



# Yellowknives Dene First Nation

P.O. Box 2514, Yellowknife, NT X1A 2P8

May 21, 2014

Alan Ehrlich  
Mackenzie Valley Environmental Impact Review Board  
Box 938  
Yellowknife, Northwest Territories  
X1A 2N7  
Fax: (867) 766-7074

Dear Mr. Ehrlich:

## Re: Snap Lake TDS Environmental Assessment

*Mr. Chairman, as we carefully explained, we are convinced that the maximum total dissolved concentrations that we've presented, of three hundred and fifty (350) milligrams per litre incorporate more than enough layers of safety, and represent a very credible, worst thing that could happen example.*

*I really have a hard time even thinking about or discussing anything even higher than that, because as I explained in my talk, we get beyond the description of what is a reasonable worst case that can happen, and we are in the territory of having to combine things that don't make sense scientifically.*

- Stella Swanson, Golder Associates, for De Beers [Emphasis added]

The project said that this would not happen. More than that, they said that it simply couldn't happen. This project has operated the mine with a hubris that has led to poor environmental stewardship, and it is not limited to the effluent from the mine.

Based on that evidence, the Board approved the project with Measures to mitigate the significant environmental impact and public concern that existed with this project. In 2003 the Board decision made it clear "...that, with the implementation of the measures recommended in this Report of EA and implementation of commitments and mitigation measures proposed by De Beers, the proposed development will not likely have a significant adverse environmental impact" [p.iv Snap Lake Environmental Assessment, Reasons for Decision].

The underlying premise of most Environmental Assessments is simple – that we all agree that this project can go and get the diamonds while providing benefits to the Yellowknives and the people of the north, but not causing significant impacts or concern. After they are finished, they agree to bring the land and the water back to a form similar in function to what existed before. This premise is not the same for this project – the question we face now is how to respond given that the predictions that they

stood behind at EA have been shown to be incorrect and the concerns of all the parties to be valid. Do we allow the company to create a greater impact than predicted for less benefits than were promised, considering the impact that already exists?

For YKDFN, the impacts associated with this project must be limited to an acceptable range. Despite the erroneous modelling, YKDFN are willing to accept a slightly increased TDS limit – but refuse to accept an unnecessary increase that compromises the utility of the area to our membership during and after operations.

With this increased release of contamination, we believe that the project should be required to review past commitments, suggestions and measures, being required to implement the mitigations contained within them. If those responsibilities cannot be met, the project should be required to seek Board approval to be excused from the requirement. In the first EA, this project seemed to feel that they had a prescience that the other parties lacked.

YKDFN support the same approach used in the first EA, with hard coded limits bounding the Project's operations. Any further increases in the future license criteria are unacceptable and we do not want to give the project flexibility to easily seek to move the goalposts once again. We encourage the board to write our recommendations into Measures, binding the project to conform.

## **1.0 History of EA**

The first section of this intervention is focused on the history of this project and pulling the context of the original EA forward to present day, to recall the setting that the individual Measures were issued. There was a significant dispute between the proponent and reviewers as to the predictive value of the project modelling and the impacts. Our aim is to recall that debate to inform the considerations that we are being faced with.

From the outset, the Project has erred in their predictions. During the initial Environmental Assessment, the Project was dismissive of concerns that seriously called their modelling into question. The reviewers made a number of submissions stating the case, including INAC's technical report, which time has shown to be very accurate:

*"Until the outstanding issues have been resolved, INAC continues to consider the EA to be incomplete and, as such, does not provide an adequate basis for assessing the impacts of the proposed project."*

- INAC Water Resources Division, 'An Addendum to: An Evaluation of the Environmental Assessment of the Proposed Snap Lake Diamond Project', March 14<sup>th</sup>, 2003.<sup>1</sup>

In its decision, the Board accepted the Project predictions, but issued no less than 6 Recommendations on TDS to backstop this issue. YKDFN believes that the purpose for this authoritative scrutiny and limiting was to ensure that were regulatory controls and limits in place, should those predictions fail to

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<sup>1</sup> [http://www.reviewboard.ca/upload/project\\_document/EA01-004\\_658\\_1153772129.PDF](http://www.reviewboard.ca/upload/project_document/EA01-004_658_1153772129.PDF)

[http://mail.tscript.com/trans/mac/apr\\_30\\_03/index.htm](http://mail.tscript.com/trans/mac/apr_30_03/index.htm)

accurately capture the developing conditions. This original measure for TDS is not one that can be overlooked as an outlier, it existed then as it should now, to ensure the Project remains in compliance with a standard that is a real risk of exceedance.

