dene Band and the North Slave Métis Alliance.

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the Ekati, Diavik and Snap Lake mines all produce an annual report detailing the findings of socio-economic monitoring, and comparing these findings to targets⁴. These reports are made publicly available, and include the following information by number and percent and, where applicable, person years:

- employment by residency, hiring priority, community and job category;
- expenditures (use of goods and services) by priority (i.e., Northern and Aboriginal businesses) and category;
- training and education initiatives (trades and apprenticeships, and additional mining-related training programs);
- literacy programs; and
- substance abuse programs and training.

In addition to reporting on the above, the Snap Lake socio-economic report details employment by gender, provision of scholarships (extraneous to community donations) and drug and alcohol awareness programs. The reports for all operations listed in Table 1-2, while stemming from socio-economic agreements of differential scope and level of detail, are comparable due to the fact that they are contemporary to one another (i.e., reporting on 2010 data) and report at a similar level of detail on the same socio-economic indicators. It should be noted that all socio-economic reports go beyond the reporting requirements outlined in their respective socio-economic agreements. For example, while the Snap Lake agreement does not require De Beers to monitor scholarship and community donations and report on these in dollars, the Snap Lake socio-economic report (2011) does just this.

Summary of Socio-Economic Monitoring in NWT

Socio-Economic monitoring of mining and oil and gas developments in the NWT began in 1996 with the Ekati Socio-Economic Agreement, and has continued to evolve with subsequent agreements to include greater detail in the monitoring of

⁴ Targets are established based on predictions in Environmental Impact Statements filed during the permitting process (De Beers, 2004).

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socio-economic indicators, and the socio-economic effects that are of concern to regulators and NWT residents.

Monitoring and reporting does not currently include investigation of outcomes and effectiveness of benefit enhancement strategies or community development initiatives. There are also few examples of “adaptive management”, where a proponent used monitoring results or information from engagement to make adjustments to programs and/or policies and approaches. Given the continual advances in socio-economic monitoring requirements (e.g., Snap Lake has improved upon previous operations’, such as Ekati, monitoring commitments by providing more specific monitoring requirements such as number and percent of employees by gender, community, hiring priority, and job category; Prairie Creek agreement seems to have improved on the Snap Lake agreement by asking Canadian Zinc to provide information on employee retention), socio-economic agreements will likely trend towards including more detailed monitoring requirements, action plans and the reporting of evaluation results of community initiatives such as literacy programs, financial management courses and language retention efforts.

De Beers intends to extend its Snap Lake approach to monitoring and reporting to the Gahcho Kue Project. De Beers has gone beyond what is required in the agreement in terms of monitoring and reports on other important indicators and activities not mandated in the socio-economic agreement.

Based on the monitoring requirements outlined in the socio-economic agreements for operations similar to Gahcho Kue, the Snap Lake Socio-Economic Agreement monitoring requirements meet the industry standard of care⁵ in the NWT. De Beers is monitoring the same indicators and features of the socio-economic environment that other mines are monitoring. This allows the GNWT and mining companies to understand the cumulative benefits and socio-economic effects of the mines in NWT. When projects monitor the same things, the NWT can more effectively respond.

⁵ “Standard of care” is the standard that would be exercised by a reasonably prudent proponent in a given industry.

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References

De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

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Information Request Number: TG_44

Source: Tlicho Government

Subject: Cumulative Effects for Bathurst Caribou

EIS Section: 7.5.2, 7.5.4

Terms of Reference Section: 4.1.1, 6.1.2

Preamble

The cumulative effects assessment for the Gahcho Kue Project was conducted at several seasonal range scales but did not include an overall assessment at the annual range scale of the Bathurst herd. However, in the Talston project "cumulative effects from development were defined by the annual home range of the Bathurst caribou herd" (Deze Energy 2009; Section 12.1.3.1). The rationale provided by Deze Energy was that "using the annual home range to define the area beyond RSA is appropriate because this area includes all of the natural factors, human activities, and additional developments that can produce cumulative effects on the Bathurst caribou herd." Recently, Fortune Mineral's DAR for its NICO project conducted a cumulative effects assessment, but it was spatially restricted only to the winter range of the Bathurst herd.

There appears to be an important inconsistency among the three project-specific EIAs. The current seasonal range approach is inconsistent with the Gahcho Kue Terms of Reference which stated that the following specific information need must be included in the caribou-specific impact analysis: "the identification of all cumulative effects of other past, current, or reasonably foreseeable future developments within the range of each potentially affected caribou herd in combination with individual components or activities of the proposed development and its effects on other environmental components such as predators as well as the overall effect of the proposed development."

Request

- 44.1 The request is for a supplementary cumulative effects assessment at the annual range of the Bathurst herd for the Gahcho Kue Project, with careful consideration to foreseeable projects that occur within Nunavut and are under review by the Nunavut Impact Review Board.

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Response

As a point of clarification, the three Environmental Assessments (EAs) were consistent in their evaluation of cumulative effects by evaluating seasonal home ranges most likely to interact with the proposed developments. Further, the Environmental Impact Statement (EIS) for the Gahcho Kué Project and the Developer's Assessment Report (DAR) for the Taltson Hydroelectric Expansion Project assessed effects in the Bathurst caribou northern migration, summer, autumn and winter seasonal ranges. Considered together, these four seasonal ranges constitute the annual range. For example, Section 12.3.2 of the Taltson DAR investigated development-induced habitat loss and fragmentation by seasonal range, and Section 12.3.3 of the Taltson DAR investigated changes to habitat quality by seasonal ranges (MVRB 2012). Similarly, Section 7.5.2 of the 2010 Gahcho Kué EIS evaluated development-induced habitat loss and fragmentation per seasonal home range, and Section 7.5.3 of the 2010 EIS evaluated changes to habitat quality by seasonal range (De Beers 2010, Sections Section 7.5.2 and 7.5.3).

As requested, De Beers undertook the task of a supplementary cumulative effects assessment at the annual range of the Bathurst herd for the Project, with further consideration for reasonably foreseeable projects that occur within Nunavut and are under review by the Nunavut Impact Review Board. Specifically, the task was to calculate the relative density of developments across the seasonal and annual home ranges for Bathurst caribou under a future scenario with the Gahcho Kué Project on the landscape, as well as reasonably foreseeable developments. It should be noted that the database developed for the Project has been an important stand-alone contribution for cumulative effects assessment in the north. This work represents an original contribution (to the knowledge of the authors of the assessment) that few governmental and non-governmental agencies have undertaken for the migratory tundra caribou of the central Canadian Arctic.

The approach for this analysis can be found in the methods described in the 2010 EIS (De Beers 2010, Section 7.5). The annual and seasonal ranges were delineated using collar data collected from the Bathurst herd since 1996. The ranges overlapped with existing operating mines that were classified as active mines and with a 15 kilometre (km) zone of influence, including the Ekati, Diavik

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and Snap Lake mines. A similar zone of influence was also associated with the construction and operation periods of the Jericho mine. A 5 km zone of influence was applied to exploration sites, winter roads, and transmission lines. Non-active mines and exploration sites were considered in the cumulative effects assessment but were assessed using only the physical footprint, which were conservatively classified as permanent features on the landscape. Reasonably foreseeable developments that were analyzed quantitatively in the 2010 EIS included the Gahcho Kué Project and the Taltson Hydroelectric Expansion Project (De Beers 2010). A qualitative analysis was also completed on the following reasonably foreseeable developments:

- East Arm National Park;
- NICO Project and NICO Project Access Road,
- Yellowknife Gold Project;
- Nechalacho Project; and
- Damoti Lake Gold Project.

