Violet Camsell-Blondin, Chair
Wek’eexhii Land and Water Board
PO Box 32
Wekweeti, NT X1A 3S3
Canada

16 December 2016

Re: Proposed Amendments to Schedule 6 Item 5, Waste Rock Management Plan

Your letter of September 15, 2016 regarding the Waste Rock Management Plan – Version 7 directed Diavik Diamond Mines (2012) Inc. (DDMI) as follows:

**Decision #8:** The Board believes an amendment process for the Licence Schedules should be initiated, beginning with the opportunity for DDMI to propose amendments.

Attached is DDMI’s proposed amendment to Water License W2015L2-0001 Schedule 6 Item 5 that outlines the requirements for the Waste Rock Management Plan (WRMP). The proposed amendments include additions, relocations and removal of some items, as appropriate, in order to address the Board’s directives and clarify the requirements for the Plan versus other reporting mechanisms. It is DDMI’s opinion that the purpose of the schedule is to direct the type of information that is to be included in the plan, whereas the plan includes the detailed descriptions of programs and procedures designed to meet those requirements. DDMI has included a ‘track changes’ version of the document for ease of reference in identifying amendments, and the general approach and considerations for the proposed amendments are outlined below.

In light of the purpose of the schedule as compared to the plan, the uses for waste rock identified within the Schedule have been simplified to better reflect operational practices. There are two clear allocations for waste rock from the mine: that which can be used for construction and that which requires disposal. Additional details on the appropriate types and locations for construction and disposal materials would then be identified and approved within the WRMP.

References to Processed Kimberlite (PK) have been removed from this Schedule as PK is managed as a different stream, i.e. ore processing. Requirements relating to PK are better to be included in the PKC Facility Plan (Schedule 6 Item 2) rather than the WRMP.

Any reporting requirements, such as annual updates to waste rock production, have been removed from Schedule 6 and added to the most appropriate report, and its associated schedule. This is intended to shift all data reporting requirements away from management plans and in to annual reports, which is more intuitive for stakeholder review, as well as for minimizing updates to the Plan.

Additionally, most references to the test piles program have been removed from the Schedule. The test piles program is complete. Removing references and items that are no longer applicable to the operation helps to simplify the Schedule and clarify regulatory requirements for the proponent, Inspector and reviewers. As implied by Part B Item 8, it seems that the intention of the schedules is to remain flexible to adapt and change overtime. Where requirements for test piles data still

---

**Document #:** ENVI-635-1216 R0

**Template #:** DCON-036-1010

Registered in Canada

Page 1 of 2
remain, wording has been amended to reflect the change in status from a research phase to continued monitoring.

The resulting changes to other schedules impacted by the proposed amendments to Schedule 6 Item 5 have also been included in the attached document, in order to facilitate a complete review of all the associated schedules. These include:

Schedule 1 – Annual Report
Schedule 6 Item 6 – Seepage Survey Report

DDMI thanks the Board for the opportunity to initiate a Schedule change for the Waste Rock Management Plan.

Please contact the undersigned if you have any questions.

Yours sincerely

[Signature]

David Wells
Superintendent - Environment

Cc: Anneli Jokela, WLWB

Attachment: Proposed Schedule Amendments
SCHEDULE 6
WATER AND WASTE MANAGEMENT

5. The Waste Rock Management Plan referred to in Part H, Item 8, shall incorporate the approved Biotite Schist Management Plan (Volume II-B, Part N, Version 1, Water Licence Application, August 1999) to address the management of all rock that is disturbed, moved, stored, or otherwise affected by mining-related activity on the property, over the term of the Project, and shall be in accordance with the Department of Indian and Northern Affairs Canada’s Guidelines for Acid Rock Drainage Protection in the North, 1992. This Plan shall describe decision criteria and operating procedures for how all rock will be placed and managed during Construction, mining and post closure, and include, but not necessarily be limited to, the following:

   a. an annual schedule—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 and volumes of each rock type;

   b. geochemical decision criteria for managing Waste Rock extracted from quarries underground and pits and stockpiles. Criteria will facilitate identify the classification of rock which is suitable and not suitable for the following uses in terms of acid generation and heavy metals leaching potential:

       i. Construction of (e.g. Type I for on-land roads and facilities, Lac de Gras, reclamation, etc.);