### 1.1 Mitigations

The Board also relied on the project's ability to mitigate the potential problem should the predictions be found to be incorrect. Measure 3 requires the project to employ mitigation if the loadings exceeded predictions – with that mitigation identified as Grouting in the original EA.

*You indicated at several points within the presentation that mitigation measures would be available to lessen the impacts on Snap Lake water quality. The question that I have is, and -- and you described these as backstop mitigation method -- measures. What sort of backstop mitigation measures would be implemented if the TDS in mine water discharge is greater than -- that you have assumed?*

- Ken Raven on behalf of INAC (Snap Lake EA Transcript, Day 3, p77)

*With regards -- with regards specifically to TDS, what was described yesterday was that hot spots, in terms of in the mine, would be areas of high flow, or hi -- sorry, areas of high concentration TDS would be grouted where -- where useful.*

- Robin Johnstone on behalf of De Beers (Snap Lake EA Transcript, Day 3, p78)

*So, the answer to the question is -- is that grouting will be the extent of the mitigation measures to address any higher concentrations of TDS than has been assumed in the EA?*

- Ken Raven on behalf of INAC (Snap Lake EA Transcript, Day 3, p78)

*As stated yesterday, that is correct.*

- Robin Johnstone on behalf of De Beers (Snap Lake EA Transcript, Day 3, p78)

This exchange characterizes the Project's fall-back position should mitigation be required. The registry makes it plain that the project was aware that they had a TDS issue prior to 2008, yet we don't have evidence that the project undertook meaningful actions towards implementing this mitigation until the water license hearing in 2011, when source control efforts were identified as a potential mitigation. Given the certainty of the company in the original EA, these actions should have been triggered much sooner. They also should have been some evidence that they would work. During the technical sessions the project recently stated that grouting is not feasible as a mitigation. Once again, the project's prescience has been pierced.

### 1.2 Operational History/Experience

When we talk about stewardship, we have evidence of De Beers approach – both factual and anecdotal from the YKDFN's experience. It's not necessary to be exhaustive, YKDFN are sure that the Board is aware of the Project's reputation with regards to spills, direct uncontrolled releases to Snap Lake, clashes with the inspector, recent license exceedance and the triggering of the adaptive management plans for two other chemicals. Suffice to say that the YKDFN does not believe that this project has been

an example for industry. While most of these issues have had small consequences, we have been lucky that there have not been more severe impacts. Beyond the water management issues that have proven so problematic for the site, there are a number of other issues that formed part of the original EA that have cascading impacts that have been poorly addressed:

- In terms of benefits provided to the North, this project has never been in compliance with its Socio-Economic Agreement. This project is not just having more environmental impacts than predicted, but has provided less benefit than promised.
- Operationally the mine plan called for the production of paste backfill to put more than half of their waste back underground. Paste backfill has never been successfully implemented, with real effort towards achieving this not beginning until years into mine life. This has had consequences to many aspects of the project operations and has not been a subject of particular effort. Until recent issues with the North Pile Management, the project did almost nothing do begin to work towards a solution.
- The project stated that they would build and operate a land farm to mitigate spill and hydrocarbon contamination. This is particularly true with this site which has had great difficulty with spills.
- They said that they would have virtually no impact on Caribou. Beyond the contribution to cumulative impacts. In this era of great hardship amongst harvesters in the YKDFN, this year a Snap Lake bound truck killed two caribou, with another De Beers vehicle killing two more. Meanwhile, YKDFN harvesters in the same area were charged for exercising their rights to provide meat for their families while the animals killed on the road were left for the wolves.