However, to respond to this Information Request, the analysis incorporated the anticipated footprints and associated zones of influence for the following additional reasonably foreseeable developments:

- the NICO Project and NICO Project Access Road;
- the proposed Tlicho Road;
- the Bathurst Inlet Port and Road (BIPR) Project, part of which is a new 211 km all-season road from Bathurst Inlet to Contwoyto Lake (NIRB 2012);
- the High Lake Project and related access roads have been added as an active operating mine even though this project is currently under suspension until 2013 (NIRB 2012);
- The Jericho Diamond Mine was assumed to be operational; and
- the Taltson Hydroelectric Expansion Project was included to the assessment even though the development is on hold at the request of the developer (MVRB 2012).

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The relative density of development was re-evaluated across the annual and seasonal ranges and two assessment cases described below. Assessments for the winter range included winter roads. But the assessment for the annual home range included a winter road case (Assessment 5) and a case without winter roads (Assessment 6). The winter road case was deemed the most conservative of the two (i.e., overestimates effects). The analysis considered the following:

- Assessment 1) northern migration range;
- Assessment 2) spring / summer range;
- Assessment 3) rut / autumn range;
- Assessment 4) winter range with winter roads;
- Assessment 5) annual range with winter roads; and
- Assessment 6) annual range without winter roads.

Four landscape metrics were used in describing the relative abundance of development for each assessment. One of the metrics (Metric 2) captured the effects of the phenomenon of behavioural avoidance of human developments, often described using as the zone of influence (ZOI). The ZOI for the various development activities in the Bathurst caribou study area are described in Table 7.5-9 of the 2010 EIS (De Beers 2010, Section 7.5). Disturbance from development was described using the following four metrics:

- Metric 1) %range under development footprint (i.e., direct disturbance);
- Metric 2) %range under footprint + zone of influence (i.e. direct and indirect effects);
- Metric 3) density of exploration camps [camps (x1000) per km²]; and
- Metric 4) density of linear features [km (x1000) per km²].

Density of exploration camps and linear features (roads and transmission lines) were multiplied by 1000 for illustration purposes given the relatively low number of developments on the landscape.

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The results of the additional assessment indicate that the proportion of land cover influenced by previous, existing, and reasonably foreseeable development footprints was highest for the annual home range when including winter roads (Figure TG_44-1). But the proportion of direct disturbance to the annual range was negligible at 0.26% and similar to the winter range (0.25%). Stated differently, less than 0.5% of the annual range of the Bathurst is covered by mines, exploration sites, roads, and other types of development.

The physical footprint from developments covered 0.21% and 0.14% of the summer and northern migration ranges, respectively. Compared to the annual home range without winter roads, the extent of development is larger on the summer and northern migration ranges, which is related to the smaller area of the seasonal ranges relative to the annual range (i.e., the ratio of developed to undeveloped landscape decreased with an increase in area). In the 2010 EIS, the proportion of each seasonal range disturbed by the physical footprints of previous, existing and reasonably foreseeable developments was similar to the values shown in Figure TG_44-1 (De Beers 2010):

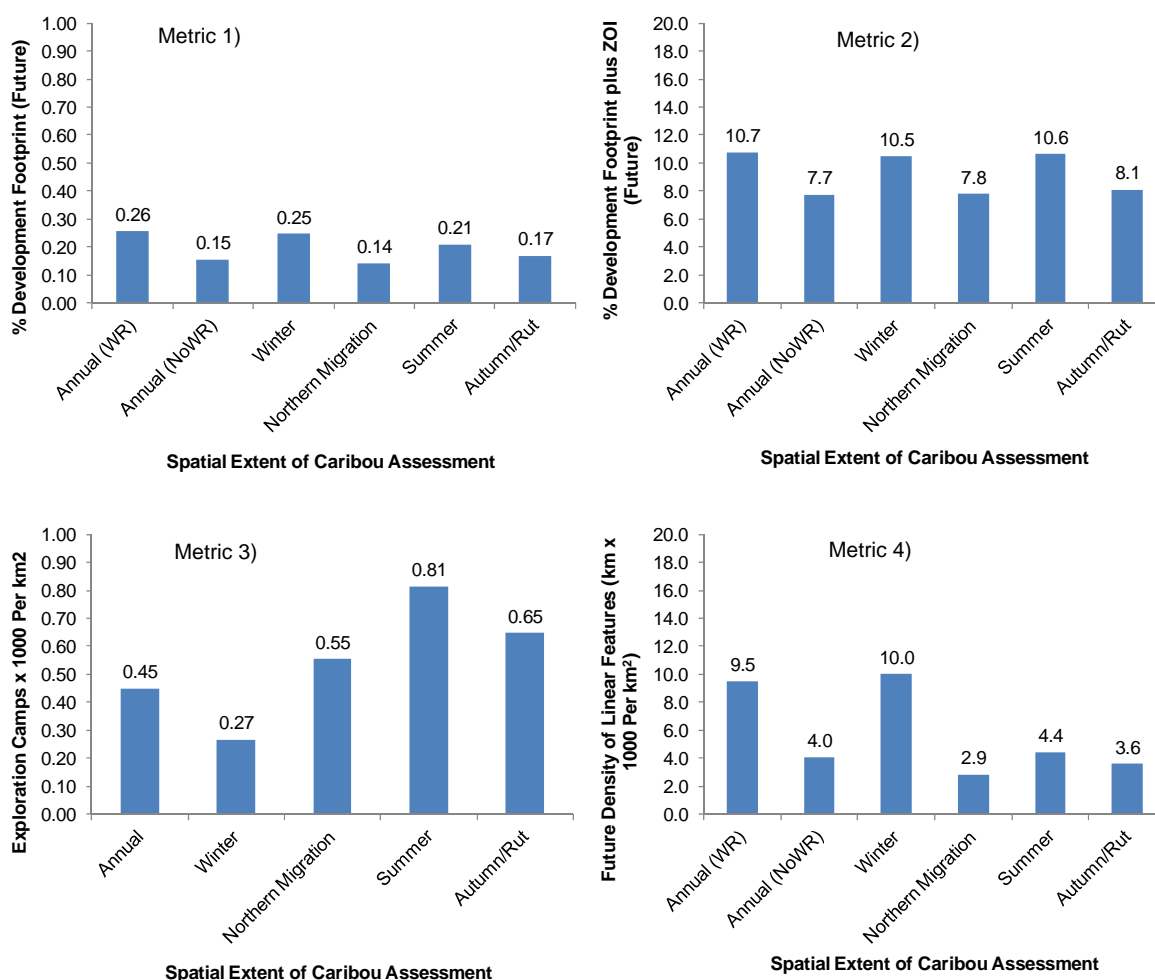
- winter range = 0.22%;
- northern migration range = 0.11%;
- summer range = 0.18%; and
- rut / autumn range = 0.16%.

