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April 7, 2016

File: W2015L2-0001

Mr. Gord Macdonald
Diavik Diamond Mines (2012) Inc.
Suite 300, 5201-50th Avenue
Yellowknife, NT X1A 2P8

Dear Mr. Macdonald,

Re: DDMI's Proposed Modification to the North Dam of the Processed Kimberlite Containment facility

The Wek'èezhii Land and Water Board (WLWLB or the Board) met on March 23, 2016 and April 7, 2016 to consider DDMI's proposed modification to the north dam of the processed kimberlite containment (PKC) facility. DDMI proposed the modification to allow placement of Type III rock (potentially acid-generating, or PAG rock) along the north dam of the PKC facility. On April 7, 2016 the Board approved the modification, under Part G, Item 2 of DDMI's Water Licence W2015L2-0001), as explained in the Board's Reasons for Decision (attached).

During the public review of the proposed modification, DDMI confirmed that the company will cover the Type III rock in the north dam with 1.5 meter of till and 3 meter of Type I rock. This information is not in the currently approved Interim Closure and Reclamation (ICRP Version 3.2). DDMI must state in the next version of the ICRP (Version 4; due October 31, 2016) that the company will place a cover over the Type III rock in the north dam.

During the Board's review of the proposed modification, we became aware that DDMI placed Type III rock in the Phase 5 and Phase 6 PKC north dam raises, which does not conform with the approved Waste Rock Management Plan.¹ Although the Board concluded that any geotechnical, geochemical, closure and reclamation, or other environmental issues associated with the modification are immaterial or can be adequately mitigated (e.g., by covering the Type III rock with till and non-PAG rock), the Board takes the matter of non-conformance with an approved management plan seriously.

¹ The approved Waste Rock Management Plan (e.g., page 8 of Version 6, March 2011) indicates that Type I rock will be used for construction; no other rock types are identified for construction. According to the Water Licence, construction "means any activities undertaken to construct or build any components of, or associated with, the development of the Diavik Diamond Mine."

The Board is also aware of other uses of Type III rock that do not conform with the Waste Rock Management Plan. For example, DDMI recently informed the Board that the company placed Type III rock in the toe buttress of the A21 dike.² Also, the Inspector has identified non-compliance issues related to the location of Type III rock in the Waste Rock Storage Area,³ which is adjacent to the PKC Facility north dam. The Board will consider any compliance implications associated with placement of Type III rock in the PKC north dam raises, the Waste Rock Storage Area, and the A21 dike, when the Board reviews DDMI's revised Waste Rock Management Plan (currently under public review). In this way, the Board can consider these issues collectively, and benefit from any additional information provided by reviewers and the company. To be clear, Board approval of the modification to the north dam in no way limits the Board's future decisions regarding non-compliance issues associated with placement of Type III rock.

The Board recognizes that DDMI included statements about the use of Type III rock in the PKC north dam in some design and as-built submissions to the Board.⁴ These submissions were received and placed in the WLWB public registry; however, receipt of the submissions does not constitute Board approval. We acknowledge that the Board did not identify the statements in question and did not realize that DDMI placed Type III rock in the north dam. DDMI did not draw the Board's attention to the practice (e.g., in a cover letter), did not request a modification under Part G of the Water Licence, and did not revise the Waste Rock Management Plan to include use of Type III rock in construction. DDMI is responsible for ensuring that the company follows all approved management plans. Whenever DDMI wishes to make operational changes, DDMI is responsible for determining whether the company needs to revise and submit an updated management plan for approval.

In the future, if DDMI plans to use Type III rock in a manner that is not described in the approved Waste Rock Management Plan, DDMI must submit a revised Plan for approval, a minimum of 90 days prior to implementing the proposed change (Part H, Item 12). If the Type III rock is to be used in the construction of an engineered structure and the design does not identify Type III rock as a construction material, DDMI must propose a modification under Part G of the Water Licence. More generally, if planned operational changes conflict with any approved management plan, DDMI must submit a revised plan a minimum of ninety days prior to implementing the proposed change (Part H, Item 12). DDMI is not authorized to implement the change until the Board approves the revised Plan. In any revised Plan or proposed modification, DDMI must proactively address environmental concerns, closure planning implications, and other relevant issues. It is in DDMI's best interest to fully explain the

² "A21 Dike Design Modification and Construction Update", submitted by DDMI to the WLWB on March 10, 2016. Under the advisement of Board staff, DDMI withdrew this request. Since the dike has not been built yet, the changes are not considered to be modifications. DDMI plans to submit a description of the design changes and other documentation in April, under the appropriate Licence conditions.

³ See "Water Use Inspection Report, Water Licence W2015L2-0001"; February 1, 2016, and "Water Use Inspection Report, Water Licence W2007L2-0001"; November 27, 2015.

⁴ For example, technical specifications for Phase 5 raise design, and phase 5 as-built drawings, page 68 of the approved ICRP (Version 3.2)

rationale for proposed changes, and to attempt to anticipate the kinds of questions and issues that public reviewers and the Board may raise.

If you have any questions, please contact Patty Ewaschuk at (416) 432-6066.

Sincerely,

A handwritten signature in black ink, appearing to read "Violet Camsell-Blondin". The signature is written in a cursive style with a long horizontal stroke at the beginning.

