



Box 32, Wekweètì, NT X0E 1W0
Tel: 867-713-2500 Fax: 867-713-2502

#1-4905 48th Street, Yellowknife, NT X1A 3S3
Tel: 867-765-4592 Fax: 867-765-4593
www.wlwb.ca

February 11, 2019

File: W2012L2-0001

Lukas Novy
Dominion Diamond Ekati ULC
900-606 4 Street SW
Calgary, Alberta T2P 1T1

Dear Mr. Novy,

Re: Wastewater and Processed Kimberlite Management Plan Version 8.0 and Panda and Koala Deposition Study

The Wek'èezhìi Land and Water Board (WLWB or the Board) met on January 24, 2019 to consider Dominion Diamond Ekati ULC's (Dominion's) Wastewater and Processed Kimberlite Management Plan (WPKMP), Version 8.0, and Panda and Koala Deposition Study (Deposition Study).¹ The Board approved the submissions under Part H, Conditions 2 and 33 of Water Licence W2012L2-0001, respectively. The Board requires Dominion to revise and resubmit the WPKMP as described in the Reasons for Decision, and Dominion is requested to discuss timeline of this resubmission with Board staff.

As detailed in the Reasons for Decision, the Board requires additional time to ensure regulatory requirements for completion of progressive reclamation (e.g., required documentation, inspection reports, etc.) are met and therefore, advises Dominion that it cannot commence processed kimberlite disposal until the Board has authorized it. The Board requests that Dominion regularly update the Board on the company's expected start date for processed kimberlite deposition.

Sincerely,

A handwritten signature in blue ink, appearing to read "Joe Mackenzie".

Joe Mackenzie
Chair, Wek'èezhìi Land and Water Board

Copied: Ekati Distribution List

¹ See WLWB Online Registry (wlwb.ca) for [W2012L2-0001 - Ekati - WPKMP - Version 8.0 - Sep 10 18.pdf](#) and [W2012L2-0001 - Ekati - Panda and Koala Deposition Study - Sep 10 18.pdf](#).



Box 32, Wekweètì, NT X0E 1W0
Tel: 867-713-2500 Fax: 867-713-2502

#1-4905 48th Street, Yellowknife, NT X1A 3S3
Tel: 867-765-4592 Fax: 867-765-4593
www.wlwb.ca

Reasons for Decision

Reference/File Number:	W2012L2-0001 (Type "A" Water Licence)
Licensee:	Dominion Diamond Ekati ULC (Dominion)
Subject:	Wastewater and Processed Kimberlite Management Plan, Version 8.0 and Panda and Koala Deposition Study

Decision from the Wek'èezhìi Land and Water Board Meeting of January 24, 2019

1.0 Decision

At the Wek'èezhìi Land and Water Board's (WLWB's or the Board's) January 24, 2019 meeting, the Board made the following decisions:

1. The Board approved the Panda and Koala Deposition Study in accordance with Part H, Condition 33 of the Water Licence.
2. The Board approved the Wastewater and Processed Kimberlite Management Plan (WPKMP) Version 8.0 in accordance with Part H, Condition 2 of the Water Licence and requires Dominion to revise the WPKMP and submit as Version 8.1 to include the following:
 - a. Clarification that the freshwater cap depth has not yet been approved; and
 - b. A closure and reclamation planning section.

2.0 Background

In its application for the Jay Development, Dominion proposed to dispose of processed kimberlite into the Panda and Koala pits, and to cover the processed kimberlite with freshwater at closure.² After reviewing the proposed Jay Development, the Mackenzie Valley Review Board concluded that Dominion had not provided sufficient information on the likely impacts of processed kimberlite deposition in the Panda and

² See WLWB Online Registry for [Ekati Jay Project - Appendix A - Updated Project Description - Jun 7 16.pdf](#).

Koala pits.³ The Review Board developed the following environmental assessment measure (Measure 4-3):

Dominion will not deposit fine-processed kimberlite into the Panda and Koala pits unless the Wek'ezhii Land and Water Board approves such a use of the Panda and Koala pits. The Wek'ezhii Land and Water Board's approval will ensure the protection of the downstream environment after closure and will consider the results of the Beartooth pit fine-processed kimberlite trial. Otherwise, the Jay fine-processed kimberlite will be deposited into an approved processed kimberlite containment area.