Trends in the proportion of available land cover under physical footprints (Metric 1) were similar to trends in the proportion of available land cover influenced by the footprint plus the zone of influence (Metric 2) (Figure TG-44-1). The proportion of footprint plus ZOI was highest for the annual home range with winter roads, and the summer and winter ranges. For example, at the annual home range scale with winter roads, the proportion of land cover directly and indirectly influenced by development was calculated to be 10.7%. The proportion of land cover within the ZOI of development was 10.5% for the winter range, 7.8% for the northern migration range, 10.6% for the summer range, and 8.1% for the autumn range. Seasonal ranges had higher amounts of area covered by zones of influence compared to the annual range without winter roads, which

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was related to the decrease in the proportion of development area with an increase in study area.

Figure TG_44-1 Landscape Metrics Describing Predicted Future Density of Development Cover for Seasonal and Annual Ranges for Bathurst caribou (WR = Winter Roads; NoWR = No Winter Roads; ZOI = Zone of Influence)



In the 2010 EIS, cumulative changes from the Project and other developments decreased preferred caribou habitat (high and good quality) by 2.7% on the spring range (includes northern migration), 3.2% on the post-calving range

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(includes summer), and 7.3% on the autumn range. Although these values from the 2010 EIS represent the relative influence from development on the changes in the amount of quality habitat among seasonal ranges, they are not directly comparable to the values for Metric 2 in Figure TG_44-1. Metric 2 values assume that all land cover within the footprint plus ZOI is removed from the landscape (i.e., overestimates the effect from development), while values in the 2010 EIS represent a predicted change in habitat effectiveness within the ZOI (habitat is available, but supports fewer individuals).

The assessment considered two other indicators of development activity not included in the 2010 EIS; density of exploration camps and linear features (Figure TG_44-1). The density of exploration camps, although low across all caribou ranges (less than 0.01 camps per square kilometre [km^2]), was highest for the summer range. The density of linear features was highest for the winter range (0.01 km per km^2). The density of linear features was less than 0.005 km per km^2 for the annual range without winter roads, northern migration range, summer range and autumn/rut ranges. These linear density estimates for annual and seasonal ranges are much lower than observed values for effects to wildlife (0.7 to 1.5 km per km^2) (Nielsen et al. 2007; Frair et al. 2008). It should be noted that these density estimates were obtained for forested environments, where linear features facilitate access for predators and humans. Linear features likely have less effect to wildlife in more open tundra landscapes.

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References

- De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.
- Frair, J.L., E.H. Merrill, H.L. Beyer, and J.M. Morales. 2008. Thresholds in landscape connectivity and mortality risks in response to growing road networks. *Journal of Applied Ecology* 45:1504-1513.
- Nielsen, S. E., E. M. Bayne, J. Schieck, J. Herbers, and S. Boutin. 2007. A new method to estimate species and biodiversity intactness using empirically derived reference conditions. *Biological Conservation* 137:403-414.
- NIRB (Nunavut Impact Review Board). 2012. Website public registry, <ftp.nirb.ca>, accessed March 2012.
- Review Board (Mackenzie Valley Review Board). 2012. Website public registry, www.reviewboard.ca. Accessed March 2012.

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Information Request Number: TG_45

Source: Tlicho Government

Subject: Habitat Quantity and Fragmentation - effects from winter roads

EIS Section: 7.5.2.2, 7.5.3.1.2

Terms of Reference Section: n/a

Preamble

DeBeers Canada states that there is potential for access roads to 'represent a partial barrier to caribou and lead to some fragmentation of the population within the winter range (p. 7-95).' And 'it is projected that during the two-year construction period, up to 25 trucks are anticipated to be on the Winter Access Road in a 24 hour period (1,500 to 2,000 truckers per year per 12 week period). Traffic is anticipated to decrease to 14 trucks and three trucks per 24 hour period on the Winter Access Road during operations and initial closure (two year period), respectively (p. 7-101).' 'Traffic associated with the Project along the Tibbitt-to-Contwoyto Winter Road (from Tibbitt lake to MacKay lake) and the Winter Access Road is predicted to affect the behaviour and movement of caribou, which may influence vital rates (p. 7-164).

Given the potential for roads to affect behaviour and movement of caribou, and the traffic volumes associated with the different phases of construction, operations and initial closure, it will be important to document any interactions between caribou and transport vehicles.

Request

45.1: Has DeBeers considered a monitoring program through its wildlife effects monitoring program (WEMP), to specifically document and describe the influence of road traffic on caribou behaviour and movements? If so, would it provide details on the monitoring program?

Response

De Beers proposes to provide a WEMP that engages communities and regulatory agencies, provides the feedback to the operational requirements of the Project, and meets all legal requirements (such as for species at risk). The most effective regional-scale monitoring approach would involve building on the

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studies undertaken to date at other diamond mines, which has led to collaboration with government and other industry partners. Such an approach is applicable to monitoring potential changes in caribou behaviour and movement from the Winter Access Road and Tibbitt-to-Contwoyto Winter Road.

De Beers would support a GNWT-ENR initiative to undertake regional monitoring along the Tibbitt-to-Contwoyto Winter Road. Such an approach is consistent with verifying impact predictions in the EIS, which were made at the population level. Data from GPS collared caribou represent one of the most effective ways of studying changes in behaviour and movement of caribou as individuals encounter winter roads. Existing collar data should be examined to estimate the number of collared animals and frequency of collar locations for producing sufficient data for analyzing the response of caribou to winter roads. The study design should also incorporate local knowledge from communities. Furthermore, the estimated number and sex of collared animals should be evaluated with respect to other regional studies designed to provide information on adult survival rate, calf recruitment, and habitat selection. Thus, an important component of regional studies is to identify the response variables (e.g., changes in movement and behaviour and survival) to be monitored and the level of data required to measure changes in those variables.

De Beers supports engagement with GNWT-ENR and the communities to determine and develop the most rigorous approach to regional cumulative effects monitoring for caribou (and other wildlife), such as the influence from vehicles on the Winter Access Road and Tibbitt-to-Contwoyto Winter Road on caribou behaviour and movement.

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Information Request Number: TG_46

Source: Tlicho Government

Subject: Effects on population viability

EIS Section: 7.5.4,

Terms of Reference Section: Section 4.1.1

Preamble

The Gahcho Kue EIS uses a population viability assessment (PVA) model to evaluate incremental effects of the Project and cumulative effects of human land-use and natural disturbances on the viability of the Bathurst caribou herd. DeBeers states that population persistence of caribou and the continued opportunity for traditional and non-traditional use of caribou are the important assessment endpoints. The emphasis on population persistence is based more on an appraisal of extinction probabilities, which may be a familiar concept to conservation biologists, but does not reflect a Tlicho perspective, which is focused more on sustainable hunting of healthy caribou populations that live on resilient landscapes. Furthermore, DeBeer's emphasis on population persistence does not well reflect the Terms of Reference which specifically highlight that *"the EIS must address how changes to abundance, health, distribution, and behaviour of caribou may affect the social, cultural, and economic well being of residents of the Mackenzie Valley, particularly Aboriginal communities in the regional study area. This must also include an evaluation of possible contamination of country foods, and of possible impacts on hunting* (Gahcho Kue ToR, p. 23).

