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October 4, 2019

Re: EA1819-01 – Diavik Diamond Mines Inc. – Depositing Processed Kimberlite into Pits and Underground: Closing Argument.

Dear Ms. Fairbairn,

The Deninu Kue First Nation (DKFN) is pleased to provide the following closing argument regarding the environmental assessment for project EA1819-01 Diavik Diamond Mines Inc. – Depositing Processed Kimberlite into Mine Workings (PKMW project). The Diavik Diamond Project is within the current and traditional socio-economic use areas of the DKFN and the lands around the project area have been used by our people since time immemorial for hunting, fishing, trapping and gathering. The DKFN is supportive of this and other projects in our traditional territory as we recognize the potential benefits to our community and the Northwest Territories, but we continue to be optimistic that our rights, treaty, traditions and way of life continue to be paramount in any recommendations and final decisions of the Mackenzie Valley Review Board.

The DKFN has participated in the review process of the PKMW project and has conducted the following activities:

- Review of the Summary Impact Statement and responses to information requests prepared by Diavik Diamond Mines Inc. (DDMI);
- submission of our Intervention (technical report);
- presentation of the technical public hearings; and
- review of other party interventions.

We remain concerned about several aspects of the PKMW project as these pertain to residual and cumulative effects on ecosystems within our traditional territory that will ultimately affect

our ability to practice our asserted Aboriginal and Treaty rights. Our closing argument focuses on water quality, fish and aquatic resources, the Bathurst caribou herd and future consultation and engagement.

Water Quality

For water quality, the prediction of potential effects was based on the results of a preliminary water quality model that had several limitations. We raised the concern that DDMI concluded that issues related to the deposition of extra fine processed kimberlite (EFPK) would be the same as for the deposition of fine processed kimberlite (FPK). We disagreed with this conclusion, since the sedimentation rate and resuspension potential of particles in the water column is driven primarily by particle size, shape, and density. Therefore, the assumption that EFPK and FPK will behave similarly with respect to settleability and resuspension potential was not validated by DDMI and the accuracy of the water quality model in predicting settleability and resuspension potential remains in question.

The Government of the Northwest Territories also pointed out that the water quality model was preliminary, and many pathways were not included such as groundwater flow, inputs from pit wall fracture and variations in the total dissolved solid concentrations in groundwater. DDMI responded that an entire new model will be used that properly considers all the potential pathways. However, this model would be prepared after the approval of the environmental assessment. The results of this new model would be provided at three milestones: before the deposition of any processed kimberlite into the pits, before flooding of the pits and before breaching the dikes. Given this response, the results of the new model will continue to be refined even after the approval of the water license amendment.

As was raised by the DKFN and several intervenors that the technical hearings, the reliance on the results of the cursory water quality model to predict the potential effects of the project raised a high level of uncertainty regarding the impact predictions. DDMI has stated that this is the typical approach, to prepare and use a conceptual model to identify any potential issues and go from here to a more detailed model. However, given the questions regarding whether the proper inputs and pathways were used in the model, the DKFN and other parties do not feel comfortable that the potential impacts from the project were assessed accurately. Further, it is apparent that DDMI has not presented reliable information to the Review Board to instill confidence that the PKMW project would not cause significant environmental and cultural effects.

Finally, DDMI did not address several of our recommendations that we submitted with our Intervention.

- There was a lack of information on the potential effects, pathways, and measurable parameters as a result of the PKMW project, which; does not instill a sense of confidence in the residual effects characterization. Therefore, the DKFN recommended

DDMI develop a conceptual site model that includes primary release mechanisms of contaminants, secondary/tertiary release, transport, and uptake mechanisms; and exposure pathways that can be used to communicate the components of the residual effects assessment and demonstrate a comprehensive understanding of the system.

- The Aquatic Effects Monitoring Program (AEMP) and significance thresholds are applied within the top 40 m of surface water as it is assumed that there is limited use by aquatic receptors below this depth; however, the threshold of 40 m has not been validated through predicted light attenuation in the pit lakes (e.g., through a literature review or using analogous pit lakes). Therefore, DKFN recommended DDMI conduct a literature search and/or supporting study (e.g., using analogous pit lakes) to identify an evidence-based depth threshold to define the euphotic zones for the proposed pit lakes.
- No significance threshold for total dissolved solids (TDS) was provided despite this parameter being subject to project related changes. In addition, an ecologically relevant TDS threshold should be included. Comparatively, the human-health based threshold used by DDMI is 500 mg/L, within the range of observed benchmarks for aquatic life in water with presumably similar ionic ratios. Therefore, DKFN recommended the AEMP threshold of 500 mg/L be validated through a suite of toxicity tests prior to characterizing residual effects.

