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December 13, 2017

File: W2015L2-0001

Mr. David Wells  
Diavik Diamond Mines (2012) Inc.  
P.O. Box 2498, 300-5201, 50<sup>th</sup> Avenue  
Yellowknife, NT X1A 2P8

Dear Mr. Wells,

**Re: Schedule 6, Condition 5 and Schedule 1 Updates**

The Wek'èezhii Land and Water Board (WLWB or the Board) met on October 24, 2017 to consider updates to Schedule 6, Condition 5 (i.e., requirements for the Waste Rock Management Plan) and Schedule 1 (i.e., requirements for the Annual Water Licence Report). The Board has revised Schedule 6, Condition 5 and Schedule 1 in consideration of reviewer comments, Board staff's suggestions, and DDMI's proposed edits. The reasons for the updates can be found in the attached Reasons for Decision.

Sincerely,

A handwritten signature in black ink, appearing to read "J Mackenzie", written over a horizontal line.

Joseph Mackenzie  
Acting Chair, Wek'èezhii Land and Water Board

Copied: Diavik Distribution List



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## Reasons for Decision

Reference/File Number:	W2015L2-0001
Licensee:	Diavik Diamond Mines (2012) Inc. (DDMI)
Subject:	Proposed W2015L2-0001 Schedule 1 and 6 Updates

## Decision from the Wek'èezhìi Land and Water Board Meeting of October 24, 2017

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### 1.0 Decision

On October 24, 2017, the Wek'èezhìi Land and Water Board (the Board) met to consider a request by DDMI for the approval of updates to Schedule 6, Condition 5 and Schedule 1 of DDMI's Water Licence W2015L2-0001. The Board has revised Schedule 6, Condition 5 and Schedule 1 in consideration of the recommendations provided during the public review.

### 2.0 Background

On March 31, 2016, DDMI submitted Version 7 of the Waste Rock Management Plan (WRMP) to the Board. The Board did not approve WRMP Version 7, and required DDMI to submit WRMP Version 7.1 by November 16, 2016 with several revisions. The Reasons for Decision included Table 1, which listed 14 required revisions, and 10 other requirements from the Board.<sup>1</sup>

The Board also determined that the Water Licence Schedules would benefit from an update related to the WRMP and required DDMI to "identify each Schedule requirement that is problematic, explain why it is problematic, and propose updates to the Schedule". These updates included moving some of the requirements from Schedule 6, Condition 5 to other schedules (e.g., Condition 5a and 5i require annual updates that, as the Board stated, would be "more appropriate in the Annual Water Licence Report").<sup>2</sup>

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<sup>1</sup> See WLWB Online Registry for [Diavik – Waste Rock Management Plan – Version 7 – Directive and Reasons for Decision – Sep 15 17](#)

<sup>2</sup> Ibid.

The Board also identified three potential improvements that could be made to the WRMP that would best be achieved through an update to the Water Licence Schedule. These include: 3.4(a) - include a verification program; 3.4(b) - provide better descriptions of monitoring related to the objective of the WRMP; and 3.4(c) - include a characterization program for Waste Rock from the A21 area.<sup>3</sup>

The Board received Version 7.1 of the WRMP from DDMI on November 16, 2016. DDMI identified an error in Figure A-3 of Appendix A of the WRMP Version 7.1 and submitted a revised Figure.<sup>4</sup> On December 16, 2016, the Board received proposed updates from DDMI to Schedule 6, Condition 5, as well as Schedule 1 (Annual Report) and Schedule 6, Condition 6 (Seepage Survey Report)<sup>5</sup> because it was identified by DDMI that these may be impacted by the Board's decision on the proposed changes to Schedule 6, Condition 5.<sup>6</sup> As directed by the Board, staff also outlined potential improvements to the WRMP schedule to be distributed for public review alongside DDMI's proposed updates.<sup>7</sup>

DDMI's WRMP Version 7.1, DDMI's Erratum (Figure A-3), DDMI's proposed updates to Schedule 6, and Board staff proposed updates to Schedule 6 were distributed for review on May 30, 2017. Reviewer comments were due on June 29, 2017 and comments were received from the Government of the Northwest Territories (GNWT) - Lands Inspector and the GNWT Department of Environment and Natural Resources (GNWT-ENR). Board staff also submitted comments. Environment and Climate Change Canada (ECCC) noted that they had no comments. Proponent responses were received by the deadline of July 12, 2017. Reviewer comments and recommendations, as well as proponent responses are available on the Board's online registry.<sup>8</sup>

The Board notes that, because the Item for Review included changes suggested by Board staff, it was important to provide all parties, including DDMI, with the opportunity to comment. To ensure that this was done, Board staff included instructions to this effect in the Item for Review and included a specific comment regarding proposed Board staff changes for DDMI during the public review.

### **3.0 Reasons for Decision**

The Board has revised Schedule 6, Condition 5 and Schedule 1 based on the outcome of the public review. The Board considered DDMI's proposed updates to the Schedules, Board staff's suggestions, reviewer comments, and proponent responses when revising the Schedules. The following sections provide the reasons for the updates to Schedule 6, Condition 5 and Schedule 1.

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<sup>3</sup> Ibid.

