



Mackenzie Valley Land and Water Board
7th Floor - 4922 48th Street
P.O. Box 2130
YELLOWKNIFE NT XIA 2P6
Phone (867) 669-0506
FAX (867) 873-6610

June 6, 2019

File: MV2017D0032
MV2019L2-0004

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,

A handwritten signature in blue ink, appearing to read "Mavis Cli-Michaud".

Mavis Cli-Michaud
MVLWB, Chair

Copied to: Distribution List

Attached: Preliminary Screening Report – June 6, 2019

Preliminary Screening Report Form

<p>Preliminary screener: MVLWB</p> <p>Reference / File number: MV2017D0032, MV2019L2-0004</p> <p>TITLE: Snap Lake Mine</p> <p>ORGANIZATION: De Beers Canada Inc.</p> <p>MEETING DATE: June 6, 2019</p>	<p>EIRB Reference number: <u>EA01-004 and EA1314-02</u></p>
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Type of Development:
(CHECK ALL THAT APPLY)

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> | New |
| <input checked="" type="checkbox"/> | Amend, EIRB Ref. # |
| <input checked="" type="checkbox"/> | Requires permit, licence, or authorization |
| <input type="checkbox"/> | Does not require permit, licence, or authorization |

Project Summary

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

Fuel storage associated with diamond mining and milling production. This permit supplements existing permits and water licences (presently Land Use Permit MV2010D0053 and Water Licence MV2011L2-0004) for De Beers Snap Lake diamond mine. Both the Land Use Permit MV2001C0012 and Water Licence MV2001L2-0002 were referred to Environmental Assessment in May 2001. The Mackenzie Valley Environmental Impact Review Board (MVEIRB) released its Report of Environmental Assessment and Reasons for Decision on July 24, 2003 and the Minister of the Department of Indian and Northern Affairs Canada (the Minister) approved the EA on October 10, 2003. A Consolidated Project Description was submitted to the Mackenzie Valley Land and Water Board on November 25, 2003.

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, Tłıchǫ, 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)
- Mineral Leases
- Oil and Gas: EL/SDL/PL

- Quarry Permit
- Timber Permit
- Other:

Principal Activities (related to scoping)

(CHECK ALL THAT APPLY)

- | | | |
|--|--|---|
| <input checked="" type="checkbox"/> Construction | <input type="checkbox"/> Exploration | <input checked="" type="checkbox"/> Decommissioning |
| <input checked="" type="checkbox"/> Installation | <input type="checkbox"/> Industrial | <input checked="" type="checkbox"/> Abandonment |
| <input checked="" type="checkbox"/> Maintenance | <input type="checkbox"/> Recreation | <input type="checkbox"/> Aerial |
| <input type="checkbox"/> Expansion | <input type="checkbox"/> Municipal | <input type="checkbox"/> Harvesting |
| <input checked="" type="checkbox"/> Operation | <input type="checkbox"/> Quarry | <input type="checkbox"/> Camp |
| <input type="checkbox"/> Repair | <input type="checkbox"/> Linear / Corridor | <input type="checkbox"/> Scientific/ |
| <input type="checkbox"/> Research | <input type="checkbox"/> Sewage | <input type="checkbox"/> Solid Waste |
| <input type="checkbox"/> Water Intake | | |
| <input type="checkbox"/> Other: | | |

Principal Development Components (related to scoping)

- | | |
|--|---|
| <input type="checkbox"/> Access Road <ul style="list-style-type: none"> <input type="checkbox"/> construction <input type="checkbox"/> abandonment/removal <input type="checkbox"/> modification e.g., widening, straightening | <input type="checkbox"/> Waste Management <ul style="list-style-type: none"> <input type="checkbox"/> disposal of hazardous waste <input type="checkbox"/> waste generation <input type="checkbox"/> sewage <input type="checkbox"/> disposal of sewage |
| <input type="checkbox"/> Automobile, Aircraft or Vessel Movement | <input type="checkbox"/> Geoscientific Sampling |
| <input type="checkbox"/> Blasting | <input type="checkbox"/> Trenching |
| <input type="checkbox"/> Building | <input type="checkbox"/> Diamond drill |
| <input type="checkbox"/> Burning | <input type="checkbox"/> Borehole core sampling |
| <input type="checkbox"/> Burying | <input type="checkbox"/> Bulk soil sampling <ul style="list-style-type: none"> <input type="checkbox"/> gravel <input type="checkbox"/> hydrological Testing |
| <input type="checkbox"/> Channelling | <input type="checkbox"/> Site Restoration <ul style="list-style-type: none"> <input type="checkbox"/> fertilization <input type="checkbox"/> grubbing <input type="checkbox"/> planting/seeding <input type="checkbox"/> reforestation <input type="checkbox"/> scarify <input type="checkbox"/> spraying <input type="checkbox"/> re-contouring |
| <input type="checkbox"/> Cut and Fill | <input checked="" type="checkbox"/> Slashing and removal of vegetation |
| <input type="checkbox"/> Cutting of Trees or Removal of Vegetation | <input type="checkbox"/> Soil Testing |
| <input type="checkbox"/> Dams and Impoundments <ul style="list-style-type: none"> <input type="checkbox"/> construction <input type="checkbox"/> abandonment/removal <input type="checkbox"/> modification | <input type="checkbox"/> Stream Crossing/Bridging |
| <input type="checkbox"/> Ditch Construction | <input type="checkbox"/> Tunnelling/Underground |
| <input checked="" type="checkbox"/> Drainage Alteration | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Drilling other than Geoscientific | |
| <input type="checkbox"/> Ecological Surveys | |
| <input type="checkbox"/> Excavation | |
| <input type="checkbox"/> Explosive Storage | |
| <input checked="" type="checkbox"/> Fuel Storage | |
| <input checked="" type="checkbox"/> Topsoil, Overburden or Soil <ul style="list-style-type: none"> <input type="checkbox"/> fill <input type="checkbox"/> disposal <input checked="" type="checkbox"/> removal <input checked="" type="checkbox"/> storage | |

