



## Wildlife, Lands and Environment Department

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Alan Ehrlich  
Mackenzie Valley Environmental Impact Review Board  
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### **Re: Technical Report submission from LKDFN**

Dear Mr. Ehrlich,

Thank you for the opportunity to participate in the Snap Lake Amendment EA 1314-02 and to provide the attached technical report for the Review Board's consideration.

The Lutsel K'e Dene First Nation (LKDFN) has the responsibility to protect and maintain for all time, the productivity and sanctity of the land that the Dene survive off of. LKDFN does not have the technical expertise or the means to debate whether or not changing water quality objectives will significantly and adversely affect the receiving environment. What we are looking to understand is how the proponent is operating on their piece of borrowed land from the Dene people. As LKDFN continues to have trust issues with De Beers, this EA is not increasing our confidence that De Beers can operate a diamond mine in an environmentally sound way, nor is it showing that De Beers is committed to environmental integrity; rather, it is showing that the proponent is content to push the limits of what they define as "environmentally insignificant."

Public concern already exists in this community regarding this borrower of Dene land. The Review Board and the responsible Minister are in a position to promote environmental stewardship as a real objective in the north, and to encourage the proponent to correct the operational problem, and not simply raise the discharge limits.

We are looking for support from federal and territorial governments to help explain to De Beers how important the land is to survival of the Dene, and how important water quality is to the entire ecosystem. Hopefully the Review Board and the Minister agree that the environment does have value beyond the minerals buried beneath the surface, and though costly, environmental protection is for the benefit of all people.

Again, thank you for the opportunity to provide this technical report, and we look forward to participating in the public hearings next week.

Sincerely,



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## Introduction

The Lutsel K'e Dene First Nation (LKDFN) has the responsibility to conserve the land, water and wildlife for all time. One of the ways that LKDFN is able to do this is through our input into the environmental assessment processes and reviews that go on through the Mackenzie Valley Land and Water Board (MVLWB) and the Mackenzie Valley Environmental Impact Review Board (MVEIRB). For this review, LKDFN had limited capacity and a tight timeline to review highly technical information and make a determination as to whether or not significant impacts would be suffered if the amendment gets approved.

Though LKDFN staff do not have the scientific expertise to determine if doubling the chloride limit would significantly impact water quality or aquatic species, traditional knowledge suggests that Snap Lake and the further downstream receiving environment has spent thousands of years developing to the quality it was at pre-mine in order to support aquatic life, and many would argue that the changes to the quality of water so far has been a significant impact.

The main concern for LKDFN in these proceedings is not necessarily the doubling of water quality objectives, but the consistent examples of the proponent being poor environmental stewards. LKDFN believes that a significant amount of research, modelling, and effort was put forward to determine whether the raised limits would be environmentally acceptable. However LKDFN also believes that the money put towards this research could have been better spent towards mitigation strategies, or enhancing the capacity of the water treatment facilities in order for De Beers to achieve what they said they would achieve when we approved this project.

From the average community member's perspective, De Beers had water quality objectives in their water license, some of which they stated quite clearly that they would never surpass, they failed to achieve those objectives, and instead of working to try to correct their operations to achieve those objectives, they are spending money and using western science to show that they can continue to increase their limits without "significant" impacts on the environment. This approach to environmental stewardship is worrisome to the current project, and future projects that they may be pursuing. In the Gahcho Kue public hearing LKDFN cited a lack of faith in the company to be environmentally responsible, and that the community perception of De Beers was a major issue that needed to be resolved prior to the mine being approved by LKDFN. From Snap Lake's original assessment, we have learned that the company cannot adequately *predict* or *limit* their impacts and we encourage the Boards not to allow the company to continue to raise contamination levels unabated because they *predict* that there will not be any increased impacts.

