June 6, 2019

Ms. Colleen Prather  
Regulatory Specialist  
De Beers Canada Inc.  
Suite 300 – 1601 Airport Road NE  
Calgary AB T2E 4Y9  
Email: Colleen.Prather@debeersgroup.com

Dear Ms. Prather:

Re: Preliminary Screening Determination  
Snap Lake Mine – April 2019 Renewal Application for Water Licence MV2019L2-0004 and May 2019 Amendment Application for Land Use Permit MV2017D0032

The Mackenzie Valley Land and Water Board (the MVLWB or Board) met on June 6, 2019 to conduct a Preliminary Screening of your April 2019 Renewal Application for Water Licence MV2019L2-0004 and May 2019 Amendment Application for Land Use Permit MV2017D0032.

The Board is satisfied that Preliminary Screening of the April 2019 Renewal Application and May 2019 Amendment Application has been completed in accordance with section 125 of the Mackenzie Valley Resource Management Act. The Preliminary Screening Report including the Board’s Reasons for Decision, is attached.

If you have any questions or concerns, please contact Angela Love at (867) 766-7456 or email angela.love@mvlwb.com.

Yours sincerely,

Mavis Cli-Michaud  
MVLWB, Chair

Copied to: Distribution List

Attached: Preliminary Screening Report – June 6, 2019
**Preliminary Screening Report Form**

**Preliminary screener:** MVLWB  
**Reference / File number:** MV2017D0032, MV2019L2-0004  
**TITLE:** Snap Lake Mine  
**ORGANIZATION:** De Beers Canada Inc.  
**MEETING DATE:** June 6, 2019

**EIRB Reference number:** EA01-004 and EA1314-02

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**Type of Development:**

(CHECK ALL THAT APPLY)

- [x] New  
- [ ] Amend, EIRB Ref. #  
- [x] Requires permit, licence, or authorization  
- [ ] Does not require permit, licence, or authorization

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**Project Summary**

**MV2001C0012 and MV2001L2-0002 (Diamond Mining and Milling Production) and MV2014D0010 (Additional Fuel Storage)**


The project component that has changed since the EA and has not been screened previously is the increased diesel fuel storage capacity submitted on April 16, 2014 in the application for increased fuel storage capacity. The scope of Land Use Permit MV2014D0010 included the following:

1. This Permit entitles DeBeers Canada Inc. (De Beers or the Permittee) to conduct the following land-use operation:
   De Beers may conduct the following mining and associated activities at the Snap Lake Diamond Mine site (63°35'30" N, 110°52'00" W):
   i. The storage of fuel; and
   ii. Construction of Fuel Storage Facilities.

2. The Permit is issued subject to the conditions contained herein with respect to the use of land for the activities and area identified in Part A, item 1 of this Permit.

3. Compliance with the terms and conditions of this Licence does not excuse the Licensee from its obligation to comply with the requirements of any applicable Federal, Territorial, Tłı̨chǫ, or Municipal laws.

**MV2017D0032 and MV2019L2-0004**

Project components that are included in the April 2019 Renewal Application for Water Licence MV2019L2-0004 and the May 2019 Amendment Application for Land Use Permit MV2017D0032 include the following:

- The existing North Pile perimeter sumps will be re-graded to allow gravity drainage (Sump 1 → Sump 2 → Sump 3; and Sump 4 → Sump 5). Sump 3 and Sump 5 will then be substantially modified as they will form the influent storage ponds for the constructed wetlands (the water management pond will be repurposed and be integrated into one of the constructed wetlands). The influent storage ponds will discharge passively at a controlled rate to the wetlands, which will then discharge to Snap Lake. The final closure of the water management system is now being proposed to represent a permanent feature on the post closure landscape.

**Scope of the Screening**

The scope of the project components applicable to this screening includes the following:

- The storage of fuel;
- Construction of Fuel Storage Facilities; and
- The existing North Pile perimeter sumps will be re-graded to allow gravity drainage (Sump 1 → Sump 2 → Sump 3; and Sump 4 → Sump 5). Sump 3 and Sump 5 will then be substantially modified as they will form the influent storage ponds for the constructed wetlands (the water management pond will be repurposed and be integrated into one of the constructed wetlands). The influent storage ponds will discharge passively at a controlled rate to the wetlands, which will then discharge to Snap Lake. The final closure of the water management system is now being proposed to represent a permanent feature on the post closure landscape.

