



Mackenzie Valley Land and Water Board
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July 21, 2016

File: MV2005L2-0015

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

Email: Sarah.McLean@debeersgroup.com

Dear Ms. McLean:

Dyke Construction and Management Plan for Water Collection Ponds – Interim Approval
Water Licence MV2005L2-0015 - Gahcho Kué Project

The Mackenzie Valley Land and Water Board (MVLWB or the Board) met on July 21, 2016 and reviewed the Dyke Construction and Management Plan for Water Collection Ponds, which was submitted under Part G, item 16 of Water Licence MV2005L2-0015 on April 29, 2016.

The Board hereby approves this Dyke Construction and Management Plan for Water Collection Ponds as an interim plan and requires the resubmission of a revised Plan by **August 11, 2016**. This revised Plan shall include the changes that are outlined in the attached Reasons for Decision.

This revised Dyke Construction and Management Plan for Water Collection Ponds will be considered to be approved following written conformity of confirmation from Board staff.

The full cooperation of De Beers is anticipated and appreciated. If you have any questions or concerns, please contact Angela Love at (867) 766-7456 or email angela.love@mvlwb.com.

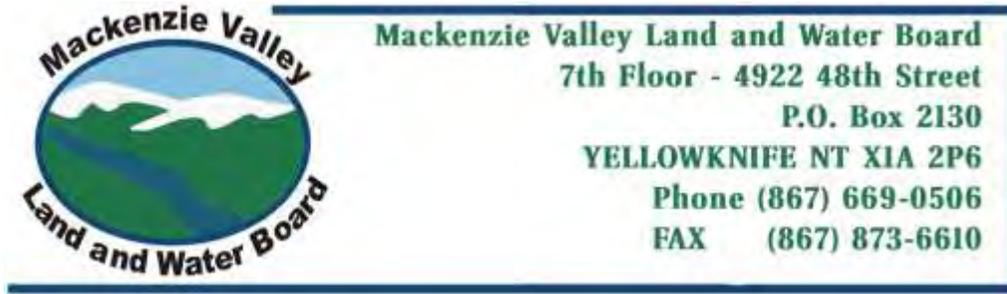
Yours sincerely,

A handwritten signature in black ink, appearing to read "F. M. Adlem".

Floyd Adlem
MVLWB A/Chair

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Attachment: Reasons for Decision



Reasons for Decision

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

Water Licence	
Preliminary Screener	MVLWB
Reference/File Number	MV2005L2-0015
Proponent	De Beers Canada Inc. – Gahcho Kué Mine
Submission/Project	Dyke Construction and Management Plan for Water Collection Ponds

Decision from Mackenzie Valley Land and Water Board Meeting of

July 21, 2016

Background

A Dyke Construction and Management Plan is required under Part G, item 16 of the Licence MV2005L2-0015 as follows:

All other dykes shall be addressed under the Dyke Construction and Management Plan, which shall be submitted to the Board for approval sixty (60) days prior to commencement of Construction of any dykes other than Dyke A. This Plan shall meet the objectives listed in Part G, item 1, and satisfy the requirements of Schedule 5, item 8. This Plan shall address the Construction and Operation phases of the Project. The Licensee shall not commence Construction of these remaining dykes until the Board has approved the Plan.

De Beers requires the construction of eight water collection ponds in order to manage the runoff water and dyke seepage inside the Project’s controlled area.

On May 26, 2016, De Beers submitted the Plan. Included with this was the Final Detailed Construction Plan as per Part E, item 11 which is not for Board approval.

Separate from the collection ponds, a total of 14 dykes are required to manage the site water during the life of mine and achieve the controlled area boundary at the project site. The Dyke Construction and Management Plan for:

- Dyke A (version 3) was approved October 16, 2014,
- Dykes A1, F, G, H, I, J, K, and L (version 2) was approved May 27, 2015,
- Dykes B, D, E, and A1 Perimeter Berm (Version 1) was approved December 3, 2015; and
- Plans for the two remaining dykes (M and N) will be submitted under separate cover as the detailed design process is developed.

Public Review

By June 22, 2016, comments and recommendations on the Plan were received from 2 reviewers:

- Government of the Northwest Territories (GNWT) – Environment and Natural Resources; and
- Board staff.

De Beers responded on June 29, 2016. Board staff requested additional clarification for some of De Beers' responses on July 8, 2016. De Beers submitted the additional information (attached) on July 13, 2016.