<sup>4</sup> See WLWB Online Registry for [Diavik – Waste Rock Management Plan – Version 7.1 – Erratum - Figure A-3 – Nov 30 16](#)

<sup>5</sup> Initially, DDMI suggested moving Condition 5j to Schedule 6, Condition 6, but reported this was a mistake when responding to WLWB comment 14.

<sup>6</sup> See WLWB Online Registry for [Diavik – Waste Rock Management Plan – Version 7 – Schedule Update Request – Schedule 6 Item 5 – Dec 16 16](#)

<sup>7</sup> See WLWB Online Registry for [Diavik – Waste Rock Management Plan – Version 7 – Board Staff's Suggested Updates to Schedule 6 – May 2 17](#)

<sup>8</sup> See WLWB Online Registry for [Diavik - Waste Rock Management Plan - Version 7.1 - Review Summary and Attachments - Jul 12 17.pdf](#)

In its response to WLWB staff comment 2, DDMI stated:

DDMI would appreciate an opportunity to review the Board staff's proposed Schedule updates more comprehensively in light of the comments received here and DDMI's original proposed changes. If the Board thinks it would be helpful, DDMI could provide a revised draft Schedule that incorporates all of these items and could more easily be reviewed by all parties, as the Board's recommendation appeared to be specific to DDMI.

The Board is of the opinion that DDMI was provided the opportunity to identify concerns with the proposed changes and to propose alternatives during the public review.

### **3.1 Schedule 6, Condition 5 Updates**

The structure of Schedule 6, Condition 5 has been re-organized under sub-headings (i.e., Background Information, Waste Rock Management, and Monitoring and Verification) to assist DDMI with developing a WRMP that more closely mirrors the schedule requirements. Section 3.1.1 below provides reasons for new conditions, as well as changes made to existing conditions. This section also includes discussions of the updates proposed by DDMI that were not included in the revised Schedule. Section 3.1.2 provides the reasons why particular conditions were removed from Schedule 6, Condition 5.

#### ***3.1.1 New or Updated Conditions***

The introductory text for the WRMP in Schedule 6, Condition 5 was updated following the public review to include the management of till. The Board approved the addition of till in this introductory section to distinguish that till is separate from Waste Rock. Since till is already included in the WRMP this is not an addition to the WRMP but provides clarification on the scope of the WRMP.

##### **3.1.1.1 Condition 5a: Background Information**

###### ***Conditions 5a(i), 5a(ii) and 5a(iii)***

In Board staff's proposed updates to Schedule 6, three new conditions were proposed: a requirement for the "purpose of the Plan" (Condition 5a(i)), a requirement for information on "site geology" (Condition 5a(ii)), and a requirement for the "history of the WRSA" (Condition 5a(iii)). These were proposed to provide more specific background information and context for the readers/reviewers of the WRMP than what was previously required under the Schedule. No comments were received from reviewers regarding the addition of these conditions. The Board is of the opinion that the addition of these conditions will provide additional information helpful to readers/users of the WRMP, therefore, the Board has included these conditions in Schedule 6.

#### *Condition 5a(iv)*

Condition 5a(iv) represents an update to a condition that was previously included in the Licence (i.e., former Condition 5d of Schedule 6). The condition was written as follows:

A complete description, including site maps to scale, of each till, ore and Waste Rock Storage Area including the PKC Facility.

DDMI recommended that the condition be replaced with the following:

An overview of storage area locations and management procedures, including site maps to scale, of each till, ore and Waste Rock Storage Area including the NCRP final design.

No comments were received during the public review on DDMI's proposed update.

- The Board agrees with DDMI that the PKC Facility can be removed from this requirement since this description would be included in the PKC Facility Plan. The Board is of the opinion that "complete description" can be replaced with "description" since this requirement would be for a summary. This description however, should be detailed enough to describe all storage uses of Type I and Type III rock.

Furthermore, as described in more detail below, the Board has updated Condition 5a(iv) of the Schedule with the following:

- Since Condition 5a(v) now requires a map, the requirement for a map has been removed from Condition 5a(iv).
- Since Condition 5a(vi) will now require "a description of how the approved 2001 design differs from the constructed WRSA", reference to "the NCRP final design" is not necessary under this Condition.
- Since "management procedures" would be covered under Condition 5b(iv), reference to "management procedures" has been removed from this condition.

With these considerations, Condition 5a(iv) is written in Schedule 6 as follows:

A description of each till, ore, and Waste Rock Storage Area.

#### *Conditions 5a(v) and 5a(vi)*

In Board staff's proposed updates to Schedule 6 two new conditions were proposed: (i.e., 5a(v) and 5a(vi)) to address part of the Board's requirements from the September 15, 2016 Board Directive (i.e., Items 9 and 10 from Table 1 in the Reasons for Decision).<sup>9</sup> Item 9 required including a "description on how the WRSA was actually built" since some Waste Rock was not deposited in areas as described in the

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<sup>9</sup> See WLWB Online Registry for [Diavik – Waste Rock Management Plan – Version 7 – Directive and Reasons for Decision – Sep 15 17](#)

2001 WRSA Design Report.<sup>10</sup> Under Item 9, the Board also required a new figure clearly showing where each type of material (i.e., till, Type I, Type II only, and Type III rock) has been placed in the WRSA. The inclusion of a map also addresses Item 10 from the Board's Reasons for Decision, which required additional "information on re-mining areas, including figures".

