



Mackenzie Valley Land and Water Board
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April 6, 2017

File: 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

Dear Ms. McLean:

Operational Water Management Plan – Interim Approval
De Beers Canada Inc. – Diamond Mining, Kennady Lake, NT

The Mackenzie Valley Land and Water Board (MVLWB or the Board) met on April 6, 2017 and reviewed the Operational Water Management Plan (Version 3), which was submitted to fulfill Part G, item 18 of Water Licence MV2005L2-0015 on March 1, 2017.

The Board hereby approves this Operational Water Management Plan (Version 3) as an interim plan and **requires the resubmission of a revised Plan by April 21, 2017**. This revised Plan shall include the changes that are outlined in the attached Reasons for Decision. This revised Operational Water Management Plan will be considered to be approved following written confirmation of conformity from Board staff.

The Board hereby grants the request to modify the compliance date for the submission of the Operational Water Management Plan (Version 3), from 60 days to 30 days prior to the implementation of any proposed changes, as required by Part G, item 18 of Water Licence MV2005L2-0015. The Board understands this will allow De Beers sufficient time to ensure the collection ponds are established prior to spring freshet which is expected to begin as early as late April/early May.

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 blue ink, appearing to read "Mavis Cli-Michaud".

Mavis Cli-Michaud
MVLWB Chair

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Attached: Reasons for Decision



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
Applicant	De Beers Canada Inc. (De Beers)
Project	Gahcho Kué Operational Water Management Plan (Version 3)

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

April 6, 2017

1.0 Background

On August 11, 2014, the Board included conditions in Water Licence MV2005L2-0015 (Licence) relating to the De Beers Canada Inc.'s (De Beers) Operational Water Management Plan (the Plan) for the Gahcho Kué Project. Part G, item 4 of Licence MV2005L2-0015 states that:

*A minimum of sixty (60) days prior to the commencement of milling, the Licensee shall submit an **Operational Water Management Plan** to the Board for approval. The Plan shall meet the objectives listed in Part G, item 1, and satisfy the requirements of Schedule 5, item 2. The Licensee shall not commence Discharge from the Water Management Pond until the Board has approved the Plan.*

Part G, item 18 of the Licence MV2005L2-0015 states that:

The Licensee shall adhere to the approved Plans referred to in Part G, item 2 (Waste Management Plan); Part G, items 3, 4, and 5 (Water Management Plans); Part G, item 11 (Erosion and Sediment Management Plan); Part G, item 12 (Explosives Management Plan); Part G, item 14 (Geochemical Characterization and Management Plan); Part G, item 15 (Dyke A Construction and Management Plan); Part G, item 16 (Dyke Construction and Management Plan) and Part G, item 17 (Processed Kimberlite and Waste Rock Management Plan), and shall annually review the Plans and make any necessary revisions to reflect changes in operations, or as directed by the Board. Revised plans shall include a brief summary of the changes made, and shall be presented in a format consistent with the Mackenzie Valley Land and Water Board's Standard Outline for Management Plans. Revised

Plans shall be submitted to the Board for approval at least sixty (60) days prior to any proposed changes to the requirements in the approved Plan.

De Beers requires the construction of nine water collection ponds (CP) in order to manage the runoff water (including spring freshet) and dyke seepage inside the Project's controlled area. As such, De Beers has updated the Plan to include all water collection ponds and freshet water management.

On March 1, 2017, De Beers submitted the Plan (V.3).

The Plan has been updated to include:

1. All water collection ponds and freshet water management; and
2. Additional details on decanting the Fine Processed Kimberlite Containment Facility in the event that flows through Dyke L (a filter dyke) are impeded (especially in winter time due to ice build-up), which could result in the freeboard limit in Licence MV2005L2-0015 being approached.

The updates are to address the changes associated with the addition of a new water collection pond, Hearne CP, which is needed to adequately control spring freshet flows within the Controlled Area (defined in the Licence MV2005L2-0015 as: *the isolated subwatersheds within Kennady Lake watershed after dewatering and Drawdown, where mining activities will be undertaken and Water associated with mining activities will be managed. Specifically, areas 1 through 7.*). Further details on the management of freshet water were provided, including those to be employed during the 2017 spring freshet, and the decanting of water from the Fine Processed Kimberlite Containment Facility to the Water Management Pond in the event that freeboard limits governed under Licence MV2005L2-0015 are approached.

Part G, item 18 of Licence MV2005L2-0015 requires the submission of a revised Operational Water Management Plan 60 days prior to implementing any changes. In the March 1, 2017 submission, De Beers requested to modify this compliance timeframe to 30 days to ensure the collection ponds are established prior to spring freshet which is expected to begin as early as late April/early May.