YKDFN have experienced several decades of diamond mining in Chief Drygeese Territory. This project is clearly reluctant to apply best practices and hold sound environmental stewardship as a core value. Over the years, YKDFN has consistently had to become involved in simple things that seem to beyond the Project's ability to complete in a manner consistent with expectations. As we wrote in our September 6<sup>th</sup>, 2013 letter to the MVLWB:

*"YKDFN are unsure why other mineral exploitation projects seem able to conduct their affairs in a timely and efficient manner while Snap Lake always seems to require additional focus from our Lands and Environment staff. Our expectation is that over the next year we see improvements similar to what has recently occurred in the reduction of spills on site – because the status quo is no longer acceptable"*

Unfortunately, there has been little progress from De Beers – from the earliest operations, they have consistently been behind the management curve and it has been one issue after another. YKDFN are concerned that the narrow scope of this EA, when combined with its 'fast-tracked' approach means that we are again missing the bigger picture.

### 1.3 Closing

We feel that this is not just an EA to look at moving from one level of contamination to another – but that the EA is to consider the impacts of matter. The Project wants us to consider only the impacts of increasing that level – but that’s not correct. This Project told us many things during the original EA, a lot of what turned out to be incorrect. This Project had its chance – they cannot be relied upon to conduct its operations in a way that is protective of the environment. YKDFN believe that the EA Decision must be more proscriptive in its approach than the previous Snap EA.

- *Recommendation:* The Project should be required to prepare a concordance table that looks at the predictions made during the EA and complete a comparison of the monitoring data to identify areas of future concern and unpredicted impacts.
- *Recommendation:* The Project should be required to complete a review for each measure, suggestion and commitment made, indicating how they succeeded in meeting the required action. If the task has not been completed, the project should identify how they will implement the needed mitigation or commitment. This should be captured as a measure in the current decision, directing this review to be submitted as a special study for approval with the MVLWB permit.

## 2.0 Effluent Quality Criteria

### 2.1 ‘Pollute Up To’ Approach

The Project is proposing a Site Specific Water Quality Objective of 684 mg/L for Total Dissolved Solids. As we understand it, this number is a result of testing that the Project undertook to determine when they would see effects to the reproduction of test species. As the Ecometrix report points out on page 2.1:

*“The use of an IC20 level for a sensitive daphnid species as the SSWQO seems reasonable. The 20% response level is a level at which the effects often become discernible or measureable in both laboratory and field studies “*

This approach can be described as a ‘pollute up to’ approach. It is fundamentally against the approach that YKDFN believes should be applied, both from a traditional land use and land management sense, but also from common sense. Environmental stewardship is about conservation and protecting the resources for future generations, not about filling the water with effluent. Stewardship is not about waiting until you reach the limit, then applying for a permit amendment to change that limit with the future of the mine and its workers hanging in the balance. The Project knew that this amendment needed to be done years ago, yet chose not to pursue the matter until our collective backs were against the wall. Stewardship is where all of the effected parties can engage in the regulatory system to arrive at a point where the balance of impacts and benefits can be considered in a thorough and rigorous manner.

Stewardship shouldn’t be infused with hubris as in the initial EA. De Beers has clearly shown that they do not have an omnipotence that the rest of us lack. Their knowledge of the land, the water and everything

in between is far complete, which makes this 'pollute up to' level unworkable as that complete knowledge is a foundation. If we allow the Project to increase the level of contaminants in Snap Lake to a point where there is no flexibility or resilience in the system any more, there is no room for incorrect predictions, accidents, malfunctions or any kind of unforeseen event. The types of things that have been abundant during the operations at Snap Lake

A different perspective must be applied – rather than setting EQCs at the boundary which we start to see organisms failing to reproduce or survive, the perspective should be to adopt license limits which we know protect the environment. Conservation is fundamental to Dene wellbeing and any license limits must reflect that. Again, the EcoMetrix report:

*“A lower response level such as the calculated IC10 might be considered. It would be more precautionary, representing a level with no measureable effect”*

This more reflective to the YKDFN perspective – that the ECQ set in a way that is protective of the aquatic ecosystem. Even the IC10 (560 mg/L) isn't equitable to being protective or conservation as it represents compromising the lower levels of the aquatic ecosystem, particularly noting that the IC10 for *D. magna* was 312 mg/L.

