



**Mackenzie Valley Land and Water Board**  
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March 16, 2017

File: MV2005C0032 and MV2005L2-0015

Ms. Sarah McLean  
Regulatory Specialist  
De Beers Canada Inc.  
Suite 300, 5120 - 49th St.  
YELLOWKNIFE NT X1A 1P8

Email: [Sarah.McLean@debeersgroup.com](mailto:Sarah.McLean@debeersgroup.com)

Dear Ms. McLean:

**Interim Closure and Reclamation Plan - Objectives**  
**De Beers Canada Inc. – Diamond Mining, Kennady Lake, NT**

The Mackenzie Valley Land and Water Board (MVLWB or the Board) met on March 16, 2017 to consider the De Beers Canada Inc. (De Beers) submission of the Gahcho Kué Mine Interim Closure and Reclamation Plan Objectives, submitted on February 1, 2017 to fulfill Part J, item 1 of Licence MV2005L2-0015 and condition 84 of Permit MV2005C0032.

The Board hereby approves the objectives on an interim basis, as outlined in Table 1, and notes that closure objectives may need to be altered in the future based on continual community engagement, results from reclamation research, or if they are found to not be achievable.

Further details on the Board's decision can be found in the attached Reasons for Decision.

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

Yours sincerely,

A handwritten signature in black ink that reads "V. Camsell-Blondin".

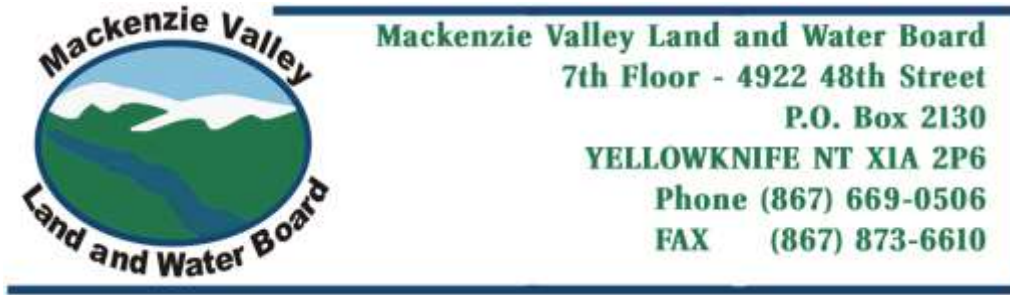
Violet Camsell-Blondin  
MVLWB, A/Chair

Copied to: Distribution List

Attached: Table 1: Approved Interim Closure Objectives at the Gahcho Kué Mine:  
Reasons for Decision

Table 1: Approved Interim Closure Objectives at the Gahcho Kué Mine:

Tracking #	Approved Interim Closure Objectives
<b>Site Wide Objectives (the mine footprint):</b>	
SW1	Air quality levels safe for people, vegetation, aquatic life and wildlife.
SW2	Drainage pathways for surface runoff are physically stable.
SW3	Surface runoff and seepage water quality that is safe for people, vegetation, aquatic life, and wildlife.
SW4	Mine areas are physically stable for use by people and wildlife.
SW5	Safe passage and use for Caribou and other wildlife.
<b>Processed Kimberlite Facilities (includes the Coarse PK Facility and the Fine PK Facility):</b>	
PK1	Prevent PK from entering the surrounding terrestrial and aquatic environment.
PK2	Physically stable PK disposal areas to limit risk of facility failure.
PK3	Chemically stable Processed Kimberlite Facilities (Piles) that do not endanger human, wildlife, or environmental health and safety.
<b>Open Pits (5034 Pit, Hearne Pit, Tuzo Pit):</b>	
OP1	The backfilled and/or flooded pits will not adversely impact establishment and/or maintenance of sustainable aquatic ecosystems and life in the overlying Kennedy Lake and downstream waterbodies.
OP2	Physically stable pit walls to limit risk of a failure impacting people and aquatic life.
<b>Infrastructure Specific:</b>	
I1	Disturbed areas will be safe for people, wildlife, and vegetation.
I2	Re-vegetation targeted to priority areas.
I3	Aesthetic conditions of the infrastructure areas are similar to surrounding natural conditions.
<b>Kennedy Lake:</b>	
KL1	Return Kennedy Lake to a state that will support a functioning aquatic ecosystem and traditional uses.
KL2	Physically stable constructed banks of Kennedy Lake to limit risk of failure that would impact aquatic life, wildlife, and people.
KL3	Kennedy Lake is reconnected with the upstream and downstream and small craft navigation is possible within the Kennedy Lake basin through the dyke and pit areas.
<b>Mine Rock Piles (South Mine Rock Pile and West Mine Rock Pile):</b>	
MR1	Physically stable slopes to limit risk of failure that would impact the people or wildlife.
MR2	Contaminated rock and non-hazardous waste disposal areas within piles will be safe for aquatic life, people or wildlife.
MR3	Chemically stable mine rock piles that are safe for aquatic life, humans and wildlife.