When the Board amended the Water Licence to include the Jay Development in 2017, the Board approved disposal of fine processed kimberlite in the Panda and Koala pits.⁴ The Board included two conditions to address this activity. Part H, Condition 33 of Water Licence W2012L2-0001 (Licence) requires that:

At least 90 days prior to the deposition of Processed Kimberlite into the Panda and Koala pits, the Licensee shall submit a Panda and Koala Deposition Study to the Board for approval. This Study is to investigate how Fine Processed Kimberlite behaves once deposited into mined-out pits and the quality of the resulting supernatant water and include an updated Panda and Koala Pits predictive water quality model. The deposition of processed kimberlite was also considered in the Board's November 27, 2017 Preliminary Screening of the Misery Underground Development.⁵ The WLWB considered the deposition of processed kimberlite into the Panda and Koala pits and identified the submission and approval of the Deposition Study as a mitigation measure for potential impacts to water quality. The Board determined that there is no reasonable likelihood that the proposed development might have a significant adverse impact on the environment.

Part H, Condition 2(c) of the Water Licence requires a revised WPKMP for approval a minimum of 90 days prior to the deposition of Processed Kimberlite into Panda and Koala pits. The revised WPKMP must incorporate results of the freshwater cap optimization study, which is a required study in the Closure and Reclamation Plan (CRP). Specifically, Schedule 9, Condition 1(a)(iii and iv) stipulates that the CRP shall include a reclamation research plan related to the uncertainty associated with the freshwater cap depth of the Panda and Koala pits.

On September 10, 2018, Dominion submitted a revised WPKMP and the Deposition Study.

³ See reviewboard.ca for [Report of Environmental Assessment and Reasons for Decision – DDEC Jay Project](#).

⁴ See WLWB Online Registry for [W2012L2-0001 - Ekati - Water Licence - Amendment - Jay Development - RFD and Recommendation to Minister - May 29 17.pdf](#).

⁵ See WLWB Online Registry for [W2012L2-0001 - Ekati - WL Amendment - Misery UG - Preliminary Screening Determination - Nov 27 17.pdf](#)

2.1 Public Review

Board staff distributed the documents for public review on October 15, 2018. Comments were due November 29, 2018, and proponent's responses were due December 13, 2018. The following Parties submitted comments:

- Environment and Climate Change Canada (ECCC)
- The Government of the Northwest Territories (GNWT) Environment and Natural Resources (ENR)
- The Independent Environmental Monitoring Agency (IEMA)
- WLWB staff

On December 21, 2018, Board staff asked Dominion four additional follow-up questions, and Dominion responded on January 3, 2019. The comments, proponent's responses, attachments, and responses to staff follow-up questions are in the Review Summary and Attachments.⁶

3.0 Reasons for Decision

The Deposition Study and WPKMP are discussed separately below, followed by a discussion on issues related to the interim CRP, and closure of the Panda/Koala underground.

3.1 Deposition Study

The purpose of the Deposition Study is to predict the water quality in the pits after they are flooded with freshwater. The Deposition Study is a model, developed by Golder for Dominion, that considers how much the processed kimberlite at the bottom of the pits will settle, how much porewater will be released, how water will mix in the pits, and predicts the water quality over a timeframe of 200 years.

The results of the Deposition Study are that the water in the pits is predicted to be holomictic, and that water quality will meet Aquatic Effects Monitoring Program (AEMP) benchmarks for all parameters except aluminum, chromium, cobalt, copper, and iron. Concentrations of these five parameters were greater than AEMP benchmarks at some point during the 200-year timeframe. The primary cause of the predicted AEMP exceedances is waste rock storage area seepage, which will go into the pits regardless of whether processed kimberlite is deposited there. The elevated concentrations in WRSA seepage can be discussed further during the ongoing review of Version 3.0 of the interim CRP. The chemicals that are mainly from the processed kimberlite porewater are predicted to be below benchmarks. Golder stated that the model was based on several conservative assumptions, which provide a "moderate to high level of confidence that, while the precise concentrations predicted are not expected to be realized, the actual concentrations are likely to be lower."