## 2.2 Moving the Goalposts

While YKDFN oppose the Project's 'pollute up to' approach, the same is true of the Project's 'move the goalposts' amendment. There are a number of guidance documents that support the YKDFN's perspective:

### Water Stewardship Strategy

- The goal states: “Waters flowing into, through or within the NWT maintain their quality, quantity and rates of flow”

### MVLWB Water and Effluent Quality Management Policy

- The guiding principle includes pollution prevention: “The use of processes, practices, materials, products, or energy that avoid or minimize the creation of pollutants and waste and reduce overall risk to human health and the environment”

During the technical session, the Project made it clear that water treatment technology exists, although they presented virtually no information on how they would apply that technology to achieve potential license limits. The Project believes that the new goalposts should be set at a level above the level where science tells us that effluent negatively impacts the aquatic ecosystem. However, there is absolute clarity that they can do better – that they could prevent the release of unnecessary pollution to better preserve the water quality of Snap Lake and the downstream. This principle is supported by section 6 of the Board's water quality guidelines, *Objectives for Regulating the Deposit of Waste*:

1. Water quality in the receiving environment is maintained at a level that allows for current and future water uses.

2. The amount of waste to be deposited to the receiving environment is minimized.

In addition to the above, Section 7.1 of the Boards guidelines lays out the best practices for waste management such as the deposition of effluent in a water body. The Project response to the effluent levels should be guided by the waste hierarchy of preferred options, as follows:

1. Source reduction – waste should be prevented or reduced at the source whenever feasible;
2. Reuse/recycle – waste that cannot be prevented should be reused or recycled in an environmentally safe manner whenever feasible;
3. Treatment – waste that cannot be prevented or recycled/reused should be treated in an environmentally safe manner whenever feasible; and
4. Discharge – discharge or deposit of waste into the environment should be employed only as a last resort and must meet EQC.

In this case, the Project sought to simply implement source controls and increase the discharge limits at the same time. In 2011, when it was clear that exceeding TDS limits would become an issue, treatment was not part of the Project's approach. Instead, the Project focused resources on moving the EQC altogether, with that part of their submission well developed but almost no details on how they will potentially apply treatment technology to achieve their future EQCs.

Only after the technical sessions do we know that the Project plans to employ some type of reverse osmosis plan, but there are no details on how or what this will entail. For example, this process produces a very concentrated brine which requires particular considerations around disposal. There is no information on how they will achieve this. Many question marks remain, with potentially more questions today than at the start of this EA.

YKDFN object to the standard *de facto* approach from industry – whenever they are forced to meet a license limit, they simply seek to change the limit. It's a troubling view of companies that regularly say they are 'protecting' the environment, especially in this case where the limit they're seeking to change is one that they themselves set as the bar.

### 2.3 YKDFN – Traditional Use Guidelines

The Yellowknives Dene still actively use this area to exercise their treaty rights and view any compromise of the area as a significant impact. There is a general perception that industrial sites are to be avoided, but when the water no longer tastes good, when a harvester can't put his cup in the water and drink it with confidence, that area is no longer usable. Therefore, downstream water is viewed with suspicion.

The Project is proposed a level that exceeds the Health Canada guidelines for drinking water quality taste – 500 mg/L. That is a critical threshold that cannot be exceeded. In addition to the policies already mentioned, the MVRMA explicitly states that:

*60.1 In exercising its powers, a board shall consider*

*(a) the importance of conservation to the well-being and way of life of the aboriginal peoples of*

*Canada to whom section 35 of the Constitution Act, 1982 applies and who use an area of the Mackenzie Valley; and*

The original TDS level of Snap Lake was 10 mg/L. Even the Health Canada guideline represents an increase of 4900%. It is important that the people using the land have confidence that the water and food they're consuming are safe. The Project wants a higher limit – at 684 mg/L, beyond the level where impacts are detectable to humans and to the point where science (which has not been peer reviewed or reproduced external to the project) shows effluent begins to change the environment at microscopic levels. YKDFN land users cannot fathom this limit as acceptable.