**Land Use Eligibility - Section 18 Mackenzie Valley Land Use Regulations**

**Type of Disposition**

Disposition Number(s)

- [ ] Mineral Claims
- [ ] Prospecting Permit (s)
- [x] Mineral Leases
- [ ] Oil and Gas: EL/SDL/PL
Principal Activities (related to scoping)
(CHECK ALL THAT APPLY)

- Construction
- Installation
- Maintenance
- Expansion
- Operation
- Repair
- Research
- Water Intake
- Other:
- Exploration
- Industrial
- Recreation
- Municipal
- Quarry
- Linear / Corridor
- Sewage
- Decommissioning
- Abandonment
- Aerial
- Harvesting
- Camp
- Scientific/
- Solid Waste

Principal Development Components (related to scoping)

- Access Road
  - construction
  - abandonment/removal
  - modification e.g., widening, straightening
- Automobile, Aircraft or Vessel Movement
- Blasting
- Building
- Burning
- Buring
- Channelling
- Cut and Fill
- Cutting of Trees or Removal of Vegetation
- Dams and Impoundments
  - construction
  - abandonment/removal
  - modification
- Ditch Construction
- Drainage Alteration
- Drilling other than Geoscientific
- Ecological Surveys
- Excavation
- Explosive Storage
- Fuel Storage
- Topsoil, Overburden or Soil
  - fill
  - disposal
  - removal
  - storage
- Waste Management
  - disposal of hazardous waste
  - waste generation
  - sewage
  - disposal of sewage
- Geoscientific Sampling
- Trenching
- Diamond drill
- Borehole core sampling
- Bulk soil sampling
  - gravel
  - hydrological Testing
- Site Restoration
  - fertilization
  - grubbing
  - planting/seedling
  - reforestation
  - scarify
  - spraying
  - re-contouring
- Slashing and removal of vegetation
- Soil Testing
- Stream Crossing/Bridging
- Tunnelling/Underground
- Other:

NTS topographic map sheet numbers:
75M/10 Lac Capot Blanc 1:50 000

Latitude / longitude and UTM system:
6335’30" N & 1105200" W

Nearest community and water body:
Lutsel K’e & Wekweétì
Snap Lake & Lockhart River System

Land Status (consultation information)

- Free Hold/Private
- Commissioners/Territorial Lands
- Federal Crown Land
- Municipal Land

Transboundary/Transregional Implications

- British Columbia
- Alberta
- Saskatchewan
- Yukon
- Nunavut
- National Park
- Inuvialuit Settlement Region
- Sahtu
- Wek’eezhìi
- Gwich’in
### Physical - Chemical Effects

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation</th>
<th>Location of condition</th>
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<tbody>
<tr>
<td>1) Ground Water</td>
<td>- Water table alteration&lt;br&gt;- Water quality changes&lt;br&gt;The increase in diesel fuel storage capacity could lead to additional water quality changes if any fuel is leaked into water. Conditions relating to fuel handling have been included in the LUP to mitigate concerns relating to water quality changes.</td>
<td>26 (1)(m)</td>
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<td>- Infiltration changes&lt;br&gt;Other: N/A</td>
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<tr>
<td>2) Surface Water</td>
<td>- Flow or level changes&lt;br&gt;- Water quality changes&lt;br&gt;The increase in diesel fuel storage capacity could lead to additional water quality changes if any fuel is leaked into water. Conditions relating to fuel handling have been included in the LUP to mitigate concerns relating to water quality changes.</td>
<td>26 (1)(m)</td>
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<tr>
<td></td>
<td>- Effluent quality criteria (EQC) will be established in the Water Licence in order to protect the downstream aquatic receiving environment (from both direct and potentially cumulative effects), based on the MV/LWB Water and Effluent Quality Management Policy.</td>
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<td>- Water quality monitoring will be established in the Water Licence, under both a surveillance network program (SNP) and an aquatic effects monitoring program (AEMP).</td>
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<td>- Any water that enters the aquatic receiving environment must meet EQC as per conditions.</td>
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<td>- The final Water Licence conditions will be developed through public review and approved by the Board.</td>
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<td>- Drainage patterns could be affected by the creation of the new water management system as it will be a permanent feature on the post closure landscape. The Final Closure and Reclamation Plan should consider the effects of these areas and will require thorough public review, with meaningful engagement of Aboriginal Organizations that traditionally use the Development area, and approval by the Board.</td>
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<td>- Temperature&lt;br&gt;Wetland changes/loss&lt;br&gt;Other: N/A&lt;br&gt;N/A</td>
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<tr>
<td>3) Noise</td>
<td>- Noise in/near water&lt;br&gt;- Noise increase&lt;br&gt;The creating of the new water management system, which includes blasting and excavation as required to establish grade, will be temporary in nature.</td>
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<td>其他: N/A</td>
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### Impact: Land

