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June 28, 2024

File: W2022L2-0001; W2024D0005; W2024D0006

Mark Cliffe-Phillips  
Mackenzie Valley Review Board  
200 Scotia Centre  
Box 938, 5102-50th Avenue  
Yellowknife NT X1A 2N7

Sent by email

Dear Mark Cliffe-Phillips,

**Re: Sable Underground Project – Notice of Preliminary Screening Determination – Water Licence Amendment and Land Use Permit Applications – Mining and Milling – Ekati, NT**

The Wek'èezhì Land and Water Board (Board) met on June 28, 2024 and considered the Application Packages from Arctic Canadian Diamond Company Ltd. (Arctic) for Land Use Permits (Permits) W2024D0005 and W2024D0006 and Water Licence (Licence) W2022L2-0001 for the Sable Underground Project at the Ekati Diamond Mine (Project) in accordance with the *Mackenzie Valley Resource Management Act* (MVRMA).

The Board conducted a preliminary screening based on the public record for the proceeding. Based on the evidence provided, the Board is satisfied the screening has been completed according to section 125 of the MVRMA and has decided **not to refer** the changes to the Project to environmental assessment. The Board's Preliminary Screening Determination and Reasons for Decision, as required by section 121 of the MVRMA, is attached.

If the Board does not receive notice of referral to environmental assessment, it will continue with the regulatory proceeding on **July 9, 2024**.

The Board and staff look forward to continued communications throughout the pause period. Please contact Ryan Fequet via [email](#) or at (867) 765-4589 with any questions or concerns regarding this letter.

Yours sincerely,



Mason Mantla  
Chair, Wek'èezhìi Land and Water Board

BCC'd to: Ekati Distribution List  
Shelia Chernys, Arctic

Attached: Preliminary Screening Determination and Reasons for Decision



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## Preliminary Screening Determination and Reasons for Decision

Water Licence and Land Use Permit Applications	
<b>File Number</b>	W2022L2-0001; W2024D0005; W2024D0006
<b>Company</b>	Arctic Canadian Diamond Company Ltd. (Arctic)
<b>Project</b>	Sable Underground (SUG)
<b>Location</b>	Ekati Diamond Mine, NT
<b>Activity</b>	Mining and Milling
<b>Date of Decision</b>	June 28, 2024

### 1.0 Decision

In accordance with subsection 124(1) of the [Mackenzie Valley Resource Management Act](#) (MVRMA), the Wek'èezhì Land and Water Board (WLWB or Board) met on June 28, 2024 to make a preliminary screening determination on the Applications for an amendment to Water Licence W2022L2-0001 and for new Land Use Permits W2024D0005 and W2024D0006 from Arctic Canadian Diamond Company (Arctic) (Applicant) for the Sable Underground Project at the Ekati Diamond Mine (Project).

The Board has decided not to refer the proposed changes to the Project to the Mackenzie Valley Environmental Impact Review Board (the Review Board) for Environmental Assessment because, based on the evidence, it is the Board's opinion that the proposed changes to the Project will not have a significant adverse impact on the environment or be a cause of public concern.

The Board's determination, including reasons for its decision, are detailed in sections [3.0](#) and [4.0](#).