       ii. Construction in Lac de Gras;

       iii. Reclamation;

       a.i. Disposal Disposal in (e.g. Type II/III and PAG to Waste rock piles, PKC north dam, underground, etc.); and,

       a.ii. segregated as potentially acid generating rocks description of the procedures used to support the operational characterization/classification of all rock types;

   c. a description of operational procedures that will be used to segregate and manage the rock that is identified for Construction;

   d. a description of the operational procedures that will be used to delineate and confirm Type I re-mining areas within the NCRP;

   e. a complete description 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, including the PKC Facility;

   f. a description of the sampling design and analytical methods that will be used to support the operational classification of all rock types;

   g. an description overview of the methods that will be used to construct till storage, ore stockpiling, Processed Kimberlite, and Waste Rock facilities such that generation of acidic drainage and/or Metal Leaching is limited;

   h. an overview of related management plans and monitoring programs that support waste rock management;

Comment [CE1]: Move to Schedule 1 Annual Report. Management plans are not an appropriate document for reporting results and DDMI requires flexibility, particularly in relation to tonnage and destination.

Comment [CE2]: Examples for construction and disposal can be included in, or omitted from the Schedule.

Comment [CE3]: To address 3.4(c) of Board directive re: A21 characterization.

Comment [CE4]: Amended to 3b(iii).

Comment [CE5]: To address 3.4(a) of Board directive re: re-mining.

Comment [CE6]: Remove PKC reference as this information is already included, and more appropriately addressed, in the PKC Facility Plan (Section 1). Adding the NCRP as-built drawing addresses requirement in Table 1 of Board directive.

Comment [CE7]: Amended to 5(b)(ii), above.

Comment [CE8]: Detailed information fits better with Facility, Design or Closure plans, but an overview could remain in the WRMP. Reference to PK removed as this information is already provided, and more appropriately addressed in the PKC Facility Plan (Sections 1 and 2).

Comment [CE9]: Addresses 3.4(b) of Board directive
g. design details for the Construction of large-scale tests for assessing the effectiveness of blending different combinations of biotite schist and granite. The Licensee shall undertake these tests as and when approved by the Board;

h. a description of the temperature analysis thermal monitoring that will be implemented or conducted in all Waste Rock Storage Areas having Acid Rock Drainage (ARD) potential to evaluate the potential for oxidation reactions and to determine predicted ARD generation rates;

i. a comparison of predicted and measured quantities of each rock type produced in the preceding year;

j. results of any geochemical sampling and/or testing completed for till, ore, Processed Kimberlite, and/or Waste Rock produced during the preceding year;

k. geochemical characteristics of each rock type and area of exposure in the current pit wall(s);

k.l. updated predictions of water chemistry of the leachate from the Waste Rock based on measured results, from all sources; and,

l. the results and interpretation of any additional geochemical testing on various rock types or Processed Kimberlite.
1. The **Annual Water Licence Report** referred to in Part B, Item 7, shall include, but not be limited to, the following:

**Quantities and Measurements**

a) the monthly and annual quantities in cubic metres of water obtained from Lac de Gras;

b) the monthly, annual, and total quantities in cubic metres of water dewatered from the A21 pool;

c) the monthly elevations of water within each of the cells in the North Inlet during the open water period;

d) the monthly and annual quantities in cubic metres of recycled water identifying both the source and use;

e) the monthly and annual quantities of solids in tonnes and liquid fractions in cubic metres of each Waste stream discharged to the Processed Kimberlite Containment Facility, and the North Inlet;

f) the monthly and annual quantities of dredged sediment in cubic metres;

g) the monthly and annual quantities in cubic metres of all Discharges to Lac de Gras, by source;

h) the monthly and annual quantities in cubic metres of all Waste directed to the North Inlet, by source;

i) the monthly and annual quantities in cubic metres of treated effluent discharged from the Sewage Treatment Facility;

j) the monthly and annual quantities in cubic metres of Sewage solids removed from the Sewage Treatment Facility;

k) 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;

l) a summary report which describes any important trends, notable events, or other significant interpretations of the data. all raw data in electronic form;

m) Annual reporting of the quantity of Waste Rock disposed in each of the North and South country Waste Rock piles and inert rock stockpiled for Reclamation purposes.