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<tr>
<th>Mitigation</th>
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<td>N/A</td>
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- **Impact: soil contamination**
  - The increase in diesel fuel storage capacity could lead to additional soil contaminations due to spills. Conditions relating to fuel handling have been included in the LUP to mitigate concerns relating to soil contamination.

- **Impact: buffer zone loss**
  - N/A

- **Impact: soil compaction and settling**
  - N/A

- **Impact: destabilization/erosion**
  - The creation of the new water management system will be sloped such that it will not cause erosion and will include the use of erosion protection material.

- **Impact: permafrost regime alteration**
  - N/A

- **Impact: explosives/scarring**
  - The creation of the new water management system will be filled with water following completion, which should cover scarring from the use of explosives in the excavation as required to establish grade.

- **Other**
  - N/A

### Impact: Non-renewable natural resources

- **Impact: resource depletion**
  - N/A

- **Other**
  - N/A

### Impact: Air/climate/atmosphere

- **Other**
  - N/A

### Biological Environment

- **Impact: Vegetation**
  - N/A

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<tr>
<th>Mitigation</th>
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<tr>
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- **Impact: species composition**
  - N/A

- **Impact: species introduction**
  - N/A

- **Impact: toxin/heavy accumulation**
  - N/A

- **Other**
  - N/A
### Impact 2) Wildlife and Fish

- ☒ fish population changes

**Mitigation**

The creation of the new water management system will have a discharge channel designed such that fish passage from Snap Lake to the wetland would be prevented under most flow conditions that would be expected to occur. The Final Closure and Reclamation Plan should consider the effects this may have on fish and will require thorough public review, and approval by the Board.

- ☐ waterfowl population changes
- ☐ breeding disturbance
- ☐ population reduction
- ☐ species diversity change
- ☐ health changes
- ☐ behavioural changes
- ☐ habitat changes / effects

**Fish and Waterfowl:**

Water quality protection measures will be implemented to protect fish, aquatic life, and waterflow (see Surface Water: water quality changes section above).

- ☐ other:
  - ☐ N/A

### Interacting Environment

**Impact 1) Habitat and Communities**

- ☒ wildlife habitat/ecosystem composition changes

**Mitigation**

The creation of the new water management system is within the total area of disturbance considered in the original environmental assessment for the Snap Lake Mine.

- ☐ reduction/removal of keystone or endangered species
- ☐ removal of wildlife corridor or buffer zone
- ☐ other:
  - ☐ N/A

**Impact 2) Social and Economic**

- ☐ planning/zoning changes or conflicts
- ☐ increase in urban facilities or services use
- ☐ rental house

- ☐ other:
  - ☐ N/A
- airport operations/capacity changes
- human health hazard

- impair the recreational use of water or aesthetic quality
- affect water use for other purposes
- affect other land use operations
- quality of life changes
- public concern
- other:
  - N/A

**Impact** **Mitigation** **Location of condition**

3) Cultural and Heritage

- effects to historic property
- increased economic pressure on historic properties

- change to or loss of historic resources
- change to or loss of archaeological resources
- increased pressure on archaeological sites
- change to or loss of aesthetically important sites
- effects to aboriginal lifestyle
- other:
  - N/A

- EQC will be established in the Water Licence in order to protect the downstream aquatic receiving environment (from both direct and potentially cumulative effects), based on the MVLWB Water and Effluent Quality Management Policy.