The GNWT-Lands Inspector agreed that a map will "aid the planning and effectiveness of inspections" (GNWT-Lands Inspector comment 2). The Inspector also recommended that wording be added to this condition (i.e., 5a(v)) to notify the Inspector if DDMI needs to make any changes to the map. The Board is of the opinion that this wording is not necessary because Part H, Condition 12 already requires that updates to the WRMP be submitted to the Board for approval. This would include any changes made to maps. In its response to the Inspector's comment, DDMI "question[ed] the need for this map to be included in the Waste Rock Management Plan". DDMI stated that they understand "the general requirement for as-built information that reflects the design of the pile at the end of operations" and suggests "that such a map be appropriately included as part of an Operational As-built Report for the NCRP and that this be included as an appendix not requiring approval within the Waste Rock Management Plan". In the Board's opinion, a map clearly outlining where Waste Rock has actually been deposited will assist not only the Inspector during inspections, but also provide context for the WRMP. As well, there have been recent incidents where Type III rock was placed in areas not approved in the WRMP;<sup>11</sup> these areas could also be indicated on the map. Thus, the addition of a comprehensive map could also assist DDMI operations by indicating where materials are intended to be deposited. For these reasons, the Board has included Condition 5a(v) in Schedule 6.

No comments were received on the proposed addition of 5a(vi). The Board has included this condition because it addresses the Board's September 15, 2016 Reasons for Decision (Table 1, Item 9) requirement (i.e. "description of how the WRSA was built").

#### *Conditions 5a(vii), 5a(viii), and 5a(ix)*

In Board staff's proposed updates to Schedule 6, three new conditions (i.e., 5a(vii), 5a(viii), and 5a(ix)) were proposed to address Item 4 from Table 1 of the requirements from the September 15, 2016 Board's the Reasons for Decision.<sup>12</sup> The Board requirement was for the inclusion of "basic information related to the following key aspects of Waste Rock management: water management; closure planning; and geochemical characterization, including testing after 1998". No comments were received regarding these three additions. The Board has included these conditions to address Item 4 from Table 1 of the September 15, 2016 Directive. The Board notes that the level of detail of this information should be sufficient to give the reader a basic understanding, but not so specific that DDMI will need to regularly update the WRMP. DDMI may refer the reader to other management plans for more detailed information.

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<sup>10</sup> See WLWB Online Registry for [Country Rock and Till Storage Updated Design Report](#), 2001

<sup>11</sup> See WLWB Online Registry [Diavik - Waste Rock Misclassification - Report - Jul 3 17.pdf](#)

<sup>12</sup> See WLWB Online Registry for [Diavik – Waste Rock Management Plan – Version 7 – Directive and Reasons for Decision – Sep 15 17](#)

### *Conditions 5a(x), 5a(xi), and 5a(xii)*

The Board decided to add a new condition (i.e., 5a(x)) and to split one of the previously included conditions (i.e., former Condition 5k of Schedule 6) into two conditions (i.e., 5a(xi) and 5a(xii)) with revisions.

Board staff's proposed updates to Schedule 6 included the addition of 5a(x) and some of the modified wording for 5a(xi) to address Item 6 from the Board's Directive. No comments were received regarding these additions. Following the public review, 5a(xi) was updated with additional wording (i.e., the addition of "at the time the Waste Rock Management Plan was updated" to the end of the condition). This additional wording is intended to indicate that the information included in the WRMP is the most up-to-date at the time the WRMP is updated. In other words, DDMI would not be required to update this information regularly, unless an identified change in the geochemical characteristics triggers a change in the management of Waste Rock (further discussed below in Section 3.1.2.4 (i.e., Condition 1w in Schedule 1)). The results of any geochemical sampling will now be updated in the Annual Water Licence Report (see Section 3.1.2.4 below). The Board has included Conditions 5a(x) and 5a(xi) because they address Item 6 from the September 15, 2016 Directive.

With regards to former Condition 5k of Schedule 6, DDMI proposed changes to this condition in its submission to the Board. DDMI proposed removing the second part of the condition that requires "updated predictions of water chemistry of the leachate from the Waste Rock based on measured results, from all sources". DDMI proposed this because "the test piles research is complete". DDMI stated that "results may still be forthcoming but these would be incorporated into Closure Research Updates as required by Schedule 9 Item 2(c)(ii)". During the public review, the GNWT-Lands Inspector commented that if there are still water chemistry results that might be forthcoming and "those results merit a concern, then having those changes identified in context (i.e., in the Waste Rock Plan) would ensure that links and ties/relationships between waste rock storage and use won't get lost as one shifts from this Plan to the Annual Report Appendix, etc." (GNWT-Lands Inspector comment 8). The Board agrees that this information would provide additional context for reviewers and users of the WRMP. To address this, the Board has included 5a(xii), which also includes the requirement for a summary of the prediction methodologies. This will provide the reader with an understanding of the basic methodologies for how water quality was predicted.