## 2.0 List of Defined Terms and Acronyms

Applicant	Arctic Canadian Diamond Company (Arctic)
Applications	The complete application package submitted by the Applicant for Water Licence W2022L2-0001 and Land Use Permits W2024D0005 and W2024D0006.
AQMP	Air Quality Monitoring Program
Board	Wek'èezhìi Land and Water Board
CRP	Closure and Reclamation Plan
EA	Environmental Assessment
GNWT	Government of the Northwest Territories
GNWT-ECC	Government of the Northwest Territories – Environment and Climate Change
MVLWB	Mackenzie Valley Land and Water Board
MVRMA	<a href="#">Mackenzie Valley Resource Management Act</a>
Minister	Minister of the Government of the Northwest Territories – Environment and Climate Change
ORS	Online Review System ( <a href="http://www.new.onlinereviewssystem.ca">www.new.onlinereviewssystem.ca</a> )
Party	As per the LWB <a href="#">Rules of Procedure</a> , an applicant, a person, or an organization participating in the regulatory proceeding for the Applications.
Project	Sable Underground Project, which is the proposed development (as defined in Part 5 of the MVRMA). <sup>1</sup>
Review Board	Mackenzie Valley Environmental Impact Review Board
SCP	Spill Contingency Plan
Standard Licence Conditions	LWB <a href="#">Standard Water Licence Conditions Template</a>
Standard Permit Conditions	LWB <a href="#">Standard Land Use Permit Conditions Template</a>
SUG	Sable Underground
TG	Tłı̨chǫ Government
TK	Traditional Knowledge
WMP	Waste Management Plan
WMMP	Wildlife Management and Monitoring Plan

## 3.0 Background and Scope of Screening

Arctic submitted complete Applications for a Type A Water Licence Amendment (W2022L2-0001), Type A Land Use Permit – Mining (W2024D0005), and Type A Land Use Permit – Early Works (W2024D0006) on April 16, 2024 for the Sable Underground Project (the Project). The Sable Underground (SUG) Project is for proposed underground mining at the Sable Development, which is currently being mined as an open

<sup>1</sup> “development” is defined in Part 5 of the [MVRMA](#) as:

“any undertaking, or any part or extension of an undertaking, that is carried out on land or water and includes an acquisition of lands pursuant to the *Historic Sites and Monuments Act* and measures carried out by a department or agency of government leading to the establishment of a park subject to the *Canada National Parks Act* or the establishment of a park under a territorial law.”

pit. The Sable Open Pit will be complete in 2024, and therefore the SUG Project will extend operations at the Sable Development.

The Application package included the following:

- a request to amend Type A Water Licence W2022L2-0001 to include underground mining at Sable (the Project) in the scope of the Licence and update conditions to reflect the Project;
- a new Type A Land Use Permit (W2024D0005) for mining at Sable for a term of five (5) years. This Permit would replace the existing Land Use Permit for mining (i.e., W2023D0002) and incorporate underground activities at the Sable Development. Arctic requested that the current Permit for the Sable open pit project (i.e., W2023D0002) be discontinued upon issuance of the new Permit; and
- a new Type A Land Use Permit (W2024D0006) for the early works activities for a term of two (2) years for the initial construction phase of the Project. Arctic requested that this Permit be issued following Preliminary Screening of the Project.

The Applications included an engagement record with details on the pre-application engagement completed prior to submission of the Applications to the Board. The Engagement Log indicates that engagement with Indigenous and non-Indigenous Governments and Organizations took place from November 2023 until April 2024.<sup>2</sup> The Engagement Log describes that at a minimum, an email was sent to all Affected Parties notifying them of the Project and that either engagement meetings were scheduled, or follow-up emails were sent.

In the Applications, Arctic indicated that the Project utilizes existing infrastructure at the mine, which has been previously assessed and is exempt from preliminary screening. The licence previously underwent an amendment for the Sable, Pigeon, and Beartooth Pipes Expansion, which required an Environmental Assessment by the Review Board. The associated Report of Environmental Assessment was released on February 7, 2001, which recommended approval of the proposed development subject to the imposition of measures.<sup>3</sup>

The licence also previously underwent an amendment for the Jay Development, which required an Environmental Assessment by the Review Board. The Jay Report of Environmental Assessment was released on February 1, 2016 and included recommended Measures.<sup>4</sup> The Applications for the Jay Development were subsequently updated, and the Jay Development proceeded through the permitting and licencing process, with an amended Licence and new Permit issued.

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<sup>2</sup> See WLWB online Registry for [Ekati - Sable UG - Project Description Report and Appendices - Apr 16 24.pdf](#), Appendix E.