When asked about the socio-economic and cultural impacts before and after the Project's operations, the Project cited that "There are few land users in the area immediately surrounding Snap Lake" and that "the area around Snap Lake was not likely an area of substantial historical use". YKDFN disagree with this view as it's clear that YKDFN harvesters actively use the area and a number of family groups have been active in this region over the years. It lies just upstream from critical harvesting areas around Mackay Lake. Harvesters would have, and continue to, travel throughout the area.

The Dene people often talk about how everything is connected. Beyond the spiritual and physical observations, we know that we'll see changes in the system. This is precisely what is happening at Ekati. What we don't know is what effect that is going to have as you move up the food chain – what happens to the stuff in the sediment and the small fish. But is that the approach that we want to adopt? That we can change the foundation of the food web and wait until we start to see changes in the upper part of the food web? Utilizing all of the resilience of the aquatic ecosystem hardly seems like a protective approach to environmental stewardship.

- *Recommendation:* YKDFN strongly reject the 'pollute up to' approach and recommend that a more objective approach be employed, setting the TDS limit at 500 mg/L. This level will limit the impacts to the environment while protecting the land users, ensuring that their perception of the area is not significantly changed and the mine site can be remediated with public confidence.

### **3.0 Cultural & Socio-Economic Impacts**

*"We're trying to understand how we can protect the environment and mine safely and responsibly for the benefit of current and future generations"*

*- Glen Koropchuk, De Beers, Gahcho Kue Water License*

YKDFN agree that mining must protect the environment and benefit the current and future generations. In the same way that this Project's environmental predictions have failed, this project has failed to deliver the benefits that it projected - It has failed to fully meet the commitments set out in the Socio Economic Agreement even a single year. In general, benefits are disproportionately accrued in the territory, with greater benefits being derived in larger communities and fewer benefits found in the smaller local communities.



The mines, in the collective sense, have had significant positive and negative impacts on the community. The impacts, the root causes and the efforts to mitigate them are poorly linked and understood, even after a generation of diamond mining. Mitigations are found in public policy efforts which seem to be limited in their effectiveness, as the downside impacts found in the Diamonds and Communities Report show disturbing trends in small communities. Number of suicides, single parent families, minor and violent crimes have all been increasing, a disturbing insight into community health. There is a strong belief in the community that the camp lifestyle, with parents and leading community members away for two weeks at a time have been a significant contributor to this issue.

We must improve provide benefits to our people while minimizing the impacts. Simply providing jobs is not enough – we have experienced a generation of mining and the potential growth of the workforce is limited. So as we seek to find new ways to reduce impacts, we must also adopt a new approach to providing benefits to the communities who have experienced the impacts the most.

- *Recommendation:* Given the situation facing the community, we recommend that the Project and industry be directed to undertake academic studies to consider the issues facing Ndilo and Dettah and issue recommendations aimed at promoting community health. With almost 20 years of data the study would no longer need to rely on predictions – what has happened can guide and inform public policy development

#### **4.0 Cumulative Effects**

The Lady of the Falls is a place of great importance and great power to First Nations and any disturbance of the site is not acceptable. The Project predictions show that the plume associated with the project will 'only' extend 50 kilometers downstream – and that they don't believe that there will be any such disturbance. During the technical session YKDFN pressed the matter and is still unsatisfied with the response provided by the Project. De Beers does not believe that there will be an impact and cannot understand how a series of cumulative circumstances may contribute to such an effect:

*"Practically speaking, yes. That's -- that's a statement we would stand behind. What I'm failing to get, Todd, is just a connection between the Snap Lake mine and this – and this area."*

We hope the company is correct, and we hope that their predictions are correct. For a matter of this significance, hope is not enough, regulatory certainty is required. This company failed to see any scientific way that we would be seeing an exceedance of 350 mg/l of TDS, yet here we are. During the technical session, YKDFN asked if the Project would support a measure that would ensure that the Lady of the Falls is not disturbed, to ensure that water quality never changes there. This is the same commitment that Gahcho Kue, another project in this watershed, owned by the same company, made in its Environmental Impact Review. YKDFN are simply seeking the same regulatory tool to ensure that this spiritual site retains its power and is protected.