### *Condition 5a(xiii)*

Condition 5a(xiii) represents an update to a condition that was previously included in the Licence (i.e., former Condition 5f of Schedule 6). The update reflects changes proposed by DDMI. DDMI proposed the updated wording because "detailed information fits better with Facility, Design or Closure plans, but an overview could remain in the WRMP". DDMI also proposed removing the need for a description on Processed Kimberlite (PK) because "this information is already provided, and more appropriately addressed in the PKC Facility Plan (Sections 1 and 2)". The Board agrees with this update because it retains the general purpose of this condition and because the PKC Facility Plan captures the requirement

for PK being deposited to the PKC facility (and currently, PK is not approved to be deposited elsewhere). Furthermore, no reviewer comments were received on this condition. Following the public review, some of the wording in the condition was reorganized to help clarify the purpose of the condition.

### 3.1.1.2 Condition 5(b) Waste Rock Management

#### *Condition 5b(i)*

Condition 5b(i) represents an update to a condition that was previously included in the Licence (i.e., former Condition 5b of Schedule 6). The former condition required DDMI to describe the geochemical decision criteria for managing Waste Rock to “facilitate the classification of rock which is suitable and not suitable” for particular uses “in terms of acid generation and heavy metals leaching potential”.

DDMI proposed edits to this condition which included re-organizing the uses of the rock (e.g., placing Reclamation under examples of Construction) and identifying additional areas where Waste Rock could be extracted (i.e., underground and stockpiles). Notably, DDMI removed “reclamation” from the list of uses for Waste Rock and placed it as an example under Construction. In the cover letter for the proposed updates to Schedule 6, DDMI states that “[t]here are two clear allocations for waste rock from the mine: that which can be used for construction and that which requires disposal”<sup>13</sup>. The Board is of the opinion that reclamation should not be included under Construction because the definition of Construction in the Licence is associated with development of the Mine. Furthermore, using Waste Rock for closure purposes could be another use. Therefore, the Board approved listing Construction, as well as closure and reclamation, as uses for Waste Rock.

With regards to identifying the uses of Waste Rock listed under former Condition 5b, the GNWT-ENR recommended that the Board add specific examples for uses of Waste Rock to the examples provided by DDMI in the proposed update to this Condition (GNWT-ENR comment 2). DDMI’s proposed updates included examples of suitable types of Waste Rock depending on the use (i.e., construction or disposal). Under this Condition, GNWT-ENR also recommended the inclusion of “or as approved by the Board” when referring to suitable uses of Waste Rock. DDMI agreed with the recommendation to include “or as approved by the Board”. By adding this, the Board did not think it is necessary to add examples next to each use.

To address one of the potential improvements suggested by the Board in its September 15, 2016 Directive (i.e., 3.4(c) - “include a characterization program for Waste Rock from the A21 area”)<sup>14</sup>, DDMI also proposed including the following text to former Condition 5b: “description of the procedures used

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<sup>13</sup> See WLWB Online Registry for [W2015L2-0001 Diavik - Waste Rock Management Plan - Version 7 - Schedule Update Request - Schedule 6 Item 5 - Dec 16 16.pdf](#)

<sup>14</sup> See WLWB Online Registry for [Diavik – Waste Rock Management Plan – Version 7 – Directive and Reasons for Decision – Sep 15 17](#)

to support the operational characterization/classification of all rock types”.<sup>15</sup> The Board did not agree that DDMI’s proposed requirement fully addressed this potential improvement because it was not specific to A21. Instead, the Board decided to include a new condition elsewhere in Schedule 6 (i.e., Condition 5c(iii)) that specifically requires a description of the characterization program for Waste Rock from the A21 area; this is further addressed in Section 3.1.1.3.

In DDMI’s proposed update to former Condition 5b, DDMI suggested removing “quarries” as a Waste Rock extraction site from the condition. During the public review, DDMI was asked if they had a problem with leaving “quarries” in the requirement in case DDMI ever builds a quarry (WLWB staff comment 12). DDMI responded that they did not see the need for a quarry since there was a surplus of Type I Waste Rock. The Board is of the opinion that quarries should be retained in the condition, in case there is a need for a quarry in the future, and because there is no disadvantage to leaving “quarries” in this requirement.

Finally, former Condition 5b included “heavy metals leaching potential” as part of the geochemical decision criteria for managing Waste Rock. During the public review, DDMI was asked to state its “view on whether the word ‘heavy’ should be deleted from this requirement” when referring to “heavy metal leaching potential” (WLWB staff comment 10). DDMI responded that “some specificity is required to prevent the possibility that DDMI would have to consider the leaching potential of every metal”. DDMI also responded that “replacing the reference to ‘heavy’ with ‘EQC’...would ensure an appropriate site-specific focus for metal leaching potential”. The Board is of the opinion that the word ‘heavy’ should be deleted since “leaching potential is not limited to heavy metals”, as described in WLWB staff comment 10. As well, there is a possibility that there could be elevated concentrations of metals that were not predicted to be elevated (i.e., metals outside of those with EQCs).

#### *Condition 5b(ii)*

In Board staff’s proposed updates to Schedule 6, new condition (i.e., 5b(ii)) was included to address Item 14 from Table 1 of the September 15, 2016 Board’s Reasons for Decision.<sup>16</sup> Item 14 required including “...a statement that the company will not use the Type I rock underlying the Type III rock in the CLR basin unless testing confirms the material is suitable for use”. The Inspector commented on this proposed update stating that “there may need to be wording included noting that the Inspector will have to be notified, in writing, when testing conditions confirm this material is ok for use in construction & (sic) that the B[oard] approves such use” (GNWT-Lands Inspector comment 3). The Board did not think this is a necessary addition because, as stated previously, Part H, Condition 12 of the Licence already requires that updates to the WRMP be submitted to the Board for approval. No other reviewer comments were received regarding this proposed condition. The Board approved addition of this Condition because it addressed Item 14.