Golder concluded that the chemical constituents in processed kimberlite deposited in the pits would not pose a long-term concern. Dominion concluded that processed kimberlite deposition "can safely proceed,

⁶ See WLWB Online Registry for [W2012L2-0001 - Ekati - WPKMP - Version 8.0 - Panda and Koala Deposition Study - Review Summary and Attachments - Nov 29 18](#).

thereby providing the desired environmental and operational benefits related to minimizing future use of the [Long Lake Containment Facility (LLCF)].”⁷

3.1.1 Model Inputs and Results

There were several comments and questions about the model inputs, assumptions, and results (ECCC comments 1, 2, 3, 4, IEMA comments 8 through 15, WLWB staff comments 1 through 4). In general, Parties asked for more information or rationale, questioned whether the inputs and assumptions were conservative enough, and made suggestions for improvements. Dominion provided additional information, explained rationales and assumptions in greater detail, provided more context for how the inputs affect the results. The Board found that Dominion adequately responded to reviewer comments, given the objectives of the model.

Dominion also made the following general statements:

While it is acknowledged that the simplicity of the model leads to limitations on predicting ranges of certainty, the model does provide a reasonable basis to proceed with filling, given that the water quality can be adaptively managed before the pit reaches full supply level, meaning that connection to the Receiving Environment can be delayed until water quality is acceptable (response to IEMA comment 14).

The modelling applied reasonably accurate or conservative inputs, and provides a reasonable basis for proceeding to lake filling. As the lake begins to fill, the model inputs and predictions can be re-evaluated long before the pit reaches full supply level, meaning that adaptive management can be implemented without any risk to the downstream Receiving Environment (response to WLWB staff comment 1).

Dominion’s statements align with the GNWT’s comments and recommendations. The GNWT hired a consultant (Brodie Consulting Ltd, BCL) to review the Deposition Study. Prior to submitting comments on the Online Review System (ORS), the GNWT and its consultant submitted questions to Dominion to gain a better understanding of the Deposition Study.⁸ This practice contributes greatly to the efficiency and quality of the review process. The GNWT’s consultant stated that “Dominion's responses are informative and address the questions raised. BCL has no additional questions regarding the current Panda and Koala pit lake closure water quality predictions.” In its comments, the GNWT raised no concerns about the water quality modeling and commented that:

Given the inherent uncertainties, the water quality model should be viewed as a tool to aid in the design of monitoring programs and mine planning, development of mitigation strategies, and identification of potential risks rather than to provide absolute concentrations. Conservative assumptions have been incorporated where uncertainty is known to exist, so that predicted concentrations are likely to exceed

⁷ See WLWB Online Registry for [W2012L2-0001 - Ekati - WPKMP - Version 8.0 - Sep 10 18.pdf](#).

⁸ See WLWB Online Registry for Brodie Consulting Ltd. memo attached to GNWT-ENR comments in [W2012L2-0001 - Ekati - WPKMP - Version 8.0 - Panda and Koala Deposition Study - Review Summary and Attachments - Nov 29 18](#).

actual future concentrations. Ongoing monitoring and collection of operational data during and after pit filling will be required to confirm the accuracy of current predictions, and to update model predictions if required.

Based on the Board's review of the Deposition Study, Parties' comments, and proponent responses, the Board agrees with the GNWT's assessment.

However, the Board did not approve Dominion's proposed 30 metre (m) freshwater cap depth, as discussed in Section 3.2.1. The Deposition Study, however, does not need to be revised to clarify that the 30 m cap is not approved. The Study informs approval of processed kimberlite in the Panda and Koala pits, but it is not an operational document. Dominion can clarify that the cap depth is not approved in the WPKMP (see Revision A), which is the operational document governing processed kimberlite disposal.

