

June 8, 2012

File: S110-01-09

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

Dear Mr. Hubert:

Undertaking #5 - Response TK Informed the Design of Snap Lake Mine for Gahcho Kué Project EIR0607-001 Environmental Impact Review Technical Sessions, May 22 to 25, 2012

De Beers Canada Inc. (De Beers) is pleased to submit a response to Undertaking #5 to the Mackenzie Valley Environmental Impact Review Board (MVEIRB). The undertaking was requested at the May 22 to 25, 2012 Technical Sessions held for the Gahcho Kué Project.

We trust the response provided in the attached Technical Memorandum provides the information necessary to fulfill our requirements.

Undertaking #5: *DeBeers will provide information on how TK informed the Design of Snap Lake Mine.*

Response:

Traditional Knowledge (TK) has informed the design of the Snap Lake Mine during the conceptual and operational phases as described below.

In 2001, De Beers sponsored a workshop to assess the Snap Lake Project using TK (Lutsel K'e Dene Elders 2001). Elders from Lutsel K'e participated and contributed toward:

- completing site recognisance and survey;
- providing TK about potential effects; and
- recommending mitigation and monitoring.

The results of this study informed De Beers of a number of potential impacts and concerns related to water quality, dust production, pollution and disturbance of wildlife that were identified by Lutsel K'e Elders prior to the development of the Snap Lake Mine. Concerns

...../2





DE BEERS
CANADA
GAHCHO KUÉ PROJECT

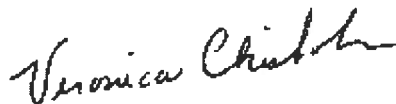
identified by Elders of the Yellowknives Dene during an earlier TK study of EKATI (Weledeh Yellowknives Dene 1997) were also considered for Snap Lake Mine. The results of these studies were acknowledged in the Environmental Assessment Report (De Beers 2002) and were addressed as described in Table 1 attached.

During operation of the Snap Lake Mine, TK has continued to inform the design of wildlife monitoring. For example, wolverine habitat preferences (boulder and shoreline) were identified through discussions with Bobby Algona, an Aboriginal hunter who contributed important TK of wolverine behaviour on the tundra (BHPB 2004). The wolverine snow track surveys at Snap Lake were specifically designed to sample these habitats in consideration of this knowledge. As well, Pete Enzoe of Lutsel K'e has been involved in wildlife programs at Snap Lake since 2003. Pete Enzoe has contributed to wildlife monitoring by helping to identify where to survey for wildlife and by identifying wildlife sign (e.g., hair, tracks and scat) to species (De Beers 2011).

In addition to feedback from Elders and knowledge holders, De Beers also met with Aboriginal members of Rae-Edzo, Lutsel K'e, Dettah, N'dilo, Yellowknife, Whatì, Gameti and Wekeweti between 1999 and 2001 to provide opportunities for input before Snap Lake Mine was developed (De Beers 2002). Community involvement is on-going as monitoring programs, such as Fish Tasting, continue to involve communities annually.

In summary, De Beers has involved communities in the past so that TK can inform the design of Snap Lake Mine and will continue to provide opportunities for communities to become involved with Snap Lake Mine and Gahcho Kué Project.

Sincerely,



Veronica Chisholm
Permitting Manager

Attachment

c.c: S. Poole, Akaitcho IMA Implementation Office

Table 1 Project Component, Impact Concern, and TK Recommendations that Informed Snap Lake Mine Designs

| Project Component | Impact Concern | TK Recommendation | Included in Snap Lake Design | Not Included in Snap Lake Design |
|--|---|---|--|---|
| Site layout | <ul style="list-style-type: none"> Worker safety during inclement weather | <ul style="list-style-type: none"> Space buildings close together | <ul style="list-style-type: none"> Buildings are linked by a corridor or spaced closely together | |
| Sewage Treatment Facility and Associated Wetland | <ul style="list-style-type: none"> Treated water release during construction | <ul style="list-style-type: none"> Monitor water, plants and wildlife at wetland | <ul style="list-style-type: none"> Sewage is managed and treated in an engineered facility Process water quality is monitored before release Water quality in Snap Lake is monitored Sewage system cannot be accessed by wildlife | |
| Mine Water Clarification Pond | <ul style="list-style-type: none"> Pond will not be effective for clarification or containment of underground mine water | <ul style="list-style-type: none"> Filter, and settle mine water in a fenced management pond Monitor quality of water | <ul style="list-style-type: none"> Mine water is settled at water management pond and then treated Treated water quality is monitored before release | <ul style="list-style-type: none"> Fences can pose an increased hazard to wildlife |
| Mine Site Seepage and Runoff | <ul style="list-style-type: none"> Containment of site water and runoff | <ul style="list-style-type: none"> Site water needs to be contained Monitor quality of water | <ul style="list-style-type: none"> Site water and runoff is contained and integrated into the water management system Site water is monitored for quality before release | |
| Underground Mining Activities | <ul style="list-style-type: none"> Underground water seepage Fugitive dust | <ul style="list-style-type: none"> Prevent underground dust from release Need to understand water seepage Monitor quality of water | <ul style="list-style-type: none"> Dust mitigation measures included in the Air Quality Management Plan Water can only seep into the mine due to pressure differential, not out Mine water is collected for water treatment Mine water is monitored for quality before release | |