<sup>3</sup> See Mackenzie Valley Review Board Registry for [Ekati – Sable, Pigeon, and Beartooth Pipes Expansion – EA99-004 - Report of Environmental Assessment](#)

<sup>4</sup> See Review Board's Online Registry at [www.reviewboard.ca](http://www.reviewboard.ca) for Jay Project Report of Environmental Assessment.

Amendments to the Licence to address activities for the Misery Underground, changes to potassium EQC, and the Lynx Project, also underwent preliminary screenings.<sup>5,6,7</sup>

The Licence was most recently amended to include the Point Lake Development. This amendment underwent preliminary screening and the project changes associated with the Point Lake amendment were not referred to EA.<sup>8</sup> The Point Lake Development proceeded with the permitting and licencing process, with an amended Licence and new Permits issued.

In February 2023, the Licence was renewed and included increased water use and the Lynx Open Pit Underwater Remote Mining trial, which underwent preliminary screening.<sup>9</sup> These project changes were not referred to EA.

The Applications include proposed changes to the Project. Under Part 1, Schedule 1, section 2.1 of the Exemption List Regulations to the [MVRMA](#), project areas and activities that have already been subject to Part 5 of the MVRMA are exempt from preliminary screening. The new Project activities require screening by the Board in accordance with subsection 124(1) of the MVRMA.

In accordance with paragraph 125(1)(a) of the [MVRMA](#), the Board must conduct a preliminary screening of the proposed changes to the Project to determine and report to the Review Board whether, in its opinion, the proposed changes to the Project might have a significant adverse impact on the environment, or might be a cause of public concern. The details of the Board's analysis are set out in section [4.0](#) below.

### **3.1 Scope of Screening:**

#### Previously Screened or Assessed Areas and Activities:

The Board recognizes that activities at the Ekati Mine have undergone numerous levels of environmental impact assessment over the years. The following is a list of activities included in the scope of the current Licence W2022L2-0001 and which do not require preliminary screening because the Board understands them to have been previously considered:

- Diversion of water from Upper Panda Lake to Kodiak Lake
- Use of water and disposal of Waste for purpose of mining the Panda, Koala, Koala North, Misery, and Fox kimberlite purposes, for operating the processing facilities and related infrastructure, and carrying out Reclamation associated with diamond mining within the Koala, Misery, King-Cujo, Desperation-Carrie, and Lac du Sauvage Watersheds of the Lac de Gras basin, Northwest Territories

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<sup>5</sup> See WLWB Online Registry for [W2012L2-0001 – Ekati – WL Amendment – Misery UG – Preliminary Screening Determination – Nov 27 17](#)

<sup>6</sup> See WLWB Online Registry for [W2012L2-0001 – Ekati – WL Amendment – Potassium EQC – Preliminary Screening Determination – Nov 27 17](#)

<sup>7</sup> See WLWB Online Registry for [W2013L2-0001 W2013D0006 – Ekati Lynx Project – Preliminary Screening – Nov 22 13](#)

<sup>8</sup> See WLWB Online Registry for [Ekati – Point Lake Project – Preliminary Screening Determination and Reasons for Decision – Aug 24 21](#)

<sup>9</sup> See WLWB Online Registry for [Ekati - Renewal - Preliminary Screening - Determination and Reasons for Decision - Feb 22 23](#)