The PVA analysis does not well reflect how management decisions will be made over the duration of the Project's lifespan and how decisions will be made regarding tradeoffs between anthropogenic and natural factors that affect Bathurst caribou. For example, in the PVA modeling scenario a constant rate of high or low harvest was applied for each timestep of the model for an entire 30 year run. In reality, harvest levels for Bathurst caribou will be revisited every 3-6 years based upon the most recent population surveys and assessments of herd health, productivity, population size and trend. Also, once Projects are formally approved, then its incremental impacts on the herd become integrated into the overall performance of the caribou population for the life of the project; project-

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specific effects will combine with natural environmental stresses, e.g.: insect harassment from warm summers and poor calf survival from severe winters and wolf predation. Given the current low status of the Bathurst herd, it is likely that if management action is required then a potential outcome will be a continued or further reduction in harvesting. From this perspective, probability of persistence of caribou populations is not very useful because it is not as sensitive an indicator as one tied to population abundance or sustainable harvest levels.

The PVA analysis does not well reflect how management decisions will be made over the duration of the Project's lifespan and how decisions will be made regarding tradeoffs between anthropogenic and natural factors that affect Bathurst caribou. For example, in the PVA modeling scenario a constant rate of high or low harvest was applied for each timestep of the model for an entire 30 year run. In reality, harvest levels for Bathurst caribou will be revisited every 3-6 years based upon the most recent population surveys and assessments of herd health, productivity, population size and trend. Also, once Projects are formally approved, then its incremental impacts on the herd become integrated into the overall performance of the caribou population for the life of the project; project-specific effects will combine with natural environmental stresses, e.g.: insect harassment from warm summers and poor calf survival from severe winters and wolf predation. Given the current low status of the Bathurst herd, it is likely that if management action is required then a potential outcome will be a continued or further reduction in harvesting. From this perspective, probability of persistence of caribou populations is not very useful because it is not as sensitive an indicator as one tied to population abundance or sustainable harvest levels.

Request

46.1: Request an evaluation of the potential impact of the Gahcho Kué mine development, operation, and closure on the potential for recovery of the Bathurst herd and associated harvest levels.

Response

The 2010 EIS predicts that the direct and indirect effects from the construction, operation, and closure of the Project will have a negligible to low influence on the population size and distribution of the Bathurst herd (De Beers 2010, Section 7.7.2.1; Table 7.7-2). These small changes in the abundance and distribution of

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caribou are predicted to have a negligible influence on the availability of animals for harvesting (De Beers 2010, Section 7.7.2.2; Table 7.7-3). The analysis and assessment of effects to caribou are applicable to all phases of the population cycle. In other words, Project effects were evaluated in the context of a population that exhibits natural fluctuations in abundance and distribution over decades.

The Project is not expected to result in direct mortality of animals, and changes in the local distribution of animals around the Project (from direct and indirect habitat effects) should not result in a detectable change in caribou distribution on their seasonal and annual ranges. The energetic model showed that the Project would decrease parturition rates by less than 1%. Population viability models predicted that the Project had little influence on the abundance of the caribou herd relative to reference conditions (i.e., decrease in final projected abundance was 1.5%). No health effects to caribou or people wanting to harvest caribou for country food are predicted (De Beers 2010, Section 7.5.5.3). Overall, the Project is not expected to influence the recovery of the Bathurst herd or associated harvest levels.

Feedback from several groups (Tłı̨ch̓ Government, Yellowknife Dene First Nation, and Gahcho Kué Panel) suggests that the term “population persistence” may have different interpretations, and create a stumbling block for the assessment process and evaluation of significance. For example, many people may interpret a persistent population as a population that is not able to support the harvesting of animals by people and predators in the ecosystem (i.e., is not ecologically functional). Several reviewers have suggested that the use of abundance and distribution or sustainability of the population for harvest provides a more meaningful assessment endpoint to evaluate the significance of effects on wildlife.

In the interest of clarifying the interpretation of assessment endpoints and the evaluation of significance on wildlife, the term persistence will no longer be used. Instead it is proposed that the evaluation of significance be determined from the predicted effects to the maintenance of the abundance and distribution (or sustainability) of populations, and the related impacts on the continued

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opportunities for traditional and non-traditional use of wildlife (e.g., availability of animals for harvesting).

The evaluation of significance of effects to wildlife still considers two assessment endpoints: 1) the maintenance of population abundance and distribution (sustainable populations), and 2) the continued opportunity for traditional and non-traditional use of wildlife (e.g., hunting, trapping, wildlife viewing). Assessment endpoints were intended to incorporate sustainability (De Beers 2010, Section 6.3.2: 6-6).

Sustainable populations are capable of withstanding environmental change and accommodating stochastic population processes. Resilience and stability are key properties of the maintenance of the abundance and distribution of populations. Resilience includes that ability of the population to adapt to change (e.g., rate and degree of fluctuation in population abundance and distribution after a disturbance). Stability is determined by the trajectory of a population and is characterized by no long-term increasing or decreasing trend outside of natural population fluctuations and cycles (e.g., long-term cycles in caribou populations, predator-prey cycles). Resilience and stability influence the amount of risk to populations from development (Weaver et al. 1996). A sustainable population is one that will be present for many generations, protecting the ecological services humans benefit from when ecosystems are functional, such as the annual home range of Bathurst caribou, where there will be continued opportunity for consumptive and non-consumptive use of caribou by people that value these resources as part of their culture and livelihood (Hooper et al. 2005).

The maintenance of abundance and distribution of populations is similar in concept and application to population persistence, and does not change the classification and determination of the significance of impacts in the 2010 EIS. A sustainable population is one where caribou abundance and distribution will be maintained (or persist) into the future such that there will be continued opportunities for traditional and non-traditional use by people. The summary table for the classification of residual impacts links the five primary pathways to effects on the population size and distribution of caribou (De Beers 2010, Section 7.7, Table 7.7-2).

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Although not explicitly explained in the wildlife assessment sections of the 2010 EIS, Section 6.3.2 provides an example, using caribou, of the relationship between measurement endpoints (e.g., habitat quantity and quality), population abundance and distribution, and assessment endpoints (persistence, and continued opportunities for use of wildlife). The following paragraph is from the 2010 EIS (De Beers 2010, Section 6.3.2: 6-6).

“The overall significance of Project impacts on valued components (VCs) is predicted by linking residual changes in measurement endpoints to impacts on the associated assessment endpoint. For example, changes to habitat quantity and quality are used to assess the significance of effects from the Project on the abundance and distribution of caribou, which influence the persistence of the population (assessment endpoint). Effects to caribou abundance and distribution are then used to predict impacts on the accessibility and availability of the population for traditional and non-traditional use of caribou (also an assessment endpoint).”

References

- De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N*. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.
- Hooper, D.U., F.S. Chapin, J.J. Ewel, A. Hector, P. Inchausti, S. Lavorel, J.H. Lawton, D.M. Lodge, M. Loreau, S. Naeem, B Schmid, H. Setälä, A.J. Smstad, J. Vandermeer and D.A. Wardle. 2005. *Effects of biodiversity on ecosystem functioning: a consensus of current knowledge*. Ecological Monographs 75:3-35.
- Weaver, J.L., P.C. Paquet and L.F. Ruggiero. 1996. *Resilience and conservation of large carnivores in the Rocky Mountains*. Conservation Biology 10: 964-976.