The Board can change this compliance date as per Part B, item 7 of the Licence:

The Schedules, the Surveillance Network Program, and any compliance dates specified in this Licence may be amended at the discretion of the Board. If any compliance dates for the submission of a plan, report, or program falls on a weekend or holiday, the plan, report, or program shall be submitted on the following business day.

2.0 Public Review

By March 22, 2017, comments and recommendations on the Plan were received from 4 reviewers:

- Environment and Climate Change Canada;
- Government of the Northwest Territories (GNWT) – Environment and Natural Resources (ENR); and
- Board Staff; and
- Fisheries and Oceans Canada.

According to the Board's Online Review System, Fisheries and Oceans Canada submitted their comments after the review deadline date (on March 24, 2017). The comment indicates that they reviewed the Plan and have no comments.

De Beers responded "internally" on March 24, 2017 and formally published their responses on March 27, 2017.

3.0 Decision

After reviewing the submissions of De Beers, 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 the Plan meets most of the requirements of the Licence; however, some additional information not currently in the Plan was provided by De Beers during the review period. Therefore, the Board has decided to approve the Operational Water Management Plan as an interim Plan and require the submission of a revised version to include the new information. This revised Plan shall include the updates identified by reviewers and identified in Table 1 below. The revised Plan will be reviewed by Board staff to ensure conformance.

The Board has also approved the request to modify the compliance date for the submission of the Operational Water Management Plan (Version 3) from 60 days to 30 days prior to the implementation of any proposed changes, as required by Part G, item 18 of the Water Licence MV2005L2-0015, in order for De Beers to ensure the collection ponds are established prior to spring freshet.

Table 1: De Beers Canada Inc. – Gahcho Kué – List of New Information provided during the review of the Operational Water Management Plan (Version 3)

Reviewer Comment Number	Reviewer Recommendation	Proponent Response	Board Staff Analysis
ENR 1	ENR's review was restricted to the sections identified by De Beers. If other sections have been edited or modified by De Beers, De Beers should clearly identify them.	The sections identified in the Version History Table, Sections 2.3.5, 2.3.10 and 2.3.12 contain the material changes to the document. Other sections also received minor adjustments to ensure text and tables aligned with the key changes made to those sections. Section 1.1: second paragraph adjusted to indicate that "Construction on site will take approximately two to three years" as opposed to 'two years (Year-2 to Year 1). Section 1.5 - a reference was added Section 2.2.3 - Pit Water Quantities - This section was adjusted in error including the removal of Table 2.4 Summary of Estimated Rates of Passive Groundwater Inflows to Pits. The entire section will be re-inserted exactly as it was in Version 2. Section 2.2.4 Water Quality Projections - This section was removed in error including Tables 2.5 and 2.6. The entire section will be re-inserted exactly as it was in Version 2. Section 2.3.1 - minor wording adjustment to include collection ponds, added bullet that refers to decanting water from fine PK facility to the water management pond. Section 2.3.2 - added the 'dyke freeboard levels' to the list of items to be considered when considering timing and water flow. Added bullet to Stage 1 list to 'Decant water from the Fine Processed Kimberlite Facility...'. Table 2.9 -added wording in the row for 'Flow Mitigation' to..Area 8 'direct or' via Lake J1b.; -	Board staff request De Beers submit a revised Plan which outlines all changes which occurred between Version 2 and Version 3. This can be done in the Revision History Table. Board staff request De Beers take more care to submit comprehensive Revision History Tables when updating or revising any plans required by the Licence.