Beyond the negative perception and public concern that LKDFN has for the proponent, there are environmental and cultural concerns that will be raised here. The Lady of the Falls site is downstream from this mine as well as De Beers' other proposed mine, and LKDFN will be seeking a measure to ensure complete and total protection of the quality of water heading towards the Lady of the Falls. This concern goes hand in hand with the concern of

traditional use of the site post-closure, though it is difficult to get past the perception of the lake, it is possible and likely that LKDFN members will travel that way in the future, and we wish to ensure that aboriginal and treaty rights are maintained. This is a reference to long term use of the land and water in and around Snap Lake, and brings two more concerns forward in terms of cumulative effects to the water, and impacts to effective and timely closure of the mine site.

### **Perception of Snap Lake/ De Beers**

LKDFN certainly has a high standard for environmental protection, and this standard can be better understood if the scientific view of the “environment” expanded to include the people that live off the land. In this light, when we raise concerns regarding impacts to the environment, we are also explaining these as human impacts. The standard is high because the costs are high if the Dene are forced to live and survive on contaminated land, water and wildlife.

The community members of Lutsel K’e see Snap Lake as the closest proximity operational mine to the community, and a mine that is in the Lockhart River Watershed, meaning over time, eventually, this water will pass through the spiritual site of Lady of the Falls. Therefore this mine, more than the rest, has to ensure that they are operationally sound and environmentally sustainable; unfortunately, worse than the rest, this mine is not even approaching that environmental standard, and is losing the confidence of LKDFN as a responsible operator in the Dene Territory.

LKDFN understands that predictions are often wrong, but it is unwise to continue to fully rely on the proponent’s predictions and projections when they have been repeatedly shown to be completely inaccurate. LKDFN and other interveners approved this mine based on much of the information that De Beers provided in the original review, but as these promises continued to go unmet, and predictions continued to fall far short of accurate, LKDFN is beginning to question, would we have approved this mine if we would have known that De Beers science was inaccurate? If De Beers had stated in their original EA that the winter roads *might* be the cause of a few caribou mortalities, we would have put more emphasis on ensuring that didn’t happen. Just as if De Beers had stated they *might* exceed 350mg/L in total dissolved solids (TDS), then there would have been *further* measures to limit TDS to the greatest extent possible, and maybe even force certain operational changes to ensure that this level of TDS would be manageable through the water treatment process and other preventative measures. The operational land farm and the past backfill are other promises that are still not in place; again, both were very positive aspects of the mine design that have not been realized in the 10 years of operation.

Looking back, each of these predictions were not precautionary, and with each of these, there is an economic cost that is avoided by circumventing the precautionary principle. In this EA, De Beers is telling us that the increased levels of TDS, chloride, and fluoride are in fact, acceptable levels of discharge; but LKDFN is of the opinion that it would again be costly to implement protection mechanisms to maintain current levels of discharge, therefore De

Beers is not interested in pursuing this approach. LKDFN believes that it's long past time that we start talking about precautionary levels and the cost-benefit analysis of these levels, with environmental protection as the number one motive. We understand that implementation is costly, but in such an intact and untouched wilderness area, protection of the land and water is of the utmost importance, and the price tag of protection is the cost of doing business. LKDFN representatives were away during the technical session opportunity but would have put the question to De Beers if they believe that their current increases in effluent discharge limits into the receiving environment are going to stand up for life of mine? Based on some of the modeling in the TDS Response Plan Report, there may be potential for these new limits to be exceeded somewhere down the road in certain scenarios. It seems again that the proponent is suggesting a limit that may need to be amended in the future. We hope that every time De Beers approaches a limit, their method of dealing with it is not simply to raise the limit. We'd ask for a commitment from the company that this is the last time they'll be looking to increase the limits of their licenses, but we've learned that company commitments are hollow and we need the Review Board to put measures in place.

The more that license limits get exceeded, and the more that EAs are struck to address changes to water licenses or land use permits, the greater the public concern continues to grow. If the Review Board is confident that the suggested levels will never be breached then we encourage a statement from the Review Board in their final report, that if levels of chloride, fluoride, or TDS exceed this new proposed limit, then there will be significant public and environmental concern, therefore no new permit should be issued to the company for this site. It is the position of LKDFN that the original water quality guidelines were hard limits, as in, do not exceed these limits or it would be cause for public or environmental concern. The concern remains around science being used to justify higher and higher levels of environmental degradation, that when looked at in isolation may not be significant, but when viewed on the timeline of the entire project constitute real reasons for public concern.