- Pursuant to Schedule 4.1 of the Northwest Territory Métis Nation (NWTMN) Interim Measures Agreement, the MVLWB determined that written notice was given to the NWTMN and that a reasonable period of time was allowed for NWTMN to make representations with respect to the application.

- Pursuant to subsection 1.6, paragraphs (a) and (b) of the Akaitcho Territory Dene First Nations (ATDFN) Interim Measures Agreement, the MVLWB determined that written notice was given to the ATDFN and that a reasonable period of time was allowed for ATDFN to make representations with respect to the Application.
## Preliminary Screener / Referring Body Information

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<th>Sent To</th>
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<tr>
<td>Akaitcho IMA Implementation</td>
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<td>CanNor NWT Region</td>
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<td>Chamber of Mines NWT &amp; Nunavut</td>
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<td>Dene Nation</td>
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<td>Deninu K'ue First Nation</td>
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<td>Environment and Climate Change Canada</td>
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<td>Fisheries and Oceans Canada</td>
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<td>Fort Resolution Metis Council</td>
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<td>GNWT - Education Culture and Employment</td>
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<td>GNWT - Environment and Natural Resources</td>
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<td>GNWT - Health</td>
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<td>GNWT - Department of Infrastructure</td>
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<td>GNWT - Industry, Tourism, and Investment</td>
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<td>GNWT - MACA</td>
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<td>Hamlet of Fort Resolution</td>
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<td>INAC - Contaminants and Remediation Directorate</td>
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<tr>
<td>Katlodeeche First Nation</td>
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<td>Lutsel K'e Dene First Nation</td>
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<tr>
<td>Mackenzie Valley Environmental Impact Review Board</td>
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<td>North Slave Metis Alliance</td>
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<td>Northwest Territory Metis Nation</td>
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<td>NWT-OROGO</td>
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<td>Salt River First Nations</td>
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<td>Snap Lake Environmental Monitoring Agency</td>
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<tr>
<td>Tlicho Government</td>
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<td>Tlicho Lands Protection Department</td>
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<td>Town of Fort Smith</td>
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<tr>
<td>True North Safaris Ltd.</td>
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<td>West Point First Nation</td>
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<td>Yellowknives Dene First Nation</td>
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DECISION

The Mackenzie Valley Land and Water Board (the Board) is satisfied that the preliminary screening of April 2019 Renewal Application for Water Licence MV2019L2-0004 and the May 2019 Amendment Application for Land Use Permit MV2017D0032, De Beers Canada Inc., Snap Lake Diamond Mine, NT, has been completed in accordance with section 125 of the Mackenzie Valley Resource Management Act (MVRMA).

The Board is satisfied that communities and First Nations affected by the Applications have been notified and provided adequate time to provide comment on the Applications as required by land claim and self government agreements, the MVRMA, policy directions relating to Interim Measures Agreements, and any other applicable legislation and agreements.

Having reviewed all relevant evidence on the Public Registry, including the submissions of the Applicant, the written comments received by the Board and any Staff Reports prepared for the Board, the Board has decided that in its opinion:

- The proposed development will not have a significant adverse impact on the environment;
- The proposed development, through the April 2019 Renewal Application for Water Licence MV2019L2-0004 and the May 2019 Amendment Application for Land Use Permit MV2017D0032, can be mitigated through the various management plans, and
- The proposed development is not a cause of public concern.

The Board is also of the opinion that the Applications can proceed through the regulatory process and that any impacts of the development on the environment can be mitigated through the imposition of the terms and conditions in Land Use Permit MV2017D0032 or those developed through public review, and approval by the Board, for Water Licence MV2019L2-0004.

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Preliminary Screening Organization

Mackenzie Valley Land and Water Board

June 6, 2019

Signatures

Mavis Cli-Michaud, Chair