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Information Request Number: TG_47

Source: Tlicho Government

Subject: Population Viability Analysis (PVA) summaries

EIS Section: 7.5.4, Tables 7.5-18, 7.5-19, Pages 7-133, 7-138

Terms of Reference Section: n/a

Preamble

Section 7.5.4 of the Gahcho Kue EIS describes the methods, results and conclusions from a population viability assessment (PVA) scenario modelling approach that DeBeers used to evaluate incremental effects of the Project and cumulative effects of human land-use and natural disturbances on the viability of the Bathurst caribou herd. Table 7.5-18 describes the seven scenarios that were run and Table 7.5-19 summarizes comparisons of those scenarios against a 2010 baseline and a no development baseline. The comparison of scenarios is 'unbalanced' relative to the number of factors and levels that were used to conduct the Incremental and Cumulative Effects Tests. We would like to review the full range of outputs from the PVA analysis so that we may better understand the full comparison of the three factors including level of development, insect harassment rate, and hunting rate.

Request

- 47.1: We request the PVA scenario outputs that correspond with the missing combinations of factors highlighted by the bright blue cells (in the table below) along with an updated version of Table 7.5-19 Please provide an additional column titled 'Projected Final Population Abundance' with corresponding values for total population size that includes males and females.
- 47.2: We request PVA scenario outputs that correspond with the missing combinations of factors highlighted by the light blue cells in a separate table which shows values for 'Projected Final Abundance'.

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Potential Combinations of Factors

		Reference baseline (no development)		
No Development	Insects	Low	Avg	High
	Hunting Rate	4%	4%	4%
		8%	8%	8%
		Current baseline #1		
Current (2010) Baseline	Insects	Low	Avg	High
	Hunting Rate	4%	4%	4%
		8%	8%	8%
		Current baseline #2		
		Current baseline #3		
Application Future (Gahcho Kue & Talston)	Insects	Low	Avg	High
	Hunting Rate	4%	4%	4%
		8%	8%	8%
		Application future #1		
		Application future #2		
		Application future #3		

Summary of PVA Scenarios from Tables 7.5-18 and 7.5-19 (Gahcho Kue Project EIS - Section 7)

Incremental Effects Tests

- Null model = current (2010) baseline #1 (low insect harassment)
- Application - future #1 (low insect harassment) versus baseline #1
- Current (2010) baseline #2 (high periodic insect harassment) versus baseline #1
- Current (2010) baseline #3 (low insects, increased harvest) versus baseline #1

Cumulative Effects Tests

- Null model = reference baseline (no development, low insect harassment)
- Application - future #1 (low insect harassment) versus reference
- Application - future #2 (high periodic insect harassment) versus reference
- Application - future #3 (low insect harassment, increased harvest) versus reference
- Request PVA scenario outputs that correspond with missing combinations of factors, and update Table 7.5-19 accordingly
- Request PVA scenario outputs that correspond with missing combinations of factors, in separate table which shows values for 'Projected Final Abundance'

Response

As requested, new simulations have been completed and added to the tables illustrated in the 2010 Environmental Impact Statement (EIS) (De Beers 2010). Rows that are highlighted in grey are new simulations and comparisons. Also, the tables have been updated with the revised energetic model described in the technical memorandum: Additional Information Regarding Energetics, Population Viability Analysis, and Effects of Access from the Winter Road, December 16, 2011 (<http://www.reviewboard.ca/>). Table TG_47-1 was originally published in the technical memorandum, and was a modification of the Table 7.4-15 in the 2010 EIS (De Beers 2010).

As done in the 2010 EIS, we considered natural, temporal directional changes (i.e., not simply stochastic changes) in calf survival and parturition rates (see page 7-130, De Beers 2010). Calf survival was modeled to decline over time and reflected the range of demographic values reported for the Bathurst Herd (0.80 to 0.28; Case et al. 1996; Gunn et al. 2005). Parturition rates were also modeled to decline over time and were based on values predicted from the energetic model (0.95 to 0.54; see Additional Information Regarding Energetics, Population Viability Analysis, and Effects of Access from the Winter Road, December 16, 2011 (<http://www.reviewboard.ca/>)).

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All simulations were executed for projections of the female population where there is available demographic data. There is limited information on the male segment of the herd because collars are typically deployed on cows and it is generally thought that herd dynamics are strongly influenced by cow survival and body condition. Adamczeski et al. (2009) states that breeding female caribou are the most biologically meaningful segment of the population.

References

- Adamczewski, J., J. Boulanger, B. Croft, D. Cluff, B. Elkin, J. Nishi, A. Kelly, A. D'Hont, and C. Nicholson. 2009. *Decline in the Bathurst Caribou Herd 2006-2009: A Technical Evaluation of Field Data and Modeling*. DRAFT Technical Report December 2009. Government of the Northwest Territories.
- Case, R., L. Buckland, and M. Williams. 1996. *The Status and Management of the Bathurst Caribou Herd, Northwest Territories, Canada*. Northwest Territories Renewable Resources, File Report No. 116. 34 pp.
- De Beers (De Beers Canada Inc.). 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.
- Gunn, A., J. Boulanger, and J. Williams. 2005. *Calf Survival and Fall Sex Ratios in the Bathurst Herd of Barren-ground Caribou 2000-4*. Northwest Territories Department of Resources, Wildlife and Economic Development. Manuscript No. 164. 75 pp.

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Table TG_47-1 Effects of Various Landscape Developments and Insect Harassment Intensities on Fecundity Rates of Caribou (Updated Table 7.5-15 from EIS)

Scenario	Insect Harassment Index (IHI)	Disturbance Encounters ^(a)	Mass Loss ^(b)	Parturition Decrease ^(c)	Parturition Rate	%Relative Decrease ^(d)
Reference, no insects	0	0	0.00	0.00	0.996	NA
Reference, low IHI	14	0	2.59	0.05	0.948	0.0
Reference, average IHI	23	0	4.26	0.09	0.915	3.5
Reference, high IHI	44	0	8.14	0.16	0.837	11.7
2000 baseline, low IHI	14	3	2.67	0.05	0.947	0.1
2000 baseline, average IHI	23	3	4.33	0.09	0.913	3.7
2000 baseline, high IHI	44	3	8.22	0.16	0.836	11.9
2006 baseline, low IHI	14	10	2.85	0.06	0.943	0.5
2006 baseline, average IHI	23	10	4.51	0.09	0.910	4.0
2006 baseline, high IHI	44	10	8.40	0.17	0.832	12.2
Current (2010) baseline, low IHI	14	14	2.95	0.06	0.941	0.7
Current (2010) baseline, average IHI	23	14	4.62	0.09	0.908	4.3
Current (2010) baseline, high IHI	44	14	8.50	0.17	0.830	12.5
Application-future ^(e) , low IHI	14	19	3.08	0.06	0.938	1.0
Application-future ^(e) , average IHI	23	19	4.75	0.09	0.905	4.5
Application-future ^(e) , high IHI	44	19	8.63	0.17	0.827	12.7

Note: The above table represents a summary of results for females where spring and summer conditions are favourable (i.e., potential body mass in autumn is near 105 kg when ignoring effects of insects and development).

(a) Cause caribou to increase movement, run, become excited and metabolize stored energy (=mean residency time in ZOIs x 138 days [See Figure 7.5-7 in EIS]).

(b) Reduction = [(IHI x 0.185) + (disturbance events x 0.55 x 0.0471)] x 0.02

(c) Rate calculated as a function = -1.1 + weight (kg) x 0.02

(d) (reference value – parturition^(c)) / reference value x100; where reference value = 0.948

(e) Includes existing developments on landscape plus the Project and Taltson Hydroelectric Expansion Project.