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<sup>15</sup> See WLWB Online Registry for [W2015L2-0001 Diavik - Waste Rock Management Plan - Version 7 - Schedule Update Request - Schedule 6 Item 5 - Dec 16 16.pdf](#)

<sup>16</sup> See WLWB Online Registry for [Diavik – Waste Rock Management Plan – Version 7 – Directive and Reasons for Decision – Sep 15 17](#)

#### *Condition 5b(iii)*

In Board staff's proposed updates to Schedule 6, a new condition was included (i.e., 5b(iii)) to satisfy Item 11 from Table 1 of the September 15, 2016 Board's Reasons for Decision.<sup>17</sup> Item 11 from the Reasons for Decision required that DDMI:

[a]dd the following text to Section 3.4, or provide a rationale for why it was removed: *"The duration that waste rock is temporarily stored in these areas depends on: the quantity of material being mined and hauled to surface; the ratio of rock types being brought to surface; and the availability of surface haul trucks and loaders. To minimize the amount of time waste rock is stored at temporary storage locations DDMI established a 2-week maximum storage time at the temporary storage locations. In the event mining operations are suspended (e.g. a shut down), material in the temporary storage areas will be removed to appropriate locations in the NCRP or construction areas"*.

The Inspector commented that "some sort of time requirement would seem prudent (in order to minimize inspection challenges differentiating between erroneous long term storage of Waste Rock vs. "temporary" storage" (GNWT-Lands Inspector comment 11). By providing the information required in 5b(iii) in the WRMP, the Inspector will be better able to distinguish between long term storage piles and temporary storage piles. No other reviewer comments were received regarding this proposed new condition. The Board agrees with the Inspector's recommendation and approved the addition of this Condition.

#### *Condition 5b(iv)*

Condition 5b(iv) is similar to a condition that was previously included in the Licence (i.e., former Condition 5c of Schedule 6: "a description of the operational procedures that will be used to segregate and manage the rock that is identified for Construction"). DDMI proposed to delete former Condition 5c because the edits they suggested under former Condition 5b, would have included the requirement for a "description of the procedures used to support the operational characterization /classification of all rock types"; thus, there would be duplication of the requirement. The Board, however, did not agree with this specific proposed edit and has determined that this requirement should remain, but with edits to include all potential uses of Waste Rock (i.e., Construction, closure and reclamation; and disposal).

#### *Condition 5b(v)*

Condition 5b(v) is similar to a condition that was previously included in the Licence (i.e., former Condition 5e of Schedule 6: "a description of the sampling design and analytical methods that will be used to support the operational classification of all rock types"). DDMI proposed to delete former Condition 5e from the current schedule requirements for the same reason as described in the previous paragraph (i.e., DDMI's suggested edits to another condition would duplicate this requirement). The

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<sup>17</sup> Ibid.

Board, however, did not agree with DDMI's specific edits. In addition, the Board is of the opinion that there should be a distinction between the sampling/analytical methods and the operational procedures. The Schedule includes a requirement for "a description of operational procedures that will be used to segregate and manage the rock that is identified for (i) Construction, closure and reclamation, and (ii) disposal" (i.e., Condition 5b(iv)). The sampling design and analytical methods are key components of a successful Waste Rock management program, and to ensure this information is included in all future versions of the WRMP, the Board has kept this condition, but with modified wording for clarity.

#### *Condition 5b(vi)*

Condition 5b(vi) is a revision to a condition that was previously included in the Licence (i.e., former Condition 5i of Schedule 6: "a comparison of predicted and measured quantities of each rock type produced in the preceding year"). DDMI proposed that former Condition 5i be removed from Schedule 6 because this is addressed in a proposed update to Schedule 1 (i.e., "an annual volume for till storage, ore stockpiling, Processed Kimberlite generation and Waste Rock production by rock type, tonnage, and destination over the term of the Project, including sources of each rock type").

During the public review, DDMI was asked if they agreed that there was value in presenting past and/or predicted annual volumes in the WRMP (WLWB staff comment 9). DDMI indicated that it does see value in reporting "past (actual) annual volumes/tonnages and scheduled future volumes/tonnages" and commented that this information is currently included in the Annual Report. The GNWT-ENR commented that DDMI's proposed update to Schedule 1 did not include this information; the GNWT-ENR stated that "this information is still required and should still be provided" (GNWT-ENR comment 3). The Inspector recommended that the WRMP include predicted and past annual volumes (GNWT-Land Inspector comment 7). DDMI stated that with frequent changes in the mine plan "it would be challenging to identify a suitable method of comparison and DDMI has not identified a need or value in conducting such comparisons".

Predictions on Waste Rock tonnages/volumes for upcoming years are important from a closure perspective and provide additional context for the readers of the WRMP (e.g., Inspectors). The WRMP should provide a specific breakdown of rock type (including till and Waste Rock) by tonnage and destination in past years and predicted amounts in upcoming years to capture this. This is not information that would need to be updated annually, but the WRMP must include a statement that the predictions are based on the information available when the WRMP was last updated. A comparison between annual actual quantities and predicted quantities reported in the WRMP can be made in the Annual Water Licence Report (as described in Section 4.2.2 below for Schedule 1, Condition 1I).