3.1.2 IEMA's Recommendation Regarding Approval of Processed Kimberlite Deposition in the Panda and Koala pits.

In addition to its comments on the model, IEMA stated that "Dominion has not provided sufficient evidence that deposition of [fine processed kimberlite] to Panda and Koala open pits and underground workings is necessary given the current uncertainties associated with the company's intention to proceed with construction and operation of the Jay Project" (IEMA comment 16). IEMA added that it "does not consider the Jay Project to be included in the confirmed mine plan as Dominion has put the project on hold", and elaborated as follows:

As a general principle, the Agency strongly believes the number and extent of disturbed areas created through any resource extraction or other commercial or industrial activity should be minimized. While Panda and Koala pits are already considered to be disturbed areas, the deposition of [fine processed kimberlite] to the pits and underground workings would greatly increase the potential future impacts to surface water, their complexity and the cost associated with final closure and reclamation of the facilities as compared to if [fine processed kimberlite] was not deposited into the open pits. (IEMA comment 3)

To resolve this, IEMA recommended that the Board not approve use of the Panda and Koala pits for processed kimberlite disposal unless Dominion either a) confirms there is not enough capacity in cells A and C of the LLCF and the Beartooth pit for the non-Jay Developments or b) Dominion proceeds with mining the Jay kimberlite pipe. The Board understands that Dominion is proposing deposition into the Panda and Koala pit prior to the mining the Jay kimberlite pipe.

Dominion addressed the need to dispose of processed kimberlite in the Panda and Koala pits in its response to IEMA comment 3 as follows:

Dominion is currently operating under progressively increasing operational risk and cost at the LLCF and Beartooth [processed kimberlite containment areas] due to the

complex deposition configurations and water quality concerns that Dominion has been working on for the last few years. The continued use and reliance of the LLCF for primary processed kimberlite deposition is an unmanageable operational and environmental risk for the Ekati team since the facility is reaching the later stages of its design life. Having the Panda and Koala pits available at end of underground mining for deposition is required to ensure continued safe management of process kimberlite. Additionally, the immediate use of Panda and Koala pits for [processed kimberlite] deposition provides added environmental protection to the LLCF downstream environment at Leslie Lake particularly for potassium loadings as discussed in the current Ekati Mine Potassium Response Plan (ERM 2018).

To obtain a more detailed response to IEMA's recommendation regarding processed kimberlite disposal capacity, staff asked follow-up questions of Dominion.⁹ In response, Dominion presented an analysis of the deposition configuration and the remaining capacity in each cell. Dominion noted that even if cells A and C are expanded, there is not enough combined storage capacity to hold all processed kimberlite from the Sable, Pigeon, Lynx, and Misery underground developments.¹⁰ It is understood that the basis for this analysis relies on estimates of future conditions, and that influencing factors may change over time. However, the analysis reasonably shows that there is insufficient space for processed kimberlite deposition for processed kimberlite from the non-Jay developments. Therefore, either cell D would need to be expanded or additional storage locations (i.e., Panda and Koala pits) are needed.

The Board has previously provided its views on the benefits of processed kimberlite disposal into the Beartooth pit compared to disposal in cell D in its decision on the company's (BHP at the time) submission of Version 2.0 of the WPKMP:

The Board acknowledges that BHP's need for short term deposition alternatives is reasonable and agrees that the use of Beartooth pit is preferable to Cell D for this purpose.

The Board agrees with BHP's assertion that "The retention of Cell D as a long-term water management pond free of processed kimberlite is desirable."

The Board recognizes that the benefits of depositing FPK in Beartooth pit rather than Cell D are substantial and acknowledges that the options evaluation presented by Robertson GeoConsultants supports BHP's statement that "there is no increased environmental risk" relative to the current plan: Cell D without an internal dyke (see BHP's response to AANDC comment 11). Table 9 of the Robertson GeoConsultants report gives a +3 rating, which indicates reduced environmental risk.¹¹

The options analysis referred to by the Board arrived at the same conclusions for the Panda and Koala pits as for the Beartooth pit, i.e., a high environmental score was assigned. At that time, the Board identified

⁹ See WLWB Online Registry for [W2012L2-0001 - Ekati - WPKMP - Version 8.0 - Panda and Koala Deposition Study - Review Summary and Attachments - Nov 29 18](#).

¹⁰ Ibid

¹¹ See WLWB Online Registry for [W2009L2-0001 - BHP - WPKMP - Version 2 - Reasons for Decision - Jan 9 11.pdf](#)

that if additional storage capacity becomes necessary, deposition in Panda and Koala pits should be considered and directed BHP to “assess, as soon as possible, the potential to use Panda/Koala pits for FPK deposition”.¹² IEMA’s recommendation that in-pit deposition be utilized, if capacity in Cells A and C does not exist, aligns with the previously stated preference to maintain Cell D as a polishing pond.