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 & Wekweëti

Snap Lake & Lockhart River System

Land Status (consultation information)

- | | | | |
|--|---|---|---|
| <input type="checkbox"/> Free Hold/Private | <input checked="" type="checkbox"/> Commissioners/Territorial Lands | <input type="checkbox"/> Federal Crown Land | <input type="checkbox"/> Municipal Land |
|--|---|---|---|

Transboundary/Transregional Implications

- | | | | |
|---|--|---|--------------------------------|
| <input type="checkbox"/> British Columbia | <input type="checkbox"/> Alberta | <input type="checkbox"/> Saskatchewan | <input type="checkbox"/> Yukon |
| <input type="checkbox"/> Nunavut | <input type="checkbox"/> National Park | <input type="checkbox"/> Inuvialuit Settlement Region | |
| <input type="checkbox"/> Wek'èezhii | <input type="checkbox"/> Gwich'in | <input type="checkbox"/> Sahtu | |

Type of transboundary implication:

Impact / Effect

Development

Public concern: _____
(Describe.)

Physical - Chemical Effects

Impact	Mitigation	Location of condition
1) Ground Water		

water table alteration

water quality changes

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.

26 (1)(m)

infiltration changes

other:

N/A

Impact	Mitigation	Location of condition
2) Surface Water		

flow or level changes

water quality changes

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.

26 (1)(m)

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 MVLWB Water and Effluent Quality Management Policy.

Water quality monitoring will be established in the Water Licence, under both a surveillance network program (SNP) and an aquatic effects monitoring program (AEMP).

Any water that enters the aquatic receiving environment must meet EQC as per conditions.

The final Water Licence conditions will be developed through public review and approved by the Board.

water quantity changes

drainage pattern changes

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.

temperature

wetland changes/loss

other:

N/A

Impact	Mitigation	Location of condition
3) Noise		

noise in/near water

noise increase

The creating of the new water management system, which includes blasting and excavation as required to establish grade, will be temporary in nature.

other:

N/A

Impact
4) Land

Mitigation

**Location of
condition**

geologic structure changes

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.

26 (1)(m)

The creation of the new water management system, should embankments/berms be required, could lead to additional soil contamination if appropriate construction materials are not used. Construction material will be non-acid generating mine rock.

buffer zone loss

soil compaction and settling

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.

permafrost regime alteration

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
**5) Non-renewable natural
resources**

Mitigation

**Location of
condition**

resource depletion

other:

N/A

Impact
6) Air/climate/atmosphere

Mitigation

**Location of
condition**

other:

N/A

BIOLOGICAL ENVIRONMENT

Impact
1) Vegetation

Mitigation

**Location of
condition**

species composition

species introduction

toxin/heavy accumulation

other:

N/A

Impact

2) Wildlife and Fish

Mitigation

Location of condition

effects on rare, threatened or endangered species

fish population changes

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).

game species effects

toxins/ heavy metals

forestry changes

agricultural changes

other:

N/A

Interacting Environment

Impact

1) Habitat and Communities

Mitigation

Location of condition

predator-prey

wildlife habitat/ecosystem composition changes

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

Mitigation

Location of condition

planning/zoning changes or conflicts

increase in urban facilities or services use

rental house

airport operations/capacity changes

human health hazard

impair the recreational use of water or aesthetic quality

affect water use for other purposes

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.

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

- 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 **Akaiicho 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

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

Reasons For Decision
(List all reasons and supporting rationales for preliminary screening decision)

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.

Preliminary Screening Decision	
<input checked="" type="checkbox"/>	Outside Local Government Boundaries
<input type="checkbox"/>	The development proposal might have a significant adverse impact on the environment, <i>refer it to the EIRB.</i>
<input checked="" type="checkbox"/>	<i>Proceed with regulatory process and/or implementation.</i>
<input type="checkbox"/>	The development proposal might have public concern, <i>refer it to the EIRB.</i>
<input checked="" type="checkbox"/>	<i>Proceed with regulatory process and/or implementation.</i>
<input type="checkbox"/>	Wholly Within Local Government Boundaries
<input type="checkbox"/>	The development proposal is likely to have a significant adverse impact on air, water or renewable resources, <i>refer it to the EIRB.</i>
<input type="checkbox"/>	<i>Proceed with regulatory process and/or implementation.</i>
<input type="checkbox"/>	The development proposal might have public concern, <i>refer it to the EIRB.</i>
<input type="checkbox"/>	<i>Proceed with regulatory process and/or implementation.</i>

Preliminary Screening Organization

Mackenzie Valley Land and Water Board

June 6, 2019

Signatures

Mavis Cli-Michaud, Chair