IHI = Insect Harassment Index; % = percent.

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Table TG_47-2 Candidate Simulation Scenarios for Population Viability Analysis of Bathurst Caribou Herd (Updated Table 7.5-18)

Simulation	Input Parameters	Condition of Modifier Variable
Reference baseline - low insect harassment - no development	survival fecundity carrying capacity (K) initial abundance weather event management action	no change from stage matrix no change from stage matrix 290,000 23,000 50% decrease in abundance of calves and 14 and 15 year old individuals every 10 years 4% harvest rate
Reference baseline #2 - high insect harassment - no development	survival fecundity carrying capacity (K) initial abundance weather event periodic high insect levels management action	no change from stage matrix no change from stage matrix 290,000 23,000 50% decrease in abundance of calves and 14 and 15 year old individuals every 10 years 11.7% decrease in fecundity once every 5 years ^(d) 4% harvest rate
Reference baseline #3 - low insect harassment - no development - increased harvest	survival fecundity carrying capacity (K) initial abundance weather event management action	no change from stage matrix no change from stage matrix 290,000 23,000 50% decrease in abundance of calves and 14 and 15 year old individuals every 10 years 8% harvest rate
Reference baseline #4 - high insect harassment - no development - increased harvest	survival fecundity carrying capacity (K) initial abundance weather event periodic high insect levels management action	no change from stage matrix no change from stage matrix 290,000 23,000 50% decrease in abundance of calves and 14 and 15 year old individuals every 10 years 11.7% decrease in fecundity once every 5 years ^(d) 8% harvest rate
Current (2010) baseline #1 ^(a) - low insect harassment	survival fecundity carrying capacity (K) initial abundance weather event management action	no change from stage matrix decrease by 0.8% ^(b) decrease by 3.8% ^(c) 23,000 50% decrease in abundance of calves and 14 and 15 3 year old individuals once every 10 years 4% harvest rate

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Table TG_47-2 Candidate Simulation Scenarios for Population Viability Analysis of Bathurst Caribou Herd (Updated Table 7.5-18) (continued)

Simulation	Input Parameters	Condition of Modifier Variable
Current (2010) baseline #2 - high insect harassment	survival fecundity carrying capacity (K) initial abundance weather event periodic high insect levels management action	no change from stage matrix decrease by 0.8% ^(b) decrease by 3.8% ^(c) 23,000 50% decrease in abundance of calves and 14 and 15 year old individuals every 10 years 11.7% decrease in fecundity once every 5 years ^(d) 4% harvest rate
Current (2010) baseline #3 - low insect harassment - increase harvest	survival fecundity carrying capacity (K) initial abundance weather event management action	no change from stage matrix decrease by 0.8% ^(b) decrease by 3.8% ^(c) 23,000 50% decrease in abundance of calves and 14 and 15 year old individuals every 10 years 8% harvest rate
Current (2010) baseline #4 - high insect harassment - increase harvest	survival fecundity carrying capacity (K) initial abundance weather event periodic high insect levels management action	no change from stage matrix decrease by 0.8% ^(b) decrease by 3.8% ^(c) 23,000 50% decrease in abundance of calves and 14 and 15 year old individuals every 10 years 11.7% decrease in fecundity once every 5 years ^(d) 8% harvest rate
Application-future #1 - includes the Project and the Taltson Hydroelectric Expansion Project - low insect harassment	survival fecundity carrying capacity (K) initial abundance weather event management action	no change from stage matrix decrease by 1.0% ^(b) decrease by 7.3% ^(e) 23,000 50% decrease in abundance of calves and 14 and 15 year old individuals every 10 years 4% harvest rate
Application-future #2 - includes the Project and the Taltson Hydroelectric Expansion Project - high insect harassment	survival fecundity carrying capacity (K) initial abundance weather event periodic high insect levels management action	no change from stage matrix decrease by 1.0% ^(b) decrease by 7.3% ^(d) 23,000 50% decrease in abundance of calves and 14 and 15 year old individuals every 10 years 11.7% decrease in fecundity every 5 years ^(d) 4% harvest rate
Application-future #3 - includes the Project and the Taltson Hydroelectric Expansion Project - low insect harassment - increase harvest	survival fecundity carrying capacity (K) initial abundance weather event management action	no change from stage matrix decrease by 1.0% ^(b) decrease by 7.3% ^(e) 23,000 50% decrease in abundance of calves and 14 and 15 year old individuals every 10 years 8% harvest rate

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Table TG_47-2 Candidate Simulation Scenarios for Population Viability Analysis of Bathurst Caribou Herd (Updated Table 7.5-18) (continued)

Simulation	Input Parameters	Condition of Modifier Variable
Application-future #4 - includes the Project and the Taltson Hydroelectric Expansion Project - high insect harassment - increase harvest	survival fecundity carrying capacity (K) initial abundance weather event periodic high insect levels management action	no change from stage matrix decrease by 1.0% ^(b) decrease by 7.3% ^(d) 23,000 50% decrease in abundance of calves and 14 and 15 year old individuals every 10 years 11.7% decrease in fecundity every 5 years ^(d) 8% harvest rate

- ^(a) Scenario used for sensitivity analyses in EIS.
- ^(b) Arithmetic (relative difference) decrease based on energetic cost estimates from development (Updated Table 7.5-15).
- ^(c) Arithmetic decrease to habitat quality from previous and existing developments (Table 7.5-10 in EIS).
- ^(d) Geometric (multiplicative) decrease based on energetic cost estimate from high insect harassment (Updated Table 7.5-15).
- ^(e) Arithmetic decrease to habitat quality from the Project and previous, existing and future developments (Table 7.5-10 in EIS).
- K = carrying capacity; % = percent.

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Table TG_47-3 Effects Analyses of Landscape Scenarios and Insect Harassment Levels for the Bathurst Herd Population Viability Analysis (Updated Table 7.5-19)

Simulation	Projected Final Abundance	% Change in Final Abundance	Maximum Difference in Probability of Threshold Abundance between Risk Curves (D)	Kolmogorov-Smirnov P-value ^(a)
Incremental Changes from Reference				
Null model = reference baseline #1 (no development, low insect harassment)	24179	n/a	n/a	n/a
Reference #2 (no development, high insect harassment) versus Null	21498	-11.1	0.162	0.0010
Reference #3 (no development, low insect, increased harvest) versus Null	11706	-51.6	0.786	<0.0001
Reference #4 (no development, high insect, increased harvest) versus Null	10710	-55.7	0.833	<0.0001
Incremental Changes from Baseline				
Null model = current (2010) baseline #1 (low insect harassment)	23605	n/a	n/a	n/a
Current (2010) baseline #2 (high periodic insect harassment) versus Null	21662	-8.2	0.140	<0.0001
Current (2010) baseline #3 (low insects, increased harvest) versus Null	11203	-52.5	0.809	<0.0001
Current (2010) baseline #4 (high insects, increased harvest) versus Null	10640	-54.9	0.840	<0.0001
Application- future #1 (low insect harassment) versus Null	22904	-2.9	0.054	0.1083
Cumulative Effects of Development				
Null model = reference baseline #1 (no development, low insect harassment)	24179	n/a	n/a	n/a
Application-future #1 (low insect harassment) versus Null	22904	-5.3	0.070	0.0149
Application-future #2 (high periodic insect harassment) versus Null	21380	-11.6	0.177	<0.0001
Application-future #3 (low insect, increased harvest) versus Null	11155	-53.9	0.822	<0.0001
Application-future #4 (high insect, increased harvest) versus Null	10491	-56.6	0.833	<0.0001

Note: Reference baseline = no development, low insect levels, and a harvest rate of 4%. Current (2010) baseline = previous and existing developments (1996 to 2010). Application-future = previous and existing developments plus the Project and the Taltson Hydroelectric Expansion Project.