- Use water and Dewater Sable, Pigeon, and Beartooth Lakes for the purpose of mining
- Drawdown Two Rock Lake
- Divert Pigeon Stream around the Pigeon pit
- Pipe water from Bearclaw Lake outflow around Beartooth pit
- Deposit Processed Kimberlite into a Processed Kimberlite Containment Area for the purpose of creating a pit lake
- Dispose of waste for industrial undertakings in diamond mining and processing, production, Reclamation and associated uses in the Koala, Pigeon, and Sable watersheds, Northwest Territories
- Dewater Lynx Lake, use water, dispose of Waste, and divert runoff around the Lynx pit, for the purposes of mining the Lynx kimberlite pipe and carrying out Reclamation of the Lynx development
- Use water, dispose of Waste, and divert Groundwater inflows for the purposes of underground mining of the Misery kimberlite pipe and carrying out Reclamation of the Misery Underground Development, as described in the Application submitted August 15, 2017
- Dewater Point Lake, use water, and dispose of Waste for the purposes of mining the Point Lake, Phoenix and Challenge kimberlite pipes and carrying out Reclamation of the Point Lake Development
- Conduct an Underwater Remote Mining Trial in Lynx Pit, as described in the Application submitted November 7, 2022 and the additional information submitted during the regulatory process.

Water uses from Two Rock Lake, Grizzly Lake, Little Lake, Thinner Lake, Falcon Lake, and Lac de Gras included in the list above were previously screened for maximum annual quantities as outlined in Part D, Condition 2 of Licence W2022L2-0001, and one time water withdrawals from Point Lake, Sable Lake, and Pigeon Pond were also screened for maximum quantities as outlined in Part D, Condition 3. Water withdrawals from Upper Exeter Lake, Lac de Gras, Ursula Lake, and Lac du Sauvage were screened for maximum quantities as outlined in Part D, Condition 4 as part of the most recent Water Licence Renewal.<sup>10</sup> Arctic has not proposed any changes to Part D of the Licence in the Application.

The Sable Open Pit Development was assessed as part of the Mackenzie Valley Environmental Impact Review Board's environmental assessment of the Sable, Pigeon, and Beartooth Project.<sup>11</sup> The scope of the assessment included the Sable Road, the Sable open pit, and all of the infrastructure that is present at the Sable site that will be utilized to support the SUG Project. The Review Board concluded that the proposed development should not result in significant adverse effects<sup>12</sup> and the Minister of Indian Affairs and Northern Development (who was the responsible minister at the time) decided to approve the development.<sup>13</sup> As the Sable Open Pit, Sable Road, and all of the infrastructure at Sable have been previously screened, the Board agrees that it is exempt from Preliminary Screening.

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<sup>10</sup> See WLWB Online Registry for [Ekati - Renewal - Preliminary Screening - Determination and Reasons for Decision - Feb 22 23](#).

<sup>11</sup> See Mackenzie Valley Review Board Registry for [Ekati – Sable, Pigeon, and Beartooth Pipes Expansion – EA99-004](#)

<sup>12</sup> See Mackenzie Valley Review Board Registry for [Ekati – Sable, Pigeon, and Beartooth Pipes Expansion – EA99-004 - Report of Environmental Assessment](#)

<sup>13</sup> See Mackenzie Valley Review Board Registry for [EA99-004 Final ministerial acceptance of the REA with modifications](#)

### New Activities:

The proposed Sable Underground Development will be an extension of the existing Sable Open Pit operation, and involve the use of a number of existing and previously permitted components of the Ekati mine and Sable site infrastructure. No new land will be disturbed from the Project.

The Project involves early works activities, and underground mining of the Sable development. The new activities proposed specifically for the Project includes:

- Construction of the portal, decline to the first production level, and the fresh air raise (i.e., early works activities)
- Mining of the Sable kimberlite pipe using the Sublevel Retreat mining method;
- Placement of underground Waste Rock at the existing and permitted Sable WRSA;
- Operational management of Minewater during underground mining;
- Operational support activities;
- Construction of a 100-person camp; and
- Reclamation of the constructed facilities.