Table 1 Project Component, Impact Concern, and TK Recommendations that Informed Snap Lake Designs (continued)

| Project Component | Impact Concern | TK Recommendation | Included in Snap Lake Design | Not Included in Snap Lake Design |
|--|--|---|--|---|
| Solid Waste (Mine Rock and Trash) | <ul style="list-style-type: none"> Waste rock dust erosion Air pollution from incinerator | <ul style="list-style-type: none"> Incinerate on calm days Mix small rocks into concrete Monitor dust and effects to vegetation | <ul style="list-style-type: none"> Must incinerate regularly to manage waste, not just on calm days Use of paste technology to recycle rock back underground North Pile will be capped with granite to prevent erosion Air quality, dust and vegetation are monitored | |
| Airstrip and Roads | <ul style="list-style-type: none"> Dust production from traffic Disturbance to wildlife | <ul style="list-style-type: none"> Use local trappers to remove animals from the mine Keep the site clean | <ul style="list-style-type: none"> Regular watering of roads and airstrip to suppress fugitive dust Monitor wildlife at site to prevent harm Monitoring has involved local assistants | <ul style="list-style-type: none"> Animals are generally not removed from the mine, unless they pose a safety risk |
| South Esker Quarry and Esker Access Road | <ul style="list-style-type: none"> Loss of archaeological sites, vegetation, wildlife habitat and geological feature | <ul style="list-style-type: none"> Do not completely use esker Monitoring for use by wildlife and effect to vegetation Check for old camp sites | <ul style="list-style-type: none"> Archaeological and wildlife surveys were completed Vegetation is monitored Quarried esker was not fully used | |
| Lupin Winter Road and the Winter Access Spur | <ul style="list-style-type: none"> Caribou deflection Spill contamination Feeding wildlife Garbage | <ul style="list-style-type: none"> Suspend traffic while caribou cross road Slow traffic speeds No feeding wildlife Use of fencing Do not park trucks on frozen lakes Clean-up garbage and spills Monitoring portages and fish in lakes Involve communities in monitoring | <ul style="list-style-type: none"> Caribou right-of-way policy Slow traffic speeds (30 km/hr) No feeding wildlife policy A Spill Response Plan is followed Vegetation monitoring plot on portage A Waste Management Plan is followed Community participation in aquatic and wildlife monitoring | <ul style="list-style-type: none"> Routine monitoring of fish and water quality along the Winter Access Road is not deemed to be required. |
| Further Exploration Activity | <ul style="list-style-type: none"> Contamination from drilling | <ul style="list-style-type: none"> Control spills Monitor drill sites | <ul style="list-style-type: none"> A Spill Response Plan is followed Drill sites are monitored for spills, wildlife and waste | |
| Fish Compensation Plan | <ul style="list-style-type: none"> Local fish impacted | <ul style="list-style-type: none"> Compensation should occur at Snap Lake | <ul style="list-style-type: none"> An artificial reef was constructed at Snap Lake and monitored | |

References

- BHPB (BHP Billiton). 2004. Ekati Diamond Mine. 2003 Wildlife Effects Monitoring Program. Prepared by Golder Associates Ltd. Yellowknife, NWT, Canada.
- De Beers (De Beers Canada Inc.). 2002. Snap Lake Diamond Project Environmental Assessment Report. Prepared for De Beers Canada Mining Inc. by Golder Associates Ltd. Yellowknife, NWT, Canada.
- De Beers. 2011. Snap Lake Mine: Wildlife Effects Monitoring Program 2010 Annual Report. Prepared for De Beers Canada Inc. by Golder Associates Ltd. Yellowknife, NWT, Canada.
- Lutsel K'e Dene Elders. 2001. Traditional Knowledge in the Na Yaghe Kue Region: An Assessment of the Snap Lake Project. Lutsel K'e, NWT.
- Weledeh Yellowknives Dene. 1997. Weledeh Yellowknives Dene: A Traditional Knowledge Study of Ek'ati. Yellowknives Dene First Nation Council, Yellowknife, NWT, Canada.