**Management Plans and Activities**

a) a summary of Dewatering activities undertaken in accordance with Part E;

b) a summary of Construction activities conducted and an updated **Mine Plan**, including any changes to the schedule for mine development;

c) a summary of all work carried out under the Management Plans in accordance with Part H;
a summary of Modifications and/or major maintenance work carried out on the Water Treatment Facilities, Processed Kimberlite Containment Facility, Sewage Treatment Facilities, Drainage Control and Collection System and any associated structures;

Spills and Unauthorized Discharges

a list and description including volumes of all Unauthorized Discharges and spills of Waste, and summaries of follow-up actions taken;

an outline of any spill training exercises carried out;

annual underground spill summary (19 Feb 2014 WLWB Directive)

Other Reporting Requirements

results and interpretation of further fracture zone characterization and hydrogeological test work conducted in accordance with Part F, Item 12, and its implications for potential Groundwater inflows and overall water balances;

a progress report on any studies requested by the Board and a brief description of any future studies planned by the Licensee; and,

any other details on water use or Waste disposal requested by the Board by November 1 of the year being reported; and,

annual ammonia summary (13 December 2011 WLWB Directive)

Schedule 6 Item 6
Seepage Survey Report

6. The Seepage Survey Report referred to in Part H, Item 16, shall consist of the results of Seepage surveys of all mine components including: constructed rock piles, stockpiles of Reclamation rock, ore stockpiles, areas constructed with mined or quarried rock, and water retention dikes and dams, and include, but not necessarily be limited to:

a. monthly sampling of detected Seepages during periods of flow;
b. testing in the field shall include volume, dissolved oxygen, conductivity, Eh, field pH, water temperature, water colour, and precipitate colour;
c. laboratory analysis of each sample shall include major ions (as defined in the SNP), nitrite, nitrate, total ammonia, total arsenic, total dissolved solids, total phosphorus, TSS, pH, conductivity, total and dissolved metals determined by inductively coupled plasma mass spectrometry (ICP-MS) analysis as defined in this Licence and the SNP; and,
d. results of any geochemical sampling or testing completed for till, ore, Processed Kimberlite, and/or Waste Rock produced during the preceding year; and,
e. a Site Plan showing sampling locations, interpretation of SNP data collected from the drainage control and collection ponds and a description of how the results have been interpreted relative to the results of the QA/QC program.
SCHEDULE 6
WATER AND WASTE MANAGEMENT

5. The Waste Rock Management Plan referred to in Part H, Item 8, shall incorporate the approved Biotite Schist Management Plan (Volume II-B, Part N, Version 1, Water Licence Application, August 1999) to address the management of all rock that is disturbed, moved, stored, or otherwise affected by mining-related activity on the property, over the term of the Project, and shall be in accordance with the Department of Indian and Northern Affairs Canada’s Guidelines for Acid Rock Drainage Protection in the North, 1992. This Plan shall describe decision criteria and operating procedures for how all rock will be placed and managed during Construction, mining and post closure, and include, but not necessarily be limited to, the following:

a. 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;

b. geochemical decision criteria for managing Waste Rock extracted from quarries, underground, and pits and stockpiles. Criteria will facilitate the classification of rock which is suitable and not suitable for the following uses in terms of acid generation and heavy metals leaching potential:

i. Construction of Type I for on-land roads and facilities, Lac de Gras, reclamation, etc.;

ii. Construction in Lac de Gras;

iii. Reclamation;

iv. disposal of waste rock piles, PKC north dam, underground, etc.; and,

v. segregated as potentially acid generating rocks. Description of the procedures used to support the operational characterization/classification of all rock types;

vi. a description of operational procedures that will be used to segregate and manage the rock that is identified for Construction;

vii. a description of the operational procedures that will be used to delineate and confirm Type I re-mining areas within the NCRP;

viii. a complete description/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, including the PKC Facility;

ix. a description of the sampling design and analytical methods that will be used to support the operational classification of all rock types;

x. an description/overview of the methods that will be used to construct till storage, ore stockpiling, Processed Kimberlite, and Waste Rock facilities such that generation of acidic drainage and/or Metal Leaching is limited;

xi. an overview of related management plans and monitoring programs that support waste rock management;
e. Design details for the Construction of large-scale tests for assessing the effectiveness of blending different combinations of biotite schist and granite. The Licensee shall undertake these tests as and when approved by the Board.

i. a comparison of predicted and measured quantities of each rock type produced in the preceding year;

j. results of any geochemical sampling and/or testing completed for till, ore, Processed Kimberlite, and/or Waste Rock produced during the preceding year;

k. geochemical characteristics of each rock type and area of exposure in the current pit wall(s);

1. Updated predictions of water chemistry of the leachate from the Waste Rock based on measured results, from all sources; and,

the results and interpretation of any additional geochemical testing on various rock types or Processed Kimberlite.