Based on the above, the Board is of the opinion that the former condition should not be deleted. However, the Board has decided to update the wording of this condition to incorporate what would be beneficial to include in the WRMP (i.e., past and predicted quantities), understanding that a comparison between predicted quantities and annual quantities will be provided through the Annual Water Licence Report. Specifically, Condition 5b(vi) requires "past and predicted quantities in cubic metres and tonnes

for till, ore stockpiling, and Waste Rock (per type) by destination, including source of each material, at the time the Plan was updated”. For these reasons, and to address reviewer comments, the Board has approved the addition of this condition.

### 3.1.1.3 Condition 5c: Monitoring and Verification

#### *Condition 5c(i)*

In its September 15, 2016 Reasons for Decision, the Board suggested updates to the WRMP, including the need for a description of the verification program “to verify that DDMI has properly segregated rock types, and in particular to verify that Type I rock that will be used in Construction is non-PAG”.<sup>18</sup> The purpose of the verification program is to reduce the likelihood of Waste Rock being placed in incorrect areas at the mine site (as was the case between January 2014 and October 2016 as described in the Waste Rock Misclassification Report)<sup>19</sup> and to reduce the likelihood of particular types of Waste Rock being used for incorrect applications (e.g., using Type III for construction).

To address this, DDMI suggested a new condition: “a description of the operational procedures that will be used to delineate and confirm Type 1 re-mining areas within the NCRP”. This proposed condition by DDMI is specific to the Type I re-mining areas but should be more general (i.e., Type I rock in general). In the Board’s opinion, the following provides more direction, as intended in its September 15, 2016 Reasons for Decision, on the intent of the verification program than DDMI’s proposed condition: “a description of the verification program that will be used to confirm Waste Rock by type and potential uses, in particular to verify that Type I rock that will be used in Construction is non-PAG”. For this reason, the Board approved the addition of this condition as 5c(i).

#### *Condition 5c(ii)*

In its September 15, 2016 Reasons for Decision, the Board suggested that the WRMP include “[i]mproved descriptions of monitoring related to the objectives of the WRMP”.<sup>20</sup> The Board suggested this update because the WRMP “contains very little information about the monitoring”. The potential change was also in relation to statements made by DDMI during the public review of Version 7 of the WRMP where DDMI stated that “[k]ey objectives of DDMI’s waste rock management plan are to identify acid-generating rock and direct appropriate use/storage” and “any monitoring would need to be specific to those objectives”.<sup>21</sup>

DDMI proposed “an overview of related management plans and monitoring programs that support waste rock management”. Board staff proposed the following: “a description of how the management

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<sup>18</sup> Ibid.

<sup>19</sup> See WLWB Online Registry for [Diavik - Waste Rock Misclassification - Report - Jul 3 17.pdf](#)

<sup>20</sup> See WLWB Online Registry for Diavik – Waste Rock Management Plan – Version 7 – Directive and Reasons for Decision – Sep 15\_17

<sup>21</sup> See WLWB Online Registry for [Diavik - Waste Rock Management Plan - Version 7 - Review Summary and Attachments - Jun 30 16](#). DDMI response to WLWB staff Comment 3.

plan will be evaluated to ensure its effectiveness and the frequency and triggers for when the plan will be updated”.

The Board is of the opinion that Board staff’s proposed condition met the intent of the suggested improvement more-so than DDMI’s proposed condition because DDMI’s proposed wording does not link to the objectives of the WRMP. The objectives and the purpose of the WRMP would formulate the basis for the monitoring program and therefore the WRMP should detail how the monitoring relates back to the objectives. The WRMP does not have to go into detail on the various monitoring (e.g., thermal monitoring, Seepage Monitoring, SNP, or AEMP), but it should provide a description of how this data could be used to evaluate the WRMP’s effectiveness. Taking this into consideration, the Board approved the addition of Board staff’s condition but modified the condition to more clearly capture the intent of the suggested improvement. Condition 5c(ii) is written as follows: “a description of monitoring to confirm that the Plan meets its stated purpose and objectives”.

#### *Condition 5c(iii)*

The Board added condition 5c(iii) to address one of the suggested updates from the September 15, 2016 Reasons for Decision: include a “characterization program for Waste Rock from the A21 area”.<sup>22</sup> Both DDMI and Board staff proposed a new condition to address this suggested improvement. The Board added the condition proposed by Board staff because it was more relevant to the suggested improvement (i.e., specific to A21); DDMI’s proposed wording to address this suggested improvement was general to all rock types (i.e. not specific to A21). Furthermore, the Board notes that the GNWT-ENR was supportive of Board staff’s proposed condition (GNWT-ENR comment 1).

#### *Condition 5c(iv)*

Condition 5c(iv) is a revision to a condition that was previously included in the Licence (i.e., former Condition 5h of Schedule 6: “a description of the temperature analysis that will be implemented in all Waste Rock Storage Area having Acid Rock Drainage (ARD) potential to evaluate the potential for oxidation reactions and to determine predicted ARD generation rates”). DDMI proposed that this condition be replaced with the following: “a description of the thermal monitoring that is conducted in all Waste Rock Storage Areas having Acid-Rock Drainage (ARD) potential.”