^(a) Statistical significance accepted at an alpha level of 0.05.

n/a = not applicable; % = percent; <= greater than.

GAHCHO KUÉ PROJECT ENVIRONMENTAL IMPACT STATEMENT
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Information Request Number: TG_48

Source: Tlicho Government

Subject: Availability of Caribou

EIS Section: 7.5.5.2, p. 7-140

Terms of Reference Section: n/a

Preamble

With respect to availability of caribou for human use, the proponent concludes that the *"addition of the Project is not expected to result in a detectable change in encounter rates between caribou and people relative to current (2010) baseline conditions"* (p. 7-140). However, it is unclear what is meant by encounter rates in this section, because it is not quantified to the same extent as when encounter rate is used to describe the interaction between caribou and a zone of influence. With respect to encounter rate as it applies to caribou and humans, there does not appear to be any clear definition or quantitative examples, which would allow an independent reader to critically evaluate the proponent's conclusion.

Request

48.1 Please provide additional background information to clarify whether this conclusion is qualitative, or whether there is a quantitative rationale and assessment in the EIS that links distribution and abundance of caribou with humans through a measure of encounter rate.

Response

The prediction that the Project is not expected to result in a detectable change in encounter rates between caribou and people relative to 2010 baseline conditions is a qualitative expression based on quantitative information from the effects analyses for the Project and results from monitoring programs at operational mines. The prediction also considers natural factors that influence caribou abundance and distribution at much larger temporal and spatial scales. In this context, encounter rate is intended to be related to the availability of caribou for human use (e.g., hunting), and is a function of the abundance and distribution of animals.

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The Environmental Impact Statement (EIS) used several measurement endpoints to analyze changes from the Project (pathways) on the physical environment (e.g., habitat quantity and quality) and attributes of the population (e.g., survival and behaviour) (Figure TG_48-1) (De Beers 2010). Some measurement endpoints are quantitative such as habitat quantity and fragmentation, and habitat quality. Other measurement endpoints may be quantitative and/or qualitative depending on the type of information available. For example, changes in survival may be quantifiable for some wildlife (e.g., direct mine-related mortality to caribou and wolverine), but not for other species such as song birds that are quickly decomposed and/or eaten by scavengers. Changes in movement and behaviour are usually predicted qualitatively from the numerical analyses of habitat quantity, quality and fragmentation, and results from the available scientific literature and monitoring studies. In other words, qualitative expressions of effects are based on several lines of evidence, which included calculated changes in landscape variables and the current understanding of wildlife ecology and responses to these changes. If numerical data are available (e.g., long-term information from collared animals, aerial and ground surveys), then changes in movement and behaviour can be more quantitative at certain spatial scales. Measurement endpoints also provide the primary factors for discussions concerning the uncertainty of impacts to wildlife, and subsequently, are the key variables for study in monitoring programs.

Changes in measurement endpoints (effects analysis) are used to predict effects on the abundance and distribution of the population, which is related to the availability of animals for human use (Figure TG_48-1). As mentioned above, the availability of animals (or predicted encounter rate between people and caribou) is a function of population abundance and distribution. In other words, the assessment of availability of caribou for human use is based on the predicted effects to abundance and distribution, which is determined by examining the lines of evidence from the quantitative and qualitative analyses of measurement endpoints. Subsequently, the classification of effects (impact classification) from different pathways on population abundance and distribution (and availability of animals for human use) is used to determine environmental significance on the assessment endpoints (Figure TG_48-1). Please see response to TG_46 for a discussion on assessment endpoints.

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It is important to note that the use of encounter rate between animals and people (traditional and non-traditional land users) to describe the availability of animals for harvest is different than the encounter rate used to calculate the number of potential interactions between caribou and developments (De Beers 2010, Section 7.5.5.2). In Section 7.5.3.2.2 of the 2010 EIS, encounter rate (and residency time) was used to determine the effects from development on caribou movement rate and reproduction (i.e., fecundity) (De Beers 2010, Section 7.5.3.2.2). Data from satellite collared cows were used to examine post-calving movement paths (1996 to 2009) in relation to the number, type and location of developments on the landscape during the summer-autumn period (a 138-day exposure period). It was determined that some caribou come in close proximity to developments (i.e., they do not completely avoid development), but that the encounter rate was generally low, averaging 9 encounters per year for collared cows ($n = 194$ paths). Thus, the implications for energy budgets (and reproduction) was determined to be negligible. For more information on energetics, please see Additional Information Regarding Energetics, Population Viability Analysis, and Effects of Access from the Winter Road, December 16, 2011 (<http://www.reviewboard.ca/>).

Analyses for the Project indicate that direct physical disturbance to habitat is less than 0.1% of caribou seasonal ranges (De Beers 2010, Section 7.5.2.2). Similarly, the Project is predicted to result in a 0.3% to 1.4% decrease in high and good quality habitats on the spring, summer, and autumn seasonal ranges (De Beers 2010, Section 7.5.3.2.1). These combined direct and indirect changes in habitat should have no measurable effect on caribou population abundance. Also, the Project is not predicted to affect caribou abundance (or distribution) through direct mine-related mortality.

Local changes in the distribution of caribou within an anticipated zone of influence around the Project are discussed in using examples from long-term monitoring data at operating diamond mines the Northwest Territories and the scientific literature (De Beers 2010, Section 7.5.5.2: 7-140). Specifically, the Project is predicted to decrease the probability of occurrence of caribou within 15 kilometres of the physical footprint. However, this change should have little influence on the distribution of caribou across their seasonal ranges relative to natural environmental factors such as climate-related changes to fire regimes,

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snow and rainfall, and food abundance and quality (De Beers 2010, Section 7.5.5.2).

Reference List

De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N*. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.