### Reasons for Decision

Issued pursuant to section 72.25 of the *Mackenzie Valley Resource Management Act* (MVRMA) and section 54 of the *Waters Act*

Management Plan	
Reference/File Number	MV2005L2-0015 and MV2005C0032
Applicant	De Beers Canada Inc. (De Beers)
Project	Gahcho Kué Interim Closure and Reclamation Plan (ICRP) - Objectives

### Decision from Mackenzie Valley Land and Water Board Meeting of

March 16, 2017

#### 1.0 Background

On January 12, 2017, the Board acknowledged receipt of the ICRP (V.3) and deferred the approval of the ICRP to allow additional time for major components of the ICRP to be refined. Board requested the objectives of the ICRP be revised and resubmitted in accordance with comments received during the review.

On February 1, 2017, De Beers submitted the revised objectives which addressed the comments received during the review of the ICRP (V.3).

The closure objectives are a fundamental component of the ICRP and guide the entire closure planning process. The determination of closure objectives is one of the most important steps in the process as all options, research, criteria and actions must relate to and follow from the objectives. It is important to have objectives that are clear and measurable, but not too prescriptive so that they unintentionally restrict reasonable closure options from being considered. The following definition and discussion of objectives has been included to provide some context to the Board when considering the proposed objectives:

*Closure objectives are statements that describe what the selected closure activities are aiming to achieve; they are guided by the closure principles. Closure objectives are typically specific to project components, are measurable and achievable, and allow for the development of closure criteria.<sup>1</sup>*

<sup>1</sup> *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*. Mackenzie Valley Land and Water Board – November 2013.

As discussed in the Closure and Reclamation Guidelines, the closure objectives for each of the mine components should support and be consistent with the closure goal – which for any mining operations is ‘to return the mine site and affected areas to viable and, wherever practicable, self- sustaining ecosystems that are compatible with a healthy environment and with human activities.’ A closure objective describes what the selected closure activity aims to achieve. Closure objectives must also take into consideration the principles of physical stability, chemical stability, and future use and aesthetics at the site.

In evaluating the proposed closure objectives, Board staff applied the following approach:

- Considered De Beers’ proposed Objectives using the definition of Closure Objective;
- Considered reviewer comments and De Beers’ response to the comments; and,
- Compared recent closure objectives (Snap Lake) for overlap or similarities.

The end result of this approach is that many of the recommended closure objectives are similar or in some cases identical to the closure objectives for the Snap Lake Project.

The following table compares the approved closure objectives for Snap Lake and those proposed by De Beers for Gahcho Kué. Having an approved set of closure objectives allows the closure planning process to progress, however it is important to note that closure objectives may need to be altered in the future based on continual community engagement, results from reclamation research, or if they are found to not be achievable.

**Table 1: Comparison of Snap Lake’s Approved Objectives (on January 30, 2014) and Gahcho Kué’s Proposed Objectives**

Tracking #	Closure Objectives – Snap Lake Approved on January 30, 2014	Tracking #	Proposed Closure Objectives – Gahcho Kué
<b>Site Wide Objectives (SW):</b>		<b>Site Wide Objectives (the mine footprint):</b>	
SW1	Dust levels safe for people, vegetation, aquatic life and wildlife.	SW1	Air quality levels safe for people, vegetation, aquatic life and wildlife.
SW2	Drainage pathways for surface runoff are physically stable.	SW2	Drainage pathways for surface runoff are physically stable.
SW3	Surface runoff and seepage water quality that is safe for people, vegetation, aquatic life, and wildlife.	SW3	Surface runoff and seepage water quality that is safe for people, vegetation, aquatic life, and wildlife.
SW4	Mine areas are physically stable and safe for use by people and wildlife.	SW4	Mine areas are physically stable for use by people and wildlife.
SW5	Landscape features (shape and vegetation) match aesthetics of the surrounding natural area.	SW5	Safe passage and use for Caribou and other wildlife.
SW6	Safe passage and use for Caribou and other wildlife.		
SW7	Re-vegetation targeted to priority areas.		
<b>North Pile Specific Objectives:</b>		<b>Processed Kimberlite Facilities (includes the Coarse PK Facility and the Fine PK Facility):</b>	