The Inspector recommended that the evaluation component of the original condition remain (i.e., “evaluate the potential for oxidation reactions to determine predicted ARD generation rates”) “as it’s useful to determining the intent/use of the monitoring” (GNWT-Lands Inspector comment 6). The Inspector also commented that there would be value in “having thermal modelling for WRSA areas which do not have ARD potential, as water entering these cells could warm up or mobilize Acid Rock Drainage which might be generated by cells with ARD potential”. In its response, DDMI explained that the “purpose of thermal monitoring is to understand the depth of annual thaw” not the influence of temperature on oxidation reactions. The Board agrees with DDMI and has modified this new condition

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<sup>22</sup> Ibid.

to address this. The Board also decided to remove the implication that only those WRSAs with thermal monitoring that have the potential for ARD would need to be described, which broadens the scope of this Condition, as recommended by the Inspector.

#### 3.1.1.4 Condition 5d

The Board decided to add a new condition requiring “a conformance table identifying where each of the requirements in Schedule 6, Condition 5(a), 5(b) and 5(c) are located in the Plan (e.g., page number and/or document section)”. This is consistent with Schedules for other management plans and provides a checklist for DDMI and the reviewers. This condition was included in the Board staff’s proposed revisions and no comments were received regarding this addition during the public review.

### ***3.1.2 Conditions Removed from Schedule 6, Condition 5***

#### 3.1.2.1 Former Condition 5a

DDMI proposed moving former Condition 5a from Schedule 6 to Schedule 1, which outlines the requirements for the Annual Water Licence Report. Although the Inspector recommended that this condition remain as a requirement in the WRMP, the Board decided that this information would be more appropriate in the Annual Water Licence Report, as discussed in Section 4.2.1 below (see Schedule 1, Condition 1k).

#### 3.1.2.2 Former Condition 5g

DDMI proposed deleting former Condition 5g from Schedule 6. No comments were received by reviewers regarding this deletion. The Board agrees that this condition is no longer necessary because, as stated by DDMI, the test piles are complete and testing of the A21 Waste Rock will be a requirement under Condition 5c(i).

#### 3.1.2.3 Former Condition 5j

DDMI proposed moving former Condition 5j from Schedule 6 to Schedule 1 of the Licence. No comments were received by reviewers regarding this deletion. The Board agrees that this condition can be removed from the requirements for the WRMP and that this information should be incorporated to Schedule 1 as discussed in Section 4.2.4 below.

#### 3.1.2.4 Former Condition 5l

DDMI proposed removing former Condition 5l from Schedule 6, which required “the results and interpretation of any additional geochemical testing on various rock types or Processed Kimberlite”, because “this information would be incorporated into Closure Research Updates as required by Schedule 9, Item 2(c)(iii), or within Section 4 of the PKC Facility Plan, as appropriate”.

The Inspector commented that “there is value in retaining this information” (GNWT-Lands Inspector comment 8). The Inspector added that “keeping such information in the WRMP most efficiently ties current practices reported inside the WRMP with summaries of data and result outcomes”. The Inspector did note, however, that the Processed Kimberlite could be delegated to the PKC Facility Plan. The Board agrees with the Inspector that there is value in keeping this kind of information in the WRMP because it would provide additional context, but notes that this is currently captured by Condition 5a(xi), which requires “a summary of the geochemical characteristics of each rock type...”. As discussed above in Section 3.1.1.1, this information should be included in the WRMP, but does not require annual updating. The Board has also added Condition 1w to Schedule 1 to address the information that should be updated annually through the Annual Water Licence Report; this is discussed further in Section 4.2.4 below (Schedule 1, Condition 1w).

### **3.2 Schedule 1, Condition 1**

As discussed above, DDMI proposed moving some of the conditions from Schedule 6, Condition 5 to Schedule 1, Condition 1. These conditions and other resulting changes are discussed below. The Board considered proposed updates from DDMI and reviewer comments when deciding on Schedule 1 requirements. Section 3.2.1 below provides reasons for new conditions and discussion of the updates proposed by DDMI that were not included in the revised schedule. Section 3.2.2 provides the reason why a particular condition was removed from Schedule 1.

#### **3.2.1 New Conditions**

##### **3.2.1.1 Condition 1k**

DDMI proposed moving the requirements of former Condition 5a from Schedule 6 to Schedule 1, Condition 1k. Former Condition 5a stated that the WRMP is to include “an annual schedule for till storage, ore stockpiling, Processed Kimberlite generation and Waste Rock production by rock type, tonnage, and destination over the term of the Project, including sources and volumes of each rock type”. DDMI stated that “[m]anagement plans are not an appropriate document for reporting results and DDMI requires flexibility, particularly in relation to tonnage and destination”.

The Inspector recommended keeping this Condition under Schedule 6, because moving this information to the Annual Water Licence Report would “add another reference to the process of determining compliance...and gleaming the raw data from summary/analysis can create a burden on the Inspectors abilities in the field (the Annual Report is a large document to haul around)” (GNWT Lands Inspector Comment 1). In its response to the Inspector’s comment, DDMI stated that it is “not practical” to require DDMI to obtain Board approval 90 days prior to changes to the WRMP, since changes to mine plans happen frequently. DDMI also stated that they were “not suggesting that annual production schedules and actual annual production tonnages should/could not be provided, only that they not be for approval or require approval to be changed”.