### **3.2 Public Record and Regulatory Proceeding**

To assist the Board in its preliminary screening determination for the Project, the Board distributed the Applications for public review on April 24, 2024, inviting reviewers to provide comments and recommendations on the Applications and the preliminary screening (e.g., on impacts and mitigation measures) using the Online Review System (ORS). Comments were due May 29, 2024. The Board received comments and recommendations from Tłıchq Government (TG), Government of the Northwest Territories Environment and Climate Change (GNWT-ECC), the Independent Environmental Monitoring Agency (IEMA), Fisheries and Oceans Canada (DFO), Environment and Climate Change Canada (ECCC), and Transport Canada.<sup>14</sup> Board staff also submitted comments and questions for the purposes of clarification. The Wek'èezhì Renewable Resources Board indicated it had no comments. By the deadline of June 5, 2024, the Applicant responded to the Parties' comments and recommendations.

Since there were no requests to extend the reviewer comment deadline, the Board is satisfied that a reasonable period of notice was given to affected communities and First Nations, as required by subsection 63(2) of the [MVRMA](#).

The Board is also satisfied that notice of the Application was provided to the Tłıchq Government and that a reasonable period of time was provided for the Tłıchq Government to make representations to the Board in accordance with section 63 of the [MVRMA](#).

The Board also provided notification to the Tłıchq Government on the Applications in accordance with the [MVRMA](#) for a "major mining project," as defined in Chapter 23 of the [Tłıchq Land Claims and Self-](#)

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<sup>14</sup> See WLWB Online Registry for [Sable Underground Project – Review Summary Table – Apr 24, 24](#).



[Government Agreement](#).<sup>15</sup> The Tłjchq Government and the Applicant submitted a joint letter indicating that both parties agreed the Project is a major mining project.<sup>16</sup> Both parties indicated that the evidence related to the agreement as requested by the Board will be provided by the date of the intervention deadline.

#### **4.0 Potential Impacts and Proposed Mitigations**

Table 1 below summarizes:

- the potential impacts of the proposed changes to the Project;
- the concerns that were identified during the regulatory proceeding and how the Applicant addressed those concerns;
- the proposed and potential mitigations for the potential impacts; and
- the Board’s analysis of the potential impacts and proposed mitigations.

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<sup>15</sup> See WLWB Land Claims, IMAs, and Land Use Plans webpage to access the [Tłjchq Land Claims and Self-Government Agreement](#).

<sup>16</sup> See WLWB Online Registry for [Ekati - SUG - TG and Arctic letter RE 23.4.1 of Tłjchq Agreement - May 28 24](#).

**Table 1: Potential Impacts and Proposed Mitigations for the Proposed Changes to the Project**

Potential Impact	Activity	Proposed Mitigations <i>Description of measures to reduce potential impacts, including consideration of cumulative impacts and climate change.</i>	Board Analysis and Determination
Changes to local hydrology (surface water flows/levels, drainage patterns) from the Project footprint	Surface flows into the Sable open pit; transfer of minewater to the Two Rock Sedimentation Pond (TRSP); transfer of water from TRSP to Horseshoe Lake	<ul style="list-style-type: none"> <li>• The Applicant proposed the following mitigations in the Application:               <ul style="list-style-type: none"> <li>○ During mine operations, surface flows into the Sable Open Pit will be transferred to the Two Rock Sedimentation Pond (TRSP); however, the (regulated) discharge from TRSP flows to Horseshoe Lake, which is in the same watershed.</li> <li>○ The volume of water discharged from TRSP is not expected to alter the hydrology in lakes downstream of TRSP;</li> <li>○ Using existing potable water from the water supply at the site, and therefore, demand for potable water is not anticipated to increase;</li> <li>○ Freshwater for operations will come from existing approved water sources (i.e., Grizzly Lake, Litle Lake, Thinner Lake, Falcon Lake, and Lac de Gras;</li> <li>○ The Project will make use of existing surface infrastructure and existing work pads to avoid additional loss and alteration of undisturbed aquatic and terrestrial land cover (i.e., habitat);</li> <li>○ No new waste rock storage areas will be required and therefore runoff and seepage will be from the existing Sable Waste Rock Storage Area (WRSA);</li> <li>○ The existing road between the Ekati Mine