Security

The GNWT currently holds \$23,776,270.00 in reclamation security for the Gahcho Kué mine for this Licence. De Beers' next deposit of security (in the amount of \$40,713,234) is due prior to year 4 of Operations (the end of mining of the Hearn Pit).

Decision

After reviewing the submissions of the Proponent, 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 some components of the Dyke Construction and Management Plan for Water Collection Ponds are incomplete. Therefore, the Board has decided to approve the Dyke Construction and Management Plan for Water Collection Ponds as an interim plan and requires the resubmission of a revised Plan by August 11, 2016. The revised Plan will include the updates identified by reviewers in the Online Review System (ORS) Reviewer Comment Summary Table and highlighted in Table 1 below.

Table 1: De Beers Canada Inc. – Gahcho Kué – List of Commitments from review of the Dyke Construction and Management Plan for Water Collection Ponds from Water Licence MV2005L2-0015

Reviewer Comment Number	Reviewer Recommendation	Proponent Response	Board Response
ENR 2	ENR requests additional information on the locations of Collection Ponds 7 and 8. The information should describe their condition prior to development as well as their current condition. ENR requests clarification on the flow pathway from overflow originating from Collection Ponds 7 and 8.	As shown in Figure 2, general site layout plan in the Management plan report and attached zoomed-in Figure 1, CP7 is located at southeast corner of the SMRP and CP8 is located at west corner of the SMRP. CP7 and CP8 will be formed after the construction of the SMRP. CP7 is located within a marsh area. CP8 is just out of boundary of the lakebed, it is in an isolated depression with a local hill. The geological unit in this area is till veneer. As described in Section 3.7, the water collected in CP7 will be pumped to Area 7 (CP1) or other designated storage area. The water collected in CP8 will be pumped to CP5 or other designated storage area.	Additional clarification sought from De Beers on July 8, 2016. The additional information submitted on July 13, 2016 should be added to the plan.
ENR 4	ENR recommends that PAG material not be used in the new construction activities as outlined in the water licence	The use of PAG rock in dykes is approved by the Board (see letter from the Board to De Beers October 16th, 2014; Construction Water Management Plan V.6 Table 2a, Page 12, and the Processed Kimberlite and Mine Rock Management Plan V.4, Pg. 15 and Section 2.1.2.3). Consistent with those approvals, PAG has been used in the construction of some interior dykes, which will be submerged under water at closure. We do not plan on using PAG in the Collection Pond berms.	Section 7.5 of this plan should be revised as necessary to remove any references to the use of PAG rock in the construction of the Collection Pond berms.

ENR 7	ENR requests De Beers clarify the specifics of the testing records that will be included in the Construction Report Record.	The testing records referred to are the quality assurance tests for materials including particle size, moisture content, proctor test, and the field compaction test as outlined in the specifications.	Acceptable response. The explanation of what the testing records are should be added to section 7.10 of the plan.
ENR 8	ENR requests that De Beers clarify the reference to "target levels" and "action levels" as it relates to the collection ponds. This clarification should include when reporting/notification would be triggered.	The "target level" and "action level" are not applicable to the collection pond, and they are related to the WMP. Any water encountered during construction of CPs will be pumped to the WMP. The water will be treated using in-line treatment system with flocculation for TSS, as required. When the discharge from the WMP to Lake N11 is occurring during construction of CPs, TSS in the WMP will be monitored to verify that the TSS will not exceed the EQC under Part G, Item 9 of Water Licence. If the TSS exceed the EQC during discharge from the WMP period, reporting requirements will be triggered.	Additional clarification sought from De Beers on July 8, 2016. The additional information submitted on July 13, 2016 should be added to Section 8.3 of the plan.
MVLWB 1	De Beers should clarify if it is proposing to use PAG rock in the construction of the Collection Pond berms. If so, can De Beers please comment on the inconsistency between this proposal and the requirement in Part E, item 10 as well as the statements made in the approved Geochemical Characterization Plan?	See response to GNWT 4. PAG rock will not be used for the construction of collection pond berms	Section 7.5 of this plan should be revised as necessary to remove any references to the use of PAG rock in the construction of the Collection Pond berms.

MVLWB 2	De Beers should clarify that this is the same Plan and should ensure that this is stamped by a professional Engineer as per Schedule 4, item 2 (i).	The quality assurance plan will be stamped.	The Quality Assurance Plan shall be stamped by the Professional Engineer prior to construction. Please add this to the next revision of the plan.
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SIGNATURE

Mackenzie Valley Land and Water Board



Floyd Adlem A/Chair

July 21, 2016

Date