ANNUAL WATER LICENCE REPORT

1. The Annual Water Licence Report referred to in Part B, Item 7, shall include, but not be limited to, the following:

Quantities and Measurements

a) the monthly and annual quantities in cubic metres of water obtained from Lac de Gras;

b) the monthly, annual, and total quantities in cubic metres of water dewatered from the A21 pool;

c) the monthly elevations of water within each of the cells in the North Inlet during the open water period;

d) the monthly and annual quantities in cubic metres of recycled water identifying both the source and use;

e) the monthly and annual quantities of solids in tonnes and liquid fractions in cubic metres of each Waste stream discharged to the Processed Kimberlite Containment Facility, and the North Inlet;

f) the monthly and annual quantities of dredged sediment in cubic metres;

g) the monthly and annual quantities in cubic metres of all Discharges to Lac de Gras, by source;

h) the monthly and annual quantities in cubic metres of all Waste directed to the North Inlet, by source;

i) the monthly and annual quantities in cubic metres of treated effluent discharged from the Sewage Treatment Facility;

j) the monthly and annual quantities in cubic metres of Sewage solids removed from the Sewage Treatment Facility;

j(k) 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;

k) a summary report which describes any important trends, notable events, or other significant interpretations of the data. all raw data in electronic form;

l) annual reporting of the quantity of Waste Rock disposed in each of the North and South country Waste Rock piles and inert rock stockpiled for Reclamation purposes;

Management Plans and Activities

m) a summary of Dewatering activities undertaken in accordance with Part E;

n) a summary of Construction activities conducted and an updated Mine Plan, including any changes to the schedule for mine development;

o) a summary of all work carried out under the Management Plans in accordance with Part H;

p) a summary of Modifications and/or major maintenance work carried out on the Treatment Facilities, Processed Kimberlite Containment Facility, Sewage Treatment Facilities, Drainage Control and Collection System and any associated structures;

Spills and Unauthorized Discharges

q) a list and description including volumes of all Unauthorized Discharges and spills of Waste, and summaries of follow-up actions taken;

r) an outline of any spill training exercises carried out;

s) annual underground spill summary (19 Feb 2014 WLWB Directive)

Other Reporting Requirements

t) results and interpretation of further fracture zone characterization and hydrogeological test work conducted in accordance with Part F, Item 12, and its implications for potential Groundwater inflows and overall water balances;

u) a progress report on any studies requested by the Board and a brief description of any future studies planned by the Licensee; and,

v) any other details on water use or Waste disposal requested by the Board by November 1 of the year being reported; and,

w) annual ammonia summary (13 December 2011 WLWB Directive)

Schedule 6 Item 6
Seepage Survey Report

6. The Seepage Survey Report referred to in Part H, Item 16, shall consist of the results of Seepage surveys of all mine components including: constructed rock piles, stockpiles of Reclamation rock, ore stockpiles, areas constructed with mined or quarried rock, and water retention dikes and dams, and include, but not necessarily be limited to:

Page 3 of 37
a. monthly sampling of detected Seepages during periods of flow;
b. testing in the field shall include volume, dissolved oxygen, conductivity, Eh, field pH, water temperature, water colour, and precipitate colour;

c. laboratory analysis of each sample shall include major ions (as defined in the SNP), nitrite, nitrate, total ammonia, total arsenic, total dissolved solids, total phosphorus, TSS, pH, conductivity, total and dissolved metals determined by inductively coupled plasma mass spectrometry (ICP-MS) analysis as defined in this Licence and the SNP; and,

cd. results of any geochemical sampling or testing completed for till, ore, Processed Kimberlite, and/or Waste Rock produced during the preceding year; and,

d. a Site Plan showing sampling locations, interpretation of SNP data collected from the drainage control and collection ponds and a description of how the results have been interpreted relative to the results of the QA/QC program.