*Recommendation: That whatever the board decides to set the new limits at, that they be strict limits not to be exceeded, as public and environmental concern would be too great beyond these limits.*

LKDFN believes the narrow scope of this EA is not doing the EA process justice. The bigger picture is being avoided, and whether or not the company is capable of running a mine in an operationally and environmentally sound way has come into question through this EA.

### **Downstream Water Quality**

With the predicted increases in effluent released into the receiving environment, it is hard to imagine that aquatic life through the trophic levels will remain unharmed. Baseline TDS in the lake was 10mg/L, baseline for chloride was 0.2mg/L, and baseline for fluoride was 0.04mg/L (Hallam Knight Piesold, 1998). Regardless of current levels, in terms of long term environmental integrity of the water, if the quality ever even comes close to these new

limits, it would be a 68-fold increase in TDS, a close to 2000-fold increase for chloride, and a 61-fold increase in fluoride. We're not sure what constitutes significant change, but 2000 times more chloride in the water than baseline is arguably significant.

This concern comes from the fact that Snap Lake is in the Lockhart River watershed and the water from Snap Lake will eventually reach the Lady of the Falls spiritual site and flow over the falls. There was a question raised in the technical session as to whether or not De Beers would agree that there is no amount of acceptable change to the Lady of the Falls, to which the response was worrisome. Though De Beers said they stand by their predictions that Snap Lake effluent would never reach the Lady of the Falls, the response indicated that the company did not understand the connection between Snap Lake and the Lady of the Falls. To avoid going too deep into the spiritual and cultural connection of the land and water with the Lady of the Falls, this site is downstream of Snap Lake, that's an easier connection to understand. However, De Beers also stated that we will not be able to detect effluent even closer towards Mackay Lake, so if this is the case, we would like to see a threshold limit, similar to the response framework for effluent, where if Mackay Lake is reached, there will be some necessary actions taken to slow the progress of the effluent, or stop production altogether. If De Beers is allowed to continue to make these statements without repercussion for failing to meet them, then enforceable Board measures are our only mechanism for ensuring the protection of our waterways.

If effluent from Snap Lake never reaches Mackay Lake, this is the best of a bad situation. However, if the effluent reaches and goes beyond Mackay Lake, Aylmer Lake is threatened from the west as well as the south with De Beers other proposed operation. The idea of effluent even close to this sacred river is appalling, and as the company's predictions are the company's predictions, we are requesting that the Board put forth a completely protecting measure of this spiritual site. The measure should be clear that there is no level of acceptable change at the Lady of the Falls, and drastic measures should be undertaken if the effluent even reaches Mackay.

*Recommendation: That the Board place a measure that completely protects the Lady of the Falls. No level of change is acceptable at this site regardless of the source of the effluent.*

*Recommendation: That the Board work with the Land and Water Board to create a response framework where the 'high' action level is if the effluent plume reaches the outflow of Mackay Lake.*

As a last point on water quality, from the technical session transcripts, De Beers seems quite sure that treatment technologies exist but does not go on to provide any rationale or description of how the technologies could be applied. It seems clear to LKDFN that there are alternatives to raising the discharge limits and these alternatives better align with LKDFN's perspective in prevention of contaminants in the water, so why aren't these investigated further? How can the company seriously suggest that there are alternatives to raising the limits, but not report on them? LKDFN (and we don't believe we are alone) has no interest

in raising levels of contaminants in the water system, so if there's one thing that we want De Beers to be providing more information on, it is alternatives to further contamination of Snap Lake and the downstream water bodies.