DDMI also stated that they understand that former Condition 5a was “forward looking with regard to a “schedule” of anticipated tonnages rather than reporting of actual tonnages” (response to WLWB staff comment 4). The Board agrees with DDMI that the purpose of this condition in the context of the WRMP was not to be precise on tonnages, but rather to give an idea of potential tonnages and destinations over the term of the project, whereas the Annual Water Licence Report can provide the specific annual volumes/tonnages. This is reflected in the changes to Schedule 6 (i.e., Condition 5b(vi); see Section 3.1.1.2 above) and Schedule 1, Condition 1l (see Section 3.2.2 below). Updates to the predictions in the WRMP will now be triggered under Condition 1l in Schedule 1, where annually, DDMI will be required to state in the Annual Water Licence Report if the predictions in the WRMP require updating if they have implications on how the Waste Rock is managed.

DDMI also proposed that this condition report on “volume” of till and Waste Rock produced rather than the “schedule” of production. The Inspector commented that he did not support the replacement of the word “schedule” with “volume” because timing of when materials will be moved helps the Inspector “effectively focus/plan out inspections efforts throughout the year” (GNWT Lands Inspector comment 1). In Version 7.1 of the WRMP, DDMI provided predictions on an annual basis by target destination and type of material. The Board expects that a similar table will be included in future versions of the WRMP, as per the requirement of Schedule 6, Condition 5b(vi) (see Section 3.1.1.2 above). This would thus retain a general “schedule” for the movement of materials in the WRMP, while allowing for annual updates to be reported as part of the Annual Water Licence Report.

Overall, the Board agrees with DDMI’s proposal to move former Condition 5a from Schedule 6 to Schedule 1 (i.e., new Condition 1k) for the reasons discussed above. The Board notes that the wording of the condition has been edited to help clarify the requirements.

### 3.2.1.2 Condition 1l

The Board decided to add a new condition (i.e., 1l) to Schedule 1:

...for materials listed in Condition k:

- i. provide a comparison of quantities of materials (where applicable) between predictions in the Processed Kimberlite Containment Facility Plan and Waste Rock Management Plan, against material deposited in the preceding year; and
- ii. identify if predictions in the Processed Kimberlite Containment Facility Plan and Waste Rock Management Plan require updating and if they have implications on how the materials will be managed.

Condition 1l was added because the requirement for a “comparison of predicted and measured quantities of each rock type produced in the preceding year” was removed from Schedule 6 (see Section 3.1.1.2, Condition 5b(vi) above). During the public review, the GNWT-ENR commented that this comparison should still be included in either the Annual Water Licence Report or in the WRMP (GNWT-ENR comment 3). The Board agreed that a comparison is necessary since this comparison could inform whether a change between predictions and actual amounts would have implications for how the Waste Rock is managed and trigger the need to update the WRMP. The Board decided that the comparison

should be provided under the Annual Water Licence Report since the annual volumes would now be reported under the Annual Water Licence Report (under Condition 1k, see Section 3.2.1.1 above).

#### 3.2.1.3 Condition 1t

In Schedule 1, under the heading *Spills and Unauthorized Discharges*, DDMI proposed adding a new condition stating: “annual underground spill summary (19 Feb 2014 WLWB Directive)”. The Board agrees that the Annual Water Licence Report would be a logical place for this information and have thus decided to include this condition, but have removed the reference to the February 19, 2014 WLWB Directive.

#### 3.2.1.4 Condition 1w

DDMI proposed moving former Condition 5j of Schedule 6 to Schedule 1. The Board agrees that this information could be updated annually in the Annual Water Licence Report because Condition 5a(xi) in Schedule 6 would require DDMI to include a “summary of the geochemical characteristics of each rock type...”. The Board has thus added this as Condition 1w to Schedule 1. DDMI also proposed edits to the wording of this condition. The Board decided to edit DDMI’s proposed wording to include a trigger to update the Processed Kimberlite Facility Plan or Waste Rock Management Plan if the geochemical results affect any assumptions related to the management of those materials. Additional wording was also added in relation to former Condition 5l of Schedule 6 on the “interpretation of any additional geochemical testing...” because it is related to Condition 1w.

#### 3.2.1.5 Condition 1y

In Schedule 1 under the heading “*Other Reporting Requirements*”, DDMI proposed adding a new condition stating: “annual ammonia summary (13 December 13, 2011 WLWB directive)”. The Board agrees that the Annual Water Licence Report would be a logical place for this information and have thus decided to include this condition. The reference to the Directive has been removed and the Condition was reworded for clarity.

### **3.2.2 Conditions Removed from Schedule 1**

#### 3.2.2.1 Former Condition 1l

With the addition of Condition 1k to Schedule 1, DDMI proposed that former Condition 1l be deleted since this requirement is now included under Condition 1k. There were no reviewer comments on this deletion and the Board agreed with DDMI.

Signed the 13th Day of December, 2017, on behalf of the Wek'èezhii Land and Water Board



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Witness



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Joseph Mackenzie  
A/Chair, Wek'èezhii Land and Water Board