- *Recommendation:* The Board should put a measure in place to protect the Lady of the Falls. This measure should be clear that any alteration in water quality in this area is unacceptable, whether it be project specific or cumulative in origin.

## 5.0 Failure to Adequately Engage

*"I'd just like to add that if there was a change or an amendment, that there would certainly be a lot of engagement that went on beforehand, and that we would expect we would consult with the communities, and the regulators, and the Interveners. It wouldn't be something that we're going to even contemplate trying to go off and -- and do without doing proper consultation and engagement"*

- Dave Putnan, De Beers, September 14<sup>th</sup>, 2011

Under questioning from the YKDFN, the Project assured all of us that they wouldn't even consider proceeding on the TDS issue without proper consultation and engagement. There would 'certainly' be a lot of consultation beforehand. If you just look at the titles of the documents submitted to the registry, you'd think that consultation happened as there are several hundred pages of presentations and records from engagements. This is simply not the case.

For years, YKDFN has been deeply concerned about the operations at this mine, particularly with TDS. In regulatory (and other) processes we sought to have a conversation on what the Project intended to do about this growing, significant problem. Over the years we encouraged the Project to seek clarity on the process by which they would go forward: they believed an amendment was all that was required – YKDFN disagreed. We pushed for source control and treatment. Until December 20<sup>th</sup>, 2013 this was met with silence – when we learned that the Project ignored YKDFN's concern (and the clear language in the MVRMA) and brought forward a plan that focused on relaxing the environmental requirements. Until that point, there was no information on how the Project would address the concerns.

To avoid any confusion regarding the exact nature of the engagement between De Beers and YKDFN, during the April Technical Sessions, YKDFN asked two questions on the contents of engagements that are presented.

- We asked the company to provide references from Volume I of the application where TDS was discussed. They did not. They chose to refer to a list of the engagement sessions (see presentation materials from the proponent)
- In that list, the company acknowledged that 5 of 7 items were not related to the amendment on TDS.

YKDFN do not dispute the fact that some of these engagements talked about water management. But what is essential to know is that the Project did not begin to engage on the TDS matter until January 6<sup>th</sup> with technical staff. The following meeting was a half day with a few representatives - where the central matter was proposed operational changes to the Fuel Storage.

Consultation is firstly intended to ensure that information from the company is adequately conveyed to the community and the leadership; secondly to relay concerns from the First Nation to the project. In this case, neither of those occurred because the company failed to meaningfully engage prior to the Environmental Assessment. In the future, we hope that the MVLWB and the Review Board will seek to ensure that the information submitted is both relevant and complete.

- *Recommendation: YKDFN are frustrated with the company's approach to consultation and ask the Board to require the project to resubmit the engagement record with only relevant engagements, indicating what concerns they gathered from these processes and how they sought to mitigate them. This will ensure that companies do not try to paper the record to create large volumes.*

## 6.0 Conclusion

YKDFN have provided a number of recommendations that are essential to minimize the impacts, potentially improve the benefits provided by the Project, and to ensure that there is environmental resilience in case the Project's understanding of the environment is less thorough than it believes. History has shown that if we want to provide sound environmental management for this project, the decision needs to be proscriptive and provide conservative limits for the Project's operation.

YKDFN are uncomfortable with changing the Project's EQC's, particularly given the history, the nature of the assessment, the approach to engagement, and the operational lessons that we have learned from. However, given the large existing impacts, we do not object to changing the limits to a level which we believe is still protective of the environment and is technologically and economically achievable. This compromise is very difficult as we believe the earlier assessment reviewed the Project as a whole, not simply as smaller parts. YKDFN are greatly concerned that the Project is simply dealing with one issue at a time with the real issues lie with upper management's approach to mining and environmental stewardship.

YKDFN are looking forward to the finalization of the Report of Environmental Assessment. If there are any questions or if we could provide additional clarification, please don't hesitate to contact the YKDFN Lands and Environment Department at (867) 766-3496.

Sincerely,



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Shannon Gault  
Director, Lands and Environment

cc: Erica Bonhomme. De Beers Canada, Yellowknife (By Email)