Violet Camsell-Blondin
Chair, Wek'èezhii Land and Water Board

Copied: DDMI Distribution List



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Reference/File Number: W2015L2-0001

Licensee: Diavik Diamond Mines (2012) Inc.

Subject: Proposed Modification to the North Dam of the Processed Kimberlite Containment Facility

Decision from the Wek'èezhì Land and Water Board Meeting of April 7, 2016

Issued pursuant to Section 54
of the *Waters Act*, S.N.W.T. 2014, c.18

1.0 Decision

The Wek'èezhii Land and Water Board (WLWLB or the Board) met on March 23, 2016 and April 7, 2016 to consider Diavik Diamond Mining (2012) Inc.'s (DDMI) proposed modification to the north dam of the processed kimberlite containment (PKC) facility. On April 7, 2016, the Board approved proposed modification.

2.0 Background

On December 10, 2015, DDMI submitted a [proposed modification](#) to the PKC Facility under Part G, Item 1 of its Water Licence (W2015L2-0001). A modification is defined in the Water Licence as follows: "Modification in respect of an Engineered Structure, means a change, other than an expansion, that does not alter the purpose or function of a structure".

DDMI proposed to modify the PKC Facility north dam by placing Type III rock (potentially acid-generating rock) along the dam, in the area between the southern edge of the Waste Rock Storage Area and the north dam crest. The approved Processed Kimberlite Containment Facility Design Report (April 2001) does not include placement of rock in that area, and does not allow Type III rock in the dam.¹

Under Part G, Item 1, DDMI can modify the PKC north dam without written approval, if the conditions in Part G, Items 1a through 1e are met. If any of these conditions are not met, then the company must obtain written

¹ Processed Kimberlite Containment Facility Design Report (April 2001), page 124.

approval from the Board before carrying out the modification. This modification required written approval for the following reasons:

- The original Processed Kimberlite Containment Facility Design Report was for Board approval; therefore, it is reasonable that a modification to the Design would also be for approval;
- The Board required more than 45 days to review the proposed modification (see Part G, Item 1c), to consider:
 - whether recent non-compliance issues related to the Waste Rock Storage Area (as described in the Inspector's [November 27, 2015](#), [February 1, 2016](#), and [February 24, 2016](#) Water Use Inspection Reports) have any bearing on the proposed modification;
 - that the proposed modification conflicted with the approved Waste Rock Management Plan (Version 6); and,
 - how the modification might impact water quality during operations and post-closure.

DDMI did not address these issues in its submission, and time was needed to obtain more information from the company to consider the issues.

- Given the number of issues associated with DDMI's proposed modification, a public review was warranted, which also meant that the review could not be conducted in 45 days.

Board staff distributed the proposed modification for public comment on January 4, 2016. The Environmental Monitoring Advisory Board (EMAB), the GNWT Inspector, GNWT Environment and Natural Resources (ENR), and the North Slave Metis Alliance (NSMA) commented on the modification by the February 19, 2016 deadline. Board staff also posed questions during the public comment period. DDMI responded to the comments by March 2, 2016. Public comments and proponent responses are in the [Review Summary Table](#).

The Board hired SRK Consulting to review the proposed modification and assist Board staff with the geotechnical and geochemical issues related to the proposed modification.

3.0 Reasons for Decision

The reasons the Board approved the proposed modification are:

- a. No geotechnical issues related to the modification were identified. The GNWT (ENR) stated explicitly that they had not identified any geotechnical concerns, nor did the Board's consultant.
- b. The company adequately addressed concerns expressed by reviewers and Board staff regarding the closure of the north dam. The closure plan for Type III rock in the Waste Rock Storage Area is to cover it with 1.5 m of till and 3 m of clean rock. DDMI did not address this issue in its modification request, but in its response to reviewer comments the company confirmed that the same cover will be placed on all Type III rock in the PKC north dam.
- c. The company adequately addressed questions raised by EMAB, Board staff, and NSMA regarding possible acid drainage and metal leaching. DDMI responded that:

Type III rock in the North PKC Dam, past and proposed, will be within the SED and CLAR catchment areas. The drainage collection for the North PKC Dam would be the same

as for other Type III rock in the SED and CLAR basins; that is Pond 3. There is potential for Type III in the PKC North Dam to leach as there is potential for any Type III rock in the SED and CLAR basin to leach. During operations any such seepage is collected in Pond 3. This leaching potential is to be mitigated with the placement of an engineered closure cover.

The Board is satisfied that this response addresses the drainage issues associated with the modification. The Board can consider drainage concerns related to waste rock storage area non-compliance issues separately, once DDMI has met the Inspector's information requirements.

- d. DDMI explained that the height of the waste rock storage area is reaching its maximum (as determined during the environmental assessment), so placement of Type III rock in the north dam has the benefit of preventing an increase in the footprint of the Waste Rock Storage Area.
- e. In its response to EMAB comment#1, DDMI also noted that "The positive effects are reduced costs relative to using Type I rock (Type I rock would need to be re-mined from the North Country Rock Pile)". The Board supports this positive effect, given that the other concerns (e.g., environmental, closure planning, etc.) have been adequately addressed.

Signed on the 7th of April, 2016, on behalf of the Wek'èezhii Land and Water Board



Witness



Violet Camsell-Blondin
Chair, Wek'èezhii Land and Water Board