		<p>added to Area 6 column CP2 to CP5, 'Hearne CP'; -added to 5034 Pit Water 'or adjacent CPs' ; - added to Hearne Pit Water 'or adjacent CPs'; - added to Tuzo Pit Water 'or adjacent CPs'; Section 2.3.5: adjusted text including in Table 2.10 added row 'Hearne CP' and updated timing of CP3 and CP4. Table 2.10 adjusted the timing of CP3 and CP4 to begin in Year 2 or 3 as opposed to Year 1; Added row "Hearne CP" Section 2.3.7 Removed first paragraph as this is covered already in the Groundwater Management Plan V.3.1 Section 2.2. Repeating the same content in two different plans makes updates to plans awkward and also increases the chances of minor discrepancies arising. -Included CPs in other paragraphs within this section. Section 2.3.9 added 'or other designated storage areas' Section 2.3.10 Updated and added text to address freshet as already highlighted in the Version History Table. Section 2.3.12 Updated text to include information on decanting from Fine PKC facility. Table 2.15 In the Water Outputs column, added 'or adjacent CPs' to the Active 5034 Pit, Active Hearne Pit, and Active Tuzo Pit rows. Table 2.19 Updated table to include 'Hearne CP' in the Water Collection Pond CP3 row, and to include a row for Hearne CP and associated catchment areas for each. Section 3.2.4.2 Removed 'Action Levels for Groundwater Quality' as this section is redundant with Section 7 of the Groundwater Monitoring Program. Repeating the same content in two different plans makes updates to plans awkward and also increases the chances of minor discrepancies arising. Section 5 References. Added a reference to the collection ponds CMP and detailed designs. Appendix D - Predicted Water Quality within Water Management Pond, Gahcho Kue Project, NT, Canada. This section was removed in error. The entire Appendix will be re-inserted exactly as it was in Version 2.</p>	
ENR 3	<p>ENR request the following information from De Beers:</p> <ul style="list-style-type: none"> • Clarification on what is meant by "low TSS water". • Additional details on the water 	<p>The term 'low TSS water' was a general term used to refer to water that has low enough TSS so as to not put at risk planned discharge to Lake N11 or A8 from the water management pond. A mass balance evaluation will be carried out to consider the influence of the TSS of the Area 2 water on Area 3/5 of the water management pond. It is worth noting that dyke L is not designed to filter dissolved elements therefore the evaluation will</p>	<p>Acceptable response.</p> <p>Board staff request De Beers submit a revised Plan which includes this new information which will help clarify the decanting activities of the</p>

	quality evaluations prior to decanting.	focus on suspended solids. The measured TSS of Area 2 and Area 3/5 and historical trends will be used in the evaluation. This will be compared to the action levels and discharge limits for the Area 3/5 water to N11 (or Area 8) to determine if pumping from Area 2 to Area 3 will negatively effect the ability to discharge water from Area 3 as per the water license EQCs.	Fine Processed Kimberlite Containment Facility.
MVLWB 1	MVLWB requested rationale as to why several sections were removed (including Appendix D; Table 2.4, Section 2.2.4, and the first paragraph in Section 2.3.7) and why they were not outlined in the revision history table.	A specific reference to adjustments made to various sections was not highlighted in the Version History Table because the changes were not material in nature. Minor changes were made throughout the document in order to align with the material changes made to Sections 2.3.5 and 2.3.10, and 2.3.12. We should have included a sentence indicating that there were 'minor changes throughout' in the Version History. Specific explanations for each section are provided in response to ENR 1 above including the recognized error in removing Appendix D, Table 2.4, and Section 2.2.4. Those sections were removed in error due to an internal miscommunication. They will be re-instated in Version 3 exactly as written and approved in Version 2.	Board staff request De Beers submit a revised Plan which includes this information which was removed in error.

SIGNATURE

Mackenzie Valley Land and Water Board

April 6, 2017

Mavis Cli-Michaud, Chair

Date



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MV2005L2-0015

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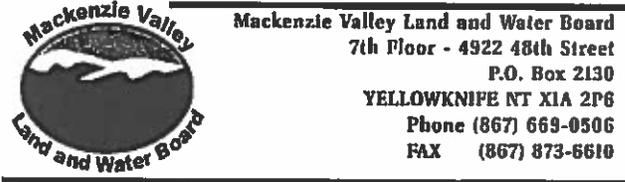
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Amanda Gauthier

From: Amanda Gauthier
Sent: Tuesday, April 11, 2017 5:02 PM
To: 'Sarah.McLean@debeersgroup.com'
Cc: Angela Love; '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'; 'gracemackenzie@tlichocom'; '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)'; 'Kate_Witherly@gov.nt.ca'; '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'; 'tyannasteinwand@tlichocom'; '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'; 'hrmc@northwestel.net'; 'jblack@ykdene.com'; 'Jeremy_Roberts@gov.nt.ca'; 'joe_heron@gov.nt.ca'; 'johnny_lennie@gov.nt.ca'; 'Kate_Witherly@gov.nt.ca'; 'katie_rozestraten@gov.nt.ca'; 'kserben@golder.com'; 'lands@denation.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'

Subject: MV2005L2-0015 - De Beers Canada Inc. - Gahcho Kue - - Interim Approval - Operational Water Management Plan

Attachments: MV2005L2-0015 - De Beers Canada Inc. - Gahcho Kue - - Interim Approval - Operational Water Management Plan.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

Regards,
Amanda Gauthier
Executive Coordinator
Mackenzie Valley Land and Water Board
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