Further, Dominion summarized the benefits of Panda and Koala pit disposal in response to staff’s follow-up questions on IEMA comment 3:¹³

The general benefits resulting from in-pit deposition are summarized below. Please see Dominion’s answer(s) to WLWB Question 2-4 for more information.

- Reduces the length, costs, and associated risks of operating FPK pipelines.
- Reduces the area of exposed kimberlite beaches in the LLCF requiring surface reclamation. This reduces closure costs and residual risk.
- Facilitates deferring or avoiding FPK deposition into Cell D of the LLCF thus extending or preserving this area for closure and the use of Cell D as a water polishing pond.
- Facilitates minewater management and, in certain circumstances, adaptive management of minewater quality through temporary retention of minewater for deferred release in a manner that reduces potential effects in the receiving environment (i.e., nitrate and chloride management through deposition into Beartooth pit and potential potassium management through deposition into Panda/Koala pits).

The Board is of the view that Dominion has reasonably demonstrated a need for and the benefits of processed kimberlite deposition in the Panda and Koala pits, even without processed kimberlite from the Jay Development.

- ***Decision #1: For the reasons described above the Board has approved the Panda and Koala Deposition Study in accordance with Part H, Condition 33 of the Water Licence.***

3.2 Revised WPKMP

Dominion submitted a revised WPKMP in accordance with Part H, Condition 2(c) to incorporate the proposed use of the Panda and Koala pits for processed kimberlite disposal. Dominion also incorporated information previously approved by the Board related to the Misery and Jay Developments and made revisions to address “a number of editorial and internal consistency issues that have accumulated through successive revisions to individual sections; the editorial updates intend to enhance clarity and internal consistency, and do not alter any management procedures or commitments.”¹⁴

¹² See WLWB Online Registry for [W2009L2-0001 - BHP - WPKMP - Version 2 - Reasons for Decision - Jan 9 11.pdf](#)

¹³ See WLWB Online Registry for [W2012L2-0001 - Ekati - WPKMP - Version 8.0 - Panda and Koala Deposition Study - Review Summary and Attachments - Nov 29 18.](#)

¹⁴ See WLWB Online Registry for [W2012L2-0001 - Ekati - WPKMP - Version 8.0 - Sep 10 18.pdf.](#)

There were few comments from Parties on the WPKMP. Comments on the freshwater cap depth and the removal of closure planning information from the CRP are addressed in Section 3.2.1; comments that can be better addressed in the interim CRP are addressed in Section 3.3.

3.2.1 Depth of Water Cap and Optimization Study

A depth of 30 m was contemplated in the Environmental Assessment,¹⁵ and mentioned in the previously approved version of the WPKMP (Version 7).¹⁶ In its cover letter for the WPKMP, Dominion stated that:

The technical memorandum prepared by Golder Associates that forms part of this submission demonstrates that a freshwater cap depth of 30 m for the Panda/Koala [processed kimberlite containment area] is an acceptable closure design specification given the information currently available. Therefore, Dominion submits that the Golder Associates technical memorandum fulfils this aspect of Condition H.2(c) at this time and that Version 8.0 can be approved on this basis.

The Deposition Study fulfills Part H, Condition 2(c) for the purposes of seeking approval to begin processed kimberlite disposal in the Panda and Koala pits. However, using the study to determine the freshwater cap depth is another matter. As required by Schedule 9 of the Water Licence, Dominion added a reclamation research plan (RP2) to Version 3.0 of the interim CRP, which is currently under public review and has not been approved by the Board. The draft research plan states that:

There is potential uncertainty that the 30 m freshwater cap over processed kimberlite (PK) materials at the time of closure for Panda and Koala pit lakes will not result in water quality that will meet closure criteria. This could be because of poorer than anticipated porewater quality released through PK consolidation or poorer than anticipated runoff from WRSAs and exposed pit walls.

IEMA objected to the 30 m freshwater cap depth, because the Deposition Study predicted some AEMP benchmarks will not be met (IEMA comment 4). However, as noted above, the primary cause of the predicted exceedances is waste rock storage area seepage that will go into the pits regardless of whether processed kimberlite is deposited there. In its response to IEMA's comment, Dominion maintained that the 30 m cap depth is supported by the model.