*Recommendation: The Board require the company to provide substantial information about these technologies and investigate various combinations of them in a cost benefit analysis.*

*Recommendation: That improved treatment and source control be the priority in terms of approaches to the water quality issues, not raising the license limits.*

### **Traditional Use of the Area and Closure**

The Lutsel K'e Dene are concerned about the future potential to use the land and water in the area in and around Snap Lake if raising effluent limits continue to occur. A significant impact will be suffered if LKDFN members travel to the area and are unable to drink the water or eat the fish in Snap Lake, and other lakes in the area (Capot Blanc, King...). The TDS and fluoride limits proposed are above Health Canada Drinking Water Quality Guidelines... which are pretty clear threshold that cannot be crossed, and we're fairly confident that if the TDS level is set at 684mg/L there will be at least 684mg/L of TDS in the lake, and similar with the fluoride concentration. So what we're looking for in this review are assurances, from the Board, not the company, that the ecosystem of Snap Lake will be fully functional and thriving post-closure, and that the water will be drinkable without the use of treatment.

*Recommendation: That the Board set the TDS limit no higher than Canadian Drinking Water Quality Guidelines of 500mg/L for the protection of the way of life of the aboriginal people of the north*

*Recommendation: That the Board set a fluoride limit no higher than Canadian Drinking Water Quality Guidelines of 1.5mg/L*

Based on the information provided, it does not seem like closure of the mine would mean restoration of healthy fish in Snap and nearby lakes. From the initial EA, it doesn't look like De Beers sees their closure activities happening over a long timeline and activities will be completed very soon after ceasing operations. LKDFN would like to know how long after closure the water quality will return to baseline, or if it will ever return to baseline. LKDFN understands that water quality may not return to pre-mine conditions, but can we get an estimation of how long after closure the water in Snap Lake and surrounding lakes will return to a quality that is acceptable to the First Nations? We would like to understand how this raising of the limits will affect the length of closure time that would be required. The idea is that at a level of 350mg/L of TDS, the lake will take X years to recover, while at a level of 684mg/L of TDS, the lake will take significantly longer to return to baseline, or baseline-like conditions.

LKDFN is of the opinion that if the new timeline is significantly longer than the original timeline for the lake to return to baseline conditions, then the proposal could be a significant concern for two reasons, the aquatic life in the lake and downstream suffering exposure to contaminants for a longer term, and the ability to practice aboriginal rights are compromised for longer term, basically, there are more impacts and more impacts for less and less benefit.

## **Recommendations and Closing**

*Recommendation: That whatever the board decides to set the new limits at, that they be strict limits not to be exceeded, as public and environmental concern would be too great beyond these limits.*

*Recommendation: That the Board place a measure that completely protects the Lady of the Falls. No level of change is acceptable at this site regardless of the source of the effluent.*

*Recommendation: That the Board work with the Land and Water Board to create a response framework where the 'high' action level is if the effluent plume reaches the outflow of Mackay Lake.*

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Wisdom is gained when you learn from the past. What LKDFN has learned from history is that De Beers cannot be relied on to operate their project in a way that is proactive, precautionary, or protective of the environment, and therefore the responsibility lies with the parties to closely monitor the project, and the Board to be very clear with the company regarding what is acceptable and where the line in the sand is drawn.

Instead of setting license limits where we start to see impacts to aquatic life, we should be setting license limits where we have full certainty that aquatic life will be surviving and thriving. These limits should be protective of all species, and that would mean setting the limit far below where we see the most sensitive of species start to negatively react. This is



conservation, and this is protection. Though occasionally compromises must be made, science from this company should be heavily scrutinized, and LKDFN is deeply concerned about raising discharge levels based on De Beers' science. Herein we have provided a number of recommendations that we believe could limit the intensity and duration of the negative impacts to our water system, but the focus should not be on what level is the least destructive, rather what level is the most protective.

We believe that operators in this territory are held to a high standard of environmental protection and this means spending the money on mitigation strategies to avoid this type of EA. However, if the proponent is not willing to try and limit their environmental contamination on their own accord, then the regulators must step in and ensure it is done.

Though LKDFN is uncomfortable with raising discharge limits, we are willing to compromise if the Board takes the responsibility of environmental protection out of the proponent's hands by setting hard limits and enforceable measures with the intent of conserving our pristine waters for all time.

Again, thank you for your ongoing efforts and we look forward to the hearing and the final report from the Board.