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from YDFN  
May 23/03



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To: Mackenzie Valley Environmental Impact Review Board  
Yellowknife, N.W.T.

May 22, 2003.

Dear Sirs,

We wish to submit, for your consideration, our responses to De Beers' Technical Memorandum of May 1 which addressed our concerns as submitted at the Public Hearings for the Snap lake EA. The following submission also includes some clarifications to outstanding wildlife issues resolution, as per the Issues Synopsis Table prepared by your Board preparatory to the Public Hearings.

Regards,

Rachel Crapeau  
Chair  
Land & Environment Committee  
Yellowknives Dene First Nation

and

Tim Byers  
Environmental Impacts Consultant  
Byers Environmental Studies

**YELLOWKNIVES DENE FIRST NATION  
Land and Environment Committee**

**Comments on De Beers' Responses to Yellowknives Dene  
Snap Lake Public Hearing Presentations**

**AQUATICS**

**1. Localized Eutrophication:**

We have reviewed Golder Assoc.'s arguments against the possibility of toxin-producing cyanobacteria blooms occurring if too much phosphorous is loaded into Snap Lake. Their arguments appear sound. However, if phosphorous rises to high levels, De Beers ought to monitor the chlorophyll a concentrations in the lake. If the trophic status of Snap lake rises from oligo-mesotrophic into mesotrophic, and other required conditions develop (pH levels 6 to 9, water temperature greater than 14 degrees C, winds calm), then cyanobacterial biomass may increase to significantly adverse levels.

If TDS levels in the lake reach levels creating stratified conditions where the lake water does not mix or mixes only weakly, this also can provide the conditions that drive cyanobacteria growth.

The bottom line here is that, should this project get approval, all these things point to the need to include pH, nutrient concentrations (phosphorous & nitrogen), water temperature, chlorophyll a and phytoplankton community structure in aquatic effects monitoring programs.

**2. Total Dissolved Solids:**

De Beers' arguments on negligible aquatic effects of increasing TDS levels in Snap Lake are not convincing. For one thing, their arguments still do not indicate they are taking into account DIAND's evidence for TDS levels at 2 to 3 times higher than EA predictions. Their predictions that there will be absolutely no plankton or fish species die-offs from the higher TDS levels should be re-evaluated, using 2-3 times higher TDS levels in their predictive models.

### 3. Dissolved Oxygen:

De Beers has stated that fish in Snap Lake can be expected to seek out shallower areas when deep-water habitats become anoxic (oxygen-poor). They also state in their response to our concerns that "...dissolved oxygen will remain above thresholds at the shallower depths." However, when we subtract 2.2 mg/L (De Beers' estimated maximum decrease in oxygen levels caused by the mine) from the winter oxygen profiles provided by De Beers, we find that 5 of 50 sites (#1, 8, 29, 40 & 50) have oxygen profiles that decrease to below CCME guideline levels at shallow depths (<5m.).

Also, Golder Assoc. implies that a percentage of the volume of the lake that will become anoxic is evaluated, not the area. However, Stella Swanson's presentation (Wednesday May 30) of risk assessment for the benthos stated that "There may be a small increase (2%) in the area of the bottom where only species that can tolerate low DO can live." So seeing DO decrease to anoxic levels in 5 of 50 sampling locations would result in 10% of sampling area affected by lower DO.

### 4. Acidification

We thank De Beers for its clarification of the acidification question. It is understood that the Table 9.4-31 gives the correct Potential Acid Input prediction estimates, not the map of Fig. 9.4-19.

## WILDLIFE

1.

De Beers states that they've assumed no nesting will occur "within the immediate mine footprint." Does this footprint include the access roads to the winter road and to the esker? Do they have contingency plans on what they will do if a bird nest is found during construction, or if a nest is built on mine infrastructure during operations?

2.

As stated in the Issue Synopsis table prepared by the MVEIRB staff preparatory to the Public Hearings, we have a concern that De Beers "seems to have no interest in attempting to measure how successful or unsuccessful caribou might be in adapting to changes in their environment." We felt that a resolution to this

issue hinged on the results of the May 12-15, 2003 caribou workshop. But we now know that the MVEIRB will not have the benefit of these results in their decision-making. Thus it appears that the status of this issue must continue to be unresolved for the Board, as stated in the "Rationale for Issue Status" column of the above-mentioned table.

3.

For the reasons detailed in our Public Hearings submission, we are not confident that De Beers will be capable of (a) preventing negative impacts to caribou, or even (b) identifying when the Bathurst Caribou population is being affected negatively.

The Federal Government must safeguard the aboriginal treaty rights of Yellowknives Dene, which have been in place since our ancestors' original signing of Treaty 8 in 1899. Central to these treaty rights is the right to unrestricted natural resource harvesting. Nothing should be allowed to threaten our access to harvestable wildlife, especially the caribou that have nourished our people for untold generations. It is the federal government's fiduciary responsibility to ensure that an industrial development like the Snap Lake mine does not cause, directly or indirectly, a deterioration in the wildlife resource that we rely on, nor affect our access to the wildlife. It is also the government's responsibility to ensure any offending developer duly compensate our affected communities for such loss.

Thus, we would like assurances from the MVEIRB and from De Beers that:

- (1). the company's mine, alone or in combination with other mining developments, will not cause either,
  - (a) caribou to be severely reduced in numbers such that sustainable harvesting is impacted, or
  - (b) caribou migration to be deflected away from the normal hunting areas of our people so that we have to travel much further to get to the caribou ;

and,

- (2). if the significantly adverse impacts mentioned in #(1) above occur because of the Snap Lake mine, acting solely or in combination with other developments in the Slave Geological Province, then De Beers will pay to the Yellowknives Dene First Nation compensation equivalent to the monetary value of the caribou harvest (food and hides) that was lost.

4.

Some of our people have a hunting camp at the south end of Mackay Lake. It is critical to us that the Snap Lake mine and its access roads do not prohibit caribou from moving through the area. If the Snap Lake mine proves to have a wider

zone of influence around it than BHPB (about 7 km.), then this would potentially affect their migratory behaviour near and through our hunting area due north of the mine.

## CUMULATIVE EFFECTS from WINTER ROAD

The Terms of Reference (Section 2.9 line 536, 556-557) states that all cumulative effects from this winter road should be assessed, and where information is lacking, best professional judgement and TK should be used in assessing its effects. We note that De Beers has stated that they have no information on the potential effects of the Tippet – Contwoyto winter road nor mine access roads on furbearers using water habitats through which the roads run.

We would like to see studies done that would address this question. Currently, we would suggest to the Board that this is still an unresolved issue for us.

## SOCIO-ECONOMIC

On the subject of in-migration creating increased pressures on the land and resources in Akaitcho Territory near the city of Yellowknife, De Beers has put the ball in government's court. Their response to us on this is "...this [local population] increase should be managed by the responsible government agencies." This is true, but this does not relieve De Beers of its responsibility in this Environmental Assessment to give us its best estimates of what impacts will be created by significant immigration of mine workers into our area. At the very least, the company should be able to conduct a thorough literature search to tell us what impacts have been felt from a similar magnitude of in-migration of workers into other locations in northern Canada. Such information on other northern experiences would provide us with a gauge of the type and strength of impacts on the land and resources that we might expect in our area.