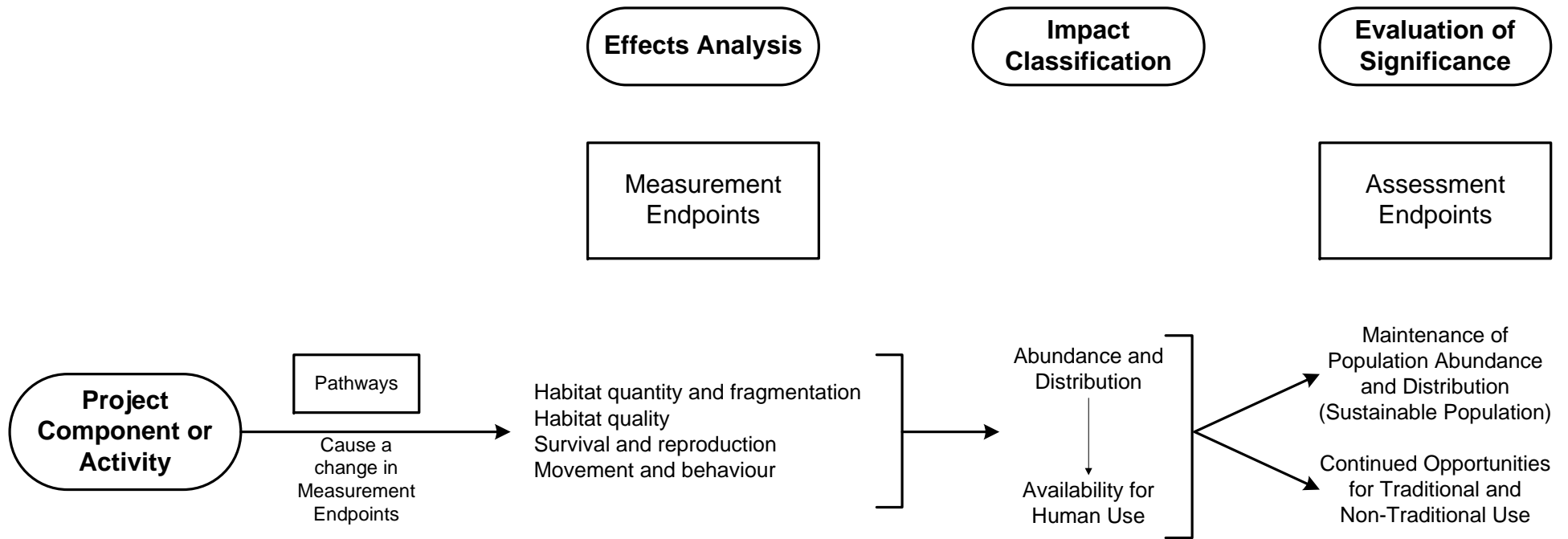


Figure TG_48-1: Model of the Assessment Approach showing the Relationship Between Pathways and Measurement and Assessment Endpoints

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Information Request Number: TG_49

Source: Tlicho Government

Subject: Insect Harassment Index

EIS Section: 7.5.3.2.2, Tables 7.5-13, 7.5-15, Pages 7-119, 7-126

Terms of Reference Section: n/a

Preamble

An Insect Harassment Index (IHI) was developed primarily to estimate disturbance from primarily oestrid flies and was based on potential harassment days having mid-day temperatures > 13 degrees Celsius (°C) and wind speeds less than 6 metres per second (m/s). Table 7.5-13 describes the mean, SO, and range of values for the Insect Harassment Index (IHI), and Table 7.5-15 establishes the IHI values that were considered low, average, and high respectively.

Given that climate change scenarios have real implications to arctic ecosystems, it would be useful to understand how the range in IHI values used by DeBeers compares to general climate change predictions for temperature.

Request

49.1: Request DeBeers provide a comparison of its low, average, and high IHI values to climate change predictions from the most relevant models for climate change that would apply to the study area.

Response

For clarification, the Insect Harassment Index (IHI) was based on the number of potential harassment days (PHDs) defined as the number of days when mid-day ambient temperatures exceeded 13°C and wind speeds were less than 6 metres per second (m/s). This was described in the 2010 Environmental Impact Statement (EIS)(De Beers 2010, Section 7: 7-116). The effect of insect harassment intensities were modelled on fecundity rates under low (14 IHI), average (23 IHI) and high (44 IHI) scenarios (De Beers 2010, Section 7, Table 7.5-15). To assist the reviewer in understanding the relationship between the IHI and a commonly used meteorological description of summer temperatures, the IHI was linked to mean daily mean temperatures at the Snap Lake and Lac de

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Gras regions (from June 15 to September 15) and the relationship was defined as $IHI = -20 + (4.1 \times \text{mean daily mean temperature})$ according to standard regression methods. Thus, the 2010 EIS considered a range of mean daily summer temperature scenarios (ranging from 8 to 16°C) based on the above-mentioned regression formula and the HI values considered in Table 7.5-15 of the 2010 EIS (De Beers 2010, Section 7).

Correlative models (e.g., temperature-insect relationship) can be useful in gauging the potential biotic consequences of particular climate change scenarios. However, they should be considered cautionary and illustrative, and not predictive and prescriptive (Jackson et al. 2009). There is also uncertainty in the ability to forecast the course of climate change in coming decades and the ability to predict the ecological and biogeographic responses to climate change (Jackson et al. 2009). For example, the effects of warming temperatures on insect activity may be offset by increases in the occurrence of wind, which is also a variable determining the level of insect harassment in the energetic model in the 2010 EIS. For this reason a comparison of IHI values to temperature change predictions from climate models would not necessarily be informative for the purposes of the 2010 EIS. This supports Krebs and Berteaux (2006) who state that causal mechanistic chains must be understood to provide predictability in climate change outcomes.

The effects from climate change operate over multiple spatial and temporal scales. In the 2010 EIS, a conservative assessment approach was applied by simulating population viability models for 30-year periods where it was assumed that Project-related effects were constant across this entire period. However, the actual length of time when the Project may affect key measurement endpoints such as parturition rate in caribou and mortality in carnivores is closer to 15 years. Sensory disturbance effects will likely be much weaker during the closure and post-closure phases of the Project. The key point is that the magnitude, duration, and geographic extent of effects from the Project on the physical environment and demography of wildlife species are negligible relative to the temporal and spatial scales that are associated with climate change processes.

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The key point in the 2010 EIS is that the absolute magnitude of direct and indirect effects from the Project is small and the long-term trajectory of the abundance and distribution of valued components will not be significantly affected by the Project. The relative contribution to changes may increase when population size is low and environmental conditions are poor, but such events will likely be infrequent within the next 30 years and the absolute effect size from the Project would remain negligible. Recently completed modelling tests supports this conclusion and addresses the issue of uncertainty and the possibility of climate change, and related effects on the caribou population (see Additional Information Regarding Energetics, Population Viability Analysis, and Effects of Access from the Winter Road, December 16, 2011; <http://www.reviewboard.ca/>). For example, the magnitude of effects to the viability of the modeled population remained similar even with a substantial reduction in the carrying capacity of the landscape over a 30 year period. In other words, caribou are predicted to remain resilient to the effects from the Project and the previous and current extent of human development even under a hypothetical scenario of a decrease in range conditions due to climate change.

Please note that this response was captured, in part, to Undertaking #2 from the De Beers Gahcho Kué project 2010 EIS Session. Also, it should be clarified that the energetic model has been modified based on feedback from the Government of the Northwest Territories (GNWT) Department of Environment and Natural Resources (ENR). For more information on the updates, please see Additional Information Regarding Energetics, Population Viability Analysis, and Effects of Access from the Winter Road, December 16, 2011 (<http://www.reviewboard.ca/>).

References

- De Beers (De Beers Canada Inc.). 2010. *Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7 and Annexes A through N*. Submitted to Mackenzie Valley Environmental Impact Review Board. December 2010.
- Jackson, S. T., J. L. Betancourt, R. K. Booth, and S. T. Gray. 2009. *Ecology and the ratchet of events: climate variability, niche dimensions, and species distributions*. Proceedings of the National Academy of Sciences 106: 19685-19692.

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Krebs, J. K., and D. Berteaux. 2006. *Problems and pitfalls in relating climate variability to population dynamics*. Climate Research 32: 143-149.