Fish and Fish Habitat

The breaching of the dikes around the pits has the potential to disturb the stratification of the pit lakes. There is the potential for localized significant effects from the potential contaminant migration upwards in the water column, which could expose fish, plankton and benthic invertebrates in the immediate vicinity to potentially harmful levels. This concern has not been addressed, especially in consideration of the concerns raised over the accuracy of the water quality model and questions around the consolidation of extra-fine processed kimberlite.

Also, in its habitat compensation plan, as captured under DDMI's current Fisheries Act authorization, DDMI would keep sections of the dikes in place and these structures, both within the pit lake and on the Lac de Gras side, would be reclaimed as fish habitat. Given the lack of information presented by DDMI the question remains as to whether water quality in the pit lakes will not pose harm to fish species. Should this be realized then the planned fish habitat measures will not use usable and additional offsetting measures will need to be identified. Again, the level of uncertainty and information gaps in this regard affect the environmental assessment process.

Bathurst Caribou Herd

In making the prediction of environmental effects on wildlife and wildlife habitat, DDMI used the same significance criteria that was used in the original Diavik Diamond Project environmental assessment in 1998. Since the original environmental assessment for the Diavik Diamond Project, additional guidance has become available for assessing environmental effects to species at risk, where the assessment of residual effects should consider whether such effects may intensify or aggravate known threats to wildlife species. Further, given the diminished and precarious state of the Bathurst caribou herd, determining whether residual effects are significant can be guided by an examination of whether project activities would exceed thresholds. For context, management thresholds are included in the Bathurst caribou range plan that are informed by traditional knowledge, caribou biology, societal risk tolerance and are reflective of precautionary decision making for Bathurst herd management. Plus, the level of effects to wildlife is reliant upon the outcomes of the aforementioned water quality model.

Further, the measurable parameter and unit of measurement for measuring the change in wildlife health was assessed qualitatively based on results of surface water quality modelling and assessment. In other words, if water quality parameters were predicted to stay below water quality guidelines, then no effect of wildlife was predicted. This simple, linear approach taken and the use of assessment evaluation criteria from over 20 years ago, when caribou were facing different pressures does not demonstrate careful consideration of the issues. As was stressed by several parties at the public hearings, the health of caribou is of the utmost importance to the people in the north and the potential impacts to caribou and traditional resources has not be adequately evaluated by DDMI.

Also, at the public hearings, DDMI made the assertion that the risk to caribou would be lowered if processed kimberlite is deposited in the pits. The processed kimberlite facility is currently in place and will remain in place until the life of the mine. It is unclear how increasing the size (i.e., height) of the facility and its length of operation (i.e., a few more years) would increase the current risk the facility poses to wildlife or how this risk would be substantially reduced if processed kimberlite is placed in the pits. A full analysis of this assertion is required to understand the potential effects, which is something that DDMI has not presented.

Consultation and Engagement

The DKFN is pleased with DDMI's commitment for additional engagement on the project. In reference to the list of commitments, #2 states "Diavik commits to developing an engagement plan with Deninu Kue First Nation and the Fort Resolution Métis Council, building on the commitment to meet annually (as described in cover letter to response to interventions)." To be clear, it is the DKFN's expectation that an engagement plan be developed in collaboration so

that expectations of all parties are addressed. It is only in this manner that the full spirit of co-management of northern resources be realized.

Closing

We recommend to the Mackenzie Valley Review Board that given the level of uncertainty in the assessment of effects the Diavik Diamond Mines Inc. – Depositing Processed Kimberlite into Mine Workings project not be approved. In closing, we remain committed to working with the Review Board and Diavik Diamond Mines Inc. on the successful resolution of concerns. We look forward to further engagement in the review process of this project. Should you require any clarification on the information presented in our closing argument please contact our technical advisor, Dr. Marc d'Entremont, at mdentremont@lgl.com or 250-656-0127.

Sincerely,



Chief Louis Balsillie

cc. Richard Simon, DKFN Resource Management Coordinator
Dr. Marc d'Entremont, LGL Limited (DKFN Technical Advisor)