In the Board's view, at this stage, there is not enough certainty in the model results to approve a freshwater cap depth of 30 m. The objectives in the Deposition Study do not include confirmation of the freshwater cap depth and did not involve "optimizing" the cap depth. As acknowledged by Dominion, there are inherent uncertainties in the model, which will be reduced by repeating the modeling with operational monitoring data (as a reclamation research plan). There is no need to identify the cap depth at this stage, given that the research results can be ready several years before the 30 m depth is reached.

¹⁵ See reviewboard.ca for [Report of Environmental Assessment and Reasons for Decision – DDEC Jay Project](#).

¹⁶ See WLWB Online Registry for [W2012L2-0001 - Ekati - WPKMP - Version 7.0 - Oct 31 17.pdf](#).

Therefore, the Board agrees with IEMA’s recommendation that “[t]he depth of an acceptable freshwater cap not be set until results of the Panda Koala freshwater Research Plan (RP-2) have been completed and can inform the appropriate depth of the cap to ensure that all related water quality closure objectives and criteria can be met” (IEMA comment 4).

- ***Revision A: The Board requires Dominion to revise the WPKMP to clarify that the freshwater cap depth has not yet been approved.***

In its WPKMP cover letter, Dominion commits to undertaking the research described in RP-2 “no later than when the PK surface in any of the Panda, Koala North or Koala pits reaches 50 m below final overflow elevation. This ensures that the modelling will be updated and the depth of freshwater cap confirmed or amended in a timely manner.” IEMA questioned why the research couldn’t be completed sooner and asked Dominion to provide greater detail regarding when the study will be conducted and how it will allow time for any potential mitigation measures (IEMA comment 5). In response, Dominion explained that its proposed deadline would mean the study results are submitted 2 to 5 years before water reaches the 30 m elevation and noted that there would be “little or no value to conducting further predictive modeling prior to the collection of as much additional site-specific monitoring data as possible.”

Deferring the approval of the freshwater cap depth would not prevent Dominion from beginning processed kimberlite disposal in the Panda and Koala pits, since it will be several years before the surface of deposited processed kimberlite would approach its final elevation. At issue is when the research results should be submitted such that there is enough new data collected to improve the model, but there is no risk of placing processed kimberlite beyond the environmentally preferred final elevation. The proposed deadline (the 50 m mark) for submitting the RP-2 research results warrants further discussion. Dominion did not identify this deadline in the interim CRP Version 3.0 (currently under review), only in the cover letter to the WPKMP. Therefore, the deadline is not yet approved, and can be discussed during the review of interim CRP Version 3.0.

3.2.2 Closure Planning Information in the WPKMP

In WPKMP Version 8.0, Dominion removed the closure and reclamation planning section that was in previous versions. Dominion explained in the WPKMP that this was to avoid regulatory duplication and inconsistency between the WPKMP and the interim CRP. IEMA recommended that closure planning information remain in the WPKMP, arguing that “[i]n light of the work involved and long timespans between ICRPs, operational plans must demonstrate that the company has considered the closure implications for design and operational decisions, and that there is a practical, feasible closure plan for the proposed operational change” (IEMA comment 6).

Dominion responded that:

There are no requirements in this condition or the associated Schedule 6 Condition 1 for a closure and reclamation section within the WPKMP. As the ICRP is undergoing a major review and there is potential for changes to occur it is not the appropriate time to add a section on closure into the WPKMP (or any other plan). By having closure and reclamation information in one document, the ICRP, it reduces the amount of parallel or overlapping information in various documents and correspondingly the time involved to update and obtain approval for multiple documents or plans should a change be required.

The Board agrees with Dominion that overlap between Licence submissions should be avoided if possible. However, in this case, the closure planning information provides important context to the reader, because closure and operations are closely related. The WPKMP should include information that reflects the approved CRP and can be updated if necessary following future approvals. The information can be quite general and high level, so that revisions to the WPKMP would not be necessary if there are minor changes in the approved CRP. Regarding Dominion's reference to the WPKMP Licence Schedules, Schedule 6, Condition 1 states that the WPKMP "shall include, but not be limited to, the following information". The Board has the authority to identify additional information that will improve the WPKMP. The Board wishes to reiterate that the previous version of the WPKMP contained information related to closure planning, therefore the onus is on the Licensee to provide rationale for the removal of information that is contained within a Plan that has been approved by the Board. This principle is important for the Licensee to be aware of for all Licence and Permit requirements.