Tracking #	Closure Objectives – Snap Lake Approved on January 30, 2014	Tracking #	Proposed Closure Objectives – Gahcho Kué
NP1	Prevent PK from entering the surrounding terrestrial and aquatic environment.	PK1	Prevent PK from entering the surrounding terrestrial and aquatic environment.
NP2	Physically stable PK containment area to limit risk of failure that would affect safety of people or wildlife.	PK2	Physically stable PK disposal areas to limit risk of facility failure.
		PK3	Chemically stable Processed Kimberlite Facilities (Piles) that do not endanger human, wildlife, or environmental health and safety.
<b>Underground Specific Objectives:</b>		<b>Open Pits (5034 Pit, Hearne Pit, Tuzo Pit):</b>	
UG1	Flooding of the underground mine will have no impacts to aquatic habitats in source lakes.	OP1	The backfilled and/or flooded pits will not adversely impact establishment and/or maintenance of sustainable aquatic ecosystems and life in the overlying Kennady Lake and downstream waterbodies.
UG2	Underground mine should not contribute to the contamination of ground or surface water.	OP2	Physically stable pit walls to limit risk of a failure impacting people and aquatic life.
UG3	Underground mine workings are physically stable.		
<b>Infrastructure Specific Objectives:</b>		<b>Infrastructure Specific:</b>	
I1	Prevent remaining infrastructure from contaminating land or water.	I1	Disturbed areas will be safe for people, wildlife, and vegetation.
I2	On-site disposal areas are safe for people, wildlife, and vegetation.	I2	Re-vegetation targeted to priority areas.
I3	Contaminated soils and waste disposal areas that cannot contaminate land and water.	I3	Aesthetic conditions of the infrastructure areas are similar to surrounding natural conditions.
		<b>Kennady Lake:</b>	
		KL1	Return Kennady Lake to a state that will support a functioning aquatic ecosystem and traditional uses.
		KL2	Physically stable constructed banks of Kennady Lake to limit risk of failure that would impact aquatic life, wildlife, and people.
		KL3	Kennady Lake is reconnected with the upstream and downstream and small craft navigation is possible within the Kennady Lake basin through the dyke and pit areas.

Tracking #	Closure Objectives – Snap Lake Approved on January 30, 2014	Tracking #	Proposed Closure Objectives – Gahcho Kué
		<b>Mine Rock Piles (South Mine Rock Pile and West Mine Rock Pile):</b>	
		MR1	Physically stable slopes to limit risk of failure that would impact the people or wildlife.
		MR2	Contaminated rock and non-hazardous waste disposal areas within piles <u>will be safe for aquatic life, people or wildlife.</u>
		MR3	Chemically stable mine rock piles that <u>are safe for aquatic life, humans and wildlife.</u>

MR2 and MR3 have been slightly adjusted based on the comments and recommendations submitted by Lutsel K'e Dene First Nation.

MR2 originally stated:

Contaminated rock and non-hazardous waste disposal areas within piles do not pose an unacceptable risk to aquatic life, people or wildlife.

MR3 originally stated:

Chemically stable mine rock piles that do not endanger human, wildlife, or environmental health and safety.

## **2.0 Public Review**

By February 23, 2017, comments and recommendations on the revised objectives were received from 6 reviewers:

- Deninu K'ue First Nation;
- Lutsel K'e Dene First Nation;
- Environment and Climate Change Canada;
- Fisheries and Oceans Canada;
- GNWT-ENR; and
- North Slave Métis Alliance.

According to the Online Review System, the North Slave Métis Alliance submitted comments after the review deadline (on February 24, 2017).

De Beers responded on March 1, 2017. The reviewer comment summary table (attached) presents the concerns identified through the review of the revised objectives.

### 3.0 Decision

After reviewing the De Beers' submissions, the written comments received by the Board, and the Staff Report prepared for the Board, the Board, having due regard to the facts and circumstances, the merits of the submissions made to it, and to the purpose, scope, and intent of the MVRMA and the *Waters Act* and Regulations made thereunder, has determined that the objectives are in conformity with the definition of Closure Objective as outlined in the *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*, were considered against reviewer comments, and are comparable to recently approved closure objectives for a similar project (Snap Lake). Therefore, the Board has decided to approve the objectives on an interim basis, until such time as the full Interim Closure and Reclamation Plan is submitted for Board approval.

