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Jessica Hurtubise
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North Slave Métis Alliance
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20 September 2019

Dear Ms. Jessica Hurtubise:

Subject: DDMI Response to North Slave Métis Alliance Comments from Hearing for the Environmental Assessment of the Processed Kimberlite to Mine Workings Proposal (MVEIRB File No.: EA1819-01)

Diavik Diamond Mines (2012) Inc. (DDMI) is pleased to provide its responses to North Slave Métis Alliance's (NSMA) comments/concerns from the Hearing for the ongoing Review of DDMI's Processed Kimberlite to Mine Workings Proposal (PKMW) by Mackenzie Valley Environmental Impact Review Board (MVEIRB or the Board). DDMI's responses are attached to this cover letter.

Please do not hesitate to contact the undersigned or Kofi Boa-Antwi (867 447 3001 or kofi.boa-antwi@riotinto.com) if you have any questions related to these responses.

Sincerely,



Sean Sinclair
Superintendent, Environment

cc: Catherine Fairbairn, MVEIRB
Kate Mansfield, MVEIRB
Ryan Fequet, WLWB
Anneli Jokela, WLWB

NSMA Comment #1

Diavik argued that it is moot that they modify their magnitude definition because they do not predict that they will exceed or even near levels defined as significant (hence they argue that there is no point in lowering the magnitude threshold such that significance is triggered at a biologically relevant level). This argument is typical of clients trying to leave themselves space for allowing much greater than expected concentrations to be accounted for should there be issues in their modelling process. However, if DDMI are using a Level system as an action level threshold to develop their mitigation for Water Quality, so as to not exceed the AEMP benchmarks (i.e., a Level 2 action level is defined as the 5th percentile of nearfield baseline concentration) then DDMI should not have any issue with lowering the significance level to something that is more biologically relevant (e.g. some percentage above baseline whereby a change is anticipated or in the very least the AEMP guideline itself). Given that this is a precedent setting proposal it is imperative that a conservative approach be taken to protect aquatic life and water users from potential water quality effects. More realistic and biologically relevant thresholds for significance should be used and based on scientifically defensible biological studies. Using a significance level of 20% greater than the AEMP allows for the proponent to exceed the water quality guidelines by 19% and still meeting their predictions of non-significance (e.g., if there is an accident that allows concentrations to ramp up to high concentration quickly without the proponent being able to mitigate), which would not be protective of aquatic life and water users. Similarly, the definition of negligible is questionable, as they define it as a 5% increase above to AEMP benchmark, but this is not defined relative to baseline values. Since baseline values start off quite a lot lower than AEMP thresholds for most parameters, these definitions allow for a lot of wiggle room for them to alter water chemistry and to still call it negligible. It is our opinion that a negligible effect would be an effect that would fall within the range of natural variability in baseline concentrations, and that a significant effect would be one whereby an increase in concentration of a COPC would induce a biological change in the communities of interest (e.g. measurable change in health, etc.; as aforementioned, either defined as a percentage above baseline, or at the very least to not exceed AEMP levels). Water quality should be monitored often and in more locations, including at the site of confluence with the pit once breached as well as at various distances and depths from that location (the details of which we can assist with during a review of, or input into, a detailed AEMP). A solid water quality monitoring plan that is more rigorous than planned for is needed to trigger adaptive management and to test predictions (again, we emphasize that the modification of definitions for negligible and significant will be key in this resulting in a fair conclusion, which can affect First Nation and Métis rights to claims and lawsuits from the company...).

DDMI Response to NSMA Comment #1

The details of the monitoring plans are best addressed through the review of plans submitted through the water license. DDMI intends to apply the same AEMP Action Response Plan that is currently applied to the Diavik Operations with appropriate action modifications for the closure and post-closure phase. DDMI disagrees with NSMA's interpretation of the AEMP, in particular on the biological relevance of current thresholds and how action levels effectively constrain DDMI's actions, but DDMI also recognizes that the AEMP will be subject to close review through the water license process. A discussion regarding the details of the monitoring plans would be best addressed through that process.

Further, DDMI disagrees that its AEMP is precedent-setting or that this should be a consideration in this case. DDMI is entitled to have its proposal considered on its own merits and the AEMP should be designed to address DDMI's own circumstances and not singled-out to achieve policy objectives.

NSMA Comment #2

Climate related upwelling of gas from melting permafrost has been documented in arctic lakes. It is unknown whether this is a high risk at Lac de Gras. While the proponent's written response to NSMA 4 addressed that they acknowledge that there could be contributions of nutrients from climate change driven processes, what they failed to address is whether there is potential for the upwelling of gases, such as methane, to penetrate the chemocline (i.e., could the physical forces of gas upwelling be able to penetrate a chemocline, pulling pore water and fine PK along with it). In addition, the response does not address whether DDMI will include climate change related gaseous upwelling from melting permafrost in their upcoming modelling. Also of note, during the technical meeting, DDMI seemed to indicate that there may be some potential for the chemocline to be compromised or to not develop properly in the pit, should the pore water quality not be sufficiently different from that of the water column (water infilled from Lac de Gras). In this case, it is not clear whether upwelling from climate change could result in upwelling of pore water and PK particles into the biologically relevant water layers, thereby having the potential for uptake in aquatic organisms either resulting in increases chemical concentrations in tissues, or physical processes (e.g. gill blocking) that could affect aquatic life.

DDMI Response to NSMA Comment #2

It appears this concern is premised on the incorrect assumption that the bottom of the A418 mine workings are within permafrost. Permafrost does not extend to the bottom of Lac de Gras. The bottom of the mine workings is composed of solid bedrock and is not within a zone of permafrost and so DDMI does not expect that the processes described in NSMA Comment #2 are relevant to the PKMW.