

Environmental Protection Operations Directorate  
Prairie & Northern Region  
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ECCC File: 5100 000 034/008  
MVLWB File: MV2019L2-0004



February 14, 2020

via online registry

Angela Love  
Regulatory Specialist  
Mackenzie Valley Land and Water Board  
7<sup>th</sup> Floor, 4922 48<sup>th</sup> Street  
P.O. Box 2130  
Yellowknife, NT X1A 2P6

Dear Angela Love:

**RE: MV2019L2-0004 – DeBeers Canada Inc. – Snap Lake Diamond Mine – Type A Water Licence Renewal – Final Closing Arguments**

Environment and Climate Change Canada (ECCC) would like to thank the Mackenzie Valley Land and Water Board (MVLWB or Board), DeBeers Canada Incorporated (the Proponent) and other parties for the opportunity to participate in the above-mentioned water licence renewal for the Snap Lake Diamond Mine.

Following the Public Hearing held on November 26-27, the MVLWB posted a draft water licence for review. ECCC provided comments to the MVLWB on January 30<sup>th</sup>. This submission outlines ECCC's closing arguments for this renewal process. These closing arguments clarify and reiterate ECCC's technical comments presented at the hearing, and further discussed with the proponent shortly after the hearing.

ECCC's specialist advice is provided based on our mandate pursuant to the *Canadian Environmental Protection Act*, the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*. Subsection 36(3) of the *Fisheries Act*, administered by ECCC, prohibits the discharge of deleterious substances to waters frequented by fish, or to a place where those substances might enter such waters.

ECCC-FC1: Aquatic Effects Monitoring Program

ECCC provided comments on the proposed Aquatics Effects Monitoring Program (AEMP) in our final intervention and at the final hearing. Specifically, we provided comments on the criteria used to reduce sampling effort during closure and post-closure. We included comments



regarding the uncertainty related to the limited sampling data proposed by the proponent that would be used to reduce water quality monitoring.

In response, the proponent acknowledged that they would update and re-submit the AEMP design plan, in order to incorporate all comments and Board directions received through this process. However, the proponent has proposed that this review be a conformity review, incorporating all information that has been requested to date.

ECCC continues to note that justification for any reduction in sampling should be provided for review prior to any reduction. We reiterate that such decisions should be based on clearly presented data and supporting rationale, which is subject to Board approval.

ECCC recommends that any reductions in sampling frequency under the AEMP be proposed through an AEMP re-evaluation report, to be completed every three years.

### ECCC-FC2: Closure Effluent Quality Criteria

ECCC provided comments regarding the elimination of the majority of existing effluent quality criteria (EQC) during the closure and post-closure phases in our final intervention and at the final hearing. The proponent provided a presentation on December 10, 2019 to ECCC that presented EQC options for various parameters after the final hearing.

For currently regulated metals, the following EQC were proposed:

- Aluminum – 0.28 mg/L
- Copper – 0.0041 mg/L
- Nickel – 0.09 mg/L
- Zinc – 0.0129 mg/L

For currently regulated nutrients, the following EQC were proposed:

- Total ammonia as N – 4.1 mg/L
- Total phosphorus as P – 0.05555 mg/L

ECCC recommends including Al, Cu, Ni, Zn, NH<sub>3</sub>-N, and Total phosphorus (TP) as regulated parameters in the active closure phase in the water licence (in addition to the parameters listed in the Draft Water Licence). In doing so, the Proponent should take into account, in the receiving environment, the CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life and any other applicable standards or guidelines.

ECCC recommends using the proposed maximum average concentration EQC provided to ECCC on December 10, 2019 for each of the regulated parameters.

### ECCC-FC3: Nitrate EQC

Taking into account all information presented to this point, ECCC recommends that the nitrate EQC for post-closure not be set at this time. Instead, the nitrate EQC for post-closure should be re-evaluated prior to breaching the ponds and monitoring conducted. Lower discharge criteria should be set if supported by effluent and receiving environment monitoring data and updated modelling predictions.

ECCC is confident that the outstanding comments presented above can be resolved with further work on the AEMP that will be occurring after the water licence issuance. We will continue to engage with the MVLWB and the proponent to review additional information when required.

If you need more information, please contact Gabriel Bernard-Lacaille at (867) 669-4746 or [Gabriel.Bernard-Lacaille@Canada.ca](mailto:Gabriel.Bernard-Lacaille@Canada.ca).

Sincerely,

A handwritten signature in black ink that reads "A McLandress". The signature is written in a cursive, flowing style.

Andrea McLandress  
Regional Director

cc: John Olyslager, Acting Head, Environmental Assessment North (NT and NU)