- ***Revision B: The Board requires Dominion to revise the WPKMP to include a closure and reclamation planning section.***

The Board concludes that required revisions to the WPKMP are straightforward, conform with the Board's requirements, and the closure planning information reflects the approved CRP (Version 2.4). The Board does not believe they are linked to the commencement of deposition of PK into the Panda and Koala pits. Dominion is requested to discuss timeline of this resubmission with Board staff.

- ***Decision #4: The Board has approved Version 8.0 of Dominion's WPKMP and requires Dominion to revise the WPKMP and submit as Version 8.1.***

3.3 Outstanding Issues Related to the CRP

Parties raised several issues that the Board believes can be resolved through the ongoing review of interim CRP Version 3, rather than the WPKMP or 2018 Deposition Study. These are:

- In response to IEMA's comment regarding model inputs for runoff quality (IEMA comment 12), Dominion stated that it will "consider investigating the collection of site-specific verification (i.e. to Snap Lake) water quality samples within the modelled domain of the Panda/Koala Pit laydown

and pad areas. This information would be incorporated into future updates of the closure water quality modelling completed as part of the Ekati mine's Reclamation Research Program (RP 2 – Panda/Koala Closure Freshwater Cap Depth)."

- IEMA recommended that Dominion improve its proposed monitoring of Panda/Koala pit water to capture seasonal differences (IEMA comment 7). Dominion responded that the monitoring program described in the WPKMP meets its operational objectives and in that regard, matches the monitoring for Beartooth. However, the seasonal variations may be useful for the future modeling exercise described in RP2 in Version 3 of the interim CRP.
- IEMA commented on the model inputs for ammonia and nitrate concentrations in WRSA seepage (IEMA comment 8). Dominion responded that it "will continue to review the ammonia and nitrate concentrations on a yearly basis, and if these data indicate increasing concentration trends, the scope of reclamation research as part of RP 2 – Panda/Koala Closure Freshwater Cap Depth may be expanded to include evaluating the effects of ammonia and nitrate on pit lakes water quality." This information is not in Version 3.0 of the interim CRP.
- The GNWT recommended that the model be updated regularly, however Dominion's response indicates it would update the model one more time (GNWT-ENR comment 2).
- The GNWT recommended that "Dominion identify potential adaptive management strategies for improving water quality in the pit lakes along with an assessment as to the actual viability of the proposed actions." (GNWT-ENR comment 5). In response, Dominion repeated its currently proposed contingencies but did not commit to assessing their viability.

These issues can be further discussed as part of the review of Interim CRP Version 3.0, as necessary.

3.4 Summary

Based on a review of Dominion's submissions, Parties' comments, proponent's responses, Dominion's demonstrated need for additional storage space to meet the needs of the non-Jay Developments (see Section 3.1.2), and the benefits of reduced deposition in the LLCF (e.g., closure benefits, mine water management opportunities, etc.),¹⁷ the Board supports the deposition of processed kimberlite in the Panda and Koala open pits and has approved both submissions.

3.5 Additional Considerations: Closure of the Underground

With the approval of the Deposition Study and Version 8.0 of the WPKMP, the Board recognizes that the Panda/Koala underground will need to undergo final closure before processed kimberlite deposition can begin. The Board understands that Dominion has begun closure of the Panda/Koala underground areas and that an inspection process is underway in the absence of approved closure criteria. The Board requires additional time to ensure regulatory requirements for completion of progressive reclamation (e.g.,

¹⁷ See WLWB Online Registry for [W2012L2-0001 - Ekati - WPKMP - Version 8.0 - Panda and Koala Deposition Study - Review Summary and Attachments - Nov 29 18](#).

required documentation, inspection reports, etc.) are met. The Board advises Dominion that it cannot commence processed kimberlite disposal until the Board has authorized it. The Board requests that Dominion regularly update the Board on the company's expected start date for processed kimberlite deposition.

Signed the 11th day of February 2019, on behalf of the Wek'èezhii Land and Water Board



Witness



Joe Mackenzie
Chair, Wek'èezhii Land and Water Board