

Diavik Diamond Mines (2012) Inc.  
P.O. Box 2498  
Suite 300, 5201-50th Avenue  
Yellowknife, NT X1A 2P8  
Canada  
T (867) 669 6500  
F 1-866-313-2754

Ms. Angie McLellan  
Fisheries Protection Biologist  
Fisheries Protection Program, Fisheries and Oceans Canada  
Suite 301, 5204 50<sup>th</sup> Avenue  
Yellowknife, NT X1A 1E2

22 February 2019

**Re: DDMI Water License Amendment – Processed Kimberlite to Mine Workings**

At the Prehearing Conference held by the Wek'èezhii Land and Water Board (WLWB) on February 18, you raised an issue related to the referenced water licence amendment and Diavik Diamond Mines (2012) Inc.'s (DDMI) Section 35(2) *Fisheries Act Authorization* (SC980001) ("Authorization") and noted that you had raised this issue previously. Thank you for meeting with me and clarifying that your reference to a previous identification of this issue was your submission to the WLWB of August 2, 2018 towards the end of DFO-1 where you state:

*"DFO-FPP also notes that the proposed water licence amendment changes the intended use of the A418 Pit from the original approved plan and Fisheries Act Authorization SC980001 under section 35(2) of the Fisheries Act."*

At the WLWB Technical Session in January 2019, you noted that under the current *Fisheries Act* DDMI's *Fisheries Act* Authorizations cannot be amended from their original conditions and this could be an issue with DDMI's proposed processed kimberlite deposition to mine workings. However you also noted that the *Fisheries Act* is currently under review before the senate.

When DDMI responded to this comment we did not appreciate that this was a regulatory concern for Fisheries and Oceans Canada (DFO). With this additional clarification we would like to provide a more complete response to your comment noted above.

1. DDMI believes that it is possible to change the intended use of the A418 Pit (to include Processed Kimberlite (PK) deposition) within the existing conditions of the *Fisheries Act* section 35(2) Authorization SC980001. The "Project Effects" listed in SC980001 still includes "iv) *Fish habitat in Lac de Gras (inside of the dikes) will be destroyed due to open pit mining;*" and this is unchanged with or without PK deposition. Compensation requirements for the HADD of fish habitat in Lac de Gras

remain as described in Section 6.1.3 of the Authorization with or without PK deposition as results from modelling of post-closure water quality continue to indicate acceptable conditions for fish and fish habitat.

2. The Department of Fisheries and Oceans was a Responsible Authority (RA) for the Comprehensive Study Report (CSR). When the RAs reviewed DDMI's proposed mining approach they recommended that DDMI pursue

*"... opportunities to use processed kimberlite as underground backfill to reduce the long term mitigation requirements of the PKC facility" (CSR pg 54).*

Similarly, independent evaluations of DDMI's mining alternatives reported in the CSR made the following observation:

*"There appear to be opportunities to enhance the overall efficacy of the project, reduce environmental disturbance, and reduce project closure and abandonment requirements. If the project is approved, these opportunities should be actively pursued during engineering, construction and early operation, prior to 'locking in' the complete mine development sequence. Such opportunities may include the assessment of alternate mining technologies and the back filling of mined out pits as options to reduce operating costs and long term environmental mitigation requirements. (CSR pg 53).*

DDMI's proposed Water License Amendment is consistent with the RAs' recommendation and the independent evaluation observation. We therefore expected general support from DFO for the concept of backfilling with PK while recognizing the need to fully consider the specifics of the proposed approach particularly with respect to water quality as it relates to fish and fish habitat.

3. DDMI has acknowledged the potential for Processed Kimberlite (PK) deposition to mine workings to affect post-closure pit lake water quality and subsequently constructed fish habitat quality. Information has been provided to DFO through the Water License Amendment process to describe expected pit lake water quality and consideration was given to potential effects to fish and fish habitat. DDMI's conclusions, supported by expert evidence and analysis is that post-closure pit lake water quality will remain suitable for fish and fish habitat.
4. DDMI's *Fisheries Act Authorization* SC98001 gives DFO the authority under Section 6.6. to review and approve the acceptability of predicted pit lake water quality for fish habitat before DDMI commences fish habitat construction. Section 6.6.2 also gives DFO the authority to require DDMI to revise Compensation Plans if DFO concludes water quality will not be acceptable for fish and fish habitat. This authority is not conditional so applies with or without deposition of PK. We understand that DFO now has all of the information required to consider acceptability for fish and fish habitat and await your conclusions.

5. The original physical shape of the pit lake area, from the approved plan, is that “The open pit would be a large hole with steep walls which would descend to a depth of approximately 250m (Figure 2-2).” (No Net Loss Plan pg 15). The Authorization assumed mining methods would all include backfilling (CSR pg 48). It did not consider the Sub Level Retreat (SLR) method used by DDMI for underground mining in A418. SLR does not include backfilling so an open hole is left at the bottom of the pit. Depositing PK in Mine Workings will largely backfill the underground and result in a pit lake area with a physical shape more similar to what was originally considered in the Authorization (i.e. open hole depth of around 250m) rather than what would result if PK material is not deposited (open hole depth of around 725m – based on A418).

We trust that the above provides a more complete response to your comment of August 2, 2018. We look forward to our ongoing collaboration with DFO independent of the WLWB Water Licence Amendment Process to ensure continued compliance with applicable provisions of the *Fisheries Act*.

Please contact the undersigned if you have any questions or if you would like to meet and discuss this response further.



Regards,

Sean Sinclair

cc Ryan Fequet, WLWB