SIGNATURE

Mackenzie Valley Land and Water Board



March 16, 2017

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Violet Camsell-Blondin, A/Chair

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Date

## Amanda Gauthier

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**From:** Amanda Gauthier  
**Sent:** Wednesday, March 22, 2017 10:52 AM  
**To:** 'Sarah.McLean@debeersgroup.com'  
**Cc:** Angela Love; Shannon Allerston; 'admin\_dkfn@northwestel.net'; 'Alexandra.Hood@debeersgroup.com'; 'Amanda\_Gonari@golder.com'; 'andrew\_howton@gov.nt.ca'; 'anusa\_sivalingam@gov.nt.ca'; 'arnoldenge@gmail.com'; 'Carolc.lands@gmail.com'; 'Charity\_Beres@golder.com'; 'Charlene\_Coe@gov.nt.ca'; 'chief.lkdfn@gmail.com'; 'Clayton\_Lloyd@gov.nt.ca'; 'Colin\_merz@gov.nt.ca'; 'david.alexander@cannor.gc.ca'; 'doug\_carr@gov.nt.ca'; 'ec.ea.nwt.ec@canada.ca'; 'fisheriesprotection@dfo-mpo.gc.ca'; 'fortsmithmetiscouncil@northwestel.net'; 'frmcenvironment@northwestel.net'; 'ginger.gibson@thefirelightgroup.com'; 'gnwt\_ea@gov.nt.ca'; 'ima\_dkfn@northwestel.net'; 'Iqbal\_Arshad@gov.nt.ca'; 'jhood@fortsmith.ca'; 'joe\_heron@gov.nt.ca'; 'john\_faithful@golder.com'; 'Jon\_Posynick@gov.nt.ca'; 'Jen Potten (jpotten@mvlwb.com)'; 'katie\_rozestraten@gov.nt.ca'; Kierney Leach; 'land@wpfn.ca'; 'landsnresources@katlodeeche.com'; 'lauraduncan@tlichocom'; 'Lindsay\_Armer@gov.nt.ca'; 'Mark.D'Aguiar@dfo-mpo.gc.ca'; 'Melanie.Murphy@wscc.nt.ca'; 'melissa.pinto@canada.ca'; 'monica\_wendt@gov.nt.ca'; 'NTCard@aandc.gc.ca'; 'pat\_knutson@gov.nt.ca'; 'patrick\_clancy@gov.nt.ca'; 'Paul\_Green@gov.nt.ca'; 'president.nwtmn@northwestel.net'; 'rcc.nwtmn@northwestel.net'; Shannon Allerston; 'shin.shiga@nsma.net'; 'Tracy\_Covey@gov.nt.ca'; 'veronique.damours-gauthier@dfo-mpo.gc.ca'; 'Andrew.Williams@debeersgroup.com'; Angela Love; 'apower@ykdene.com'; 'chief.srfn@northwestel.net'; 'Clayton\_Lloyd@gov.nt.ca'; 'Erik.Madsen@debeersgroup.com'; 'esangris@ykdene.com'; 'fieldworker.frmc53@northwestel.net'; 'frmc@northwestel.net'; 'frmcenvironment@northwestel.net'; 'Glen\_Mackay@gov.nt.ca'; 'gracemackenzie@tlichocom'; 'hrmc@northwestel.net'; 'jblack@ykdene.com'; 'Jeremy\_Roberts@gov.nt.ca'; 'joe\_heron@gov.nt.ca'; 'johnny\_lennie@gov.nt.ca'; 'katie\_rozestraten@gov.nt.ca'; 'kserben@golder.com'; 'lands@denenation.com'; 'laurie\_mcgregor@gov.nt.ca'; 'Leah.Russell@debeersgroup.com'; 'lkdfnlands@gmail.com'; 'loretta.ransom@canada.ca'; 'Matthew.Spence@cannor.gc.ca'; 'monica\_wendt@gov.nt.ca'; 'Nathen\_Richea@gov.nt.ca'; 'Olivia\_Lee@gov.nt.ca'; 'Patrick.Kramers@debeersgroup.com'; 'Permits'; 'preliminaryscreening@reviewboard.ca'; 'Rick\_Walbourne@gov.nt.ca'; 'Robert\_Jenkins@gov.nt.ca'; 'Russell\_Teed@gov.nt.ca'; 'Sarah.McLean@debeersgroup.com'; 'Scott\_Stewart@gov.nt.ca'; 'screeningofficer@eastarm.com'; 'seanrichardson@tlichocom'; 'SjoerdvanderWielen@tlichocom'; 'Steven\_Shen@gov.nt.ca'; 'Tara\_Naugler@gov.nt.ca'; 'tslack@nihadixa.ca'; 'tyannasteinwand@tlichocom'

**Subject:** MV2005C0032 & MV2005L2-0015 - De Beers Canada Inc. - Gahcho Kue - ICRP - Board Decision Letter

**Attachments:** MV2005C0032 & MV2005L2-0015 - De Beers Canada Inc. - Gahcho Kue - ICRP - Board Decision Letter.pdf

Good day,

Please see the attached document. if you have any questions, please contact Angela Love at (867) 766-7456 or email [angela.love@mvlwb.com](mailto:angela.love@mvlwb.com).

Regards,  
Amanda Gauthier  
Executive Coordinator  
Mackenzie Valley Land and Water Board  
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ph 867.766.7460 | cell 867.688.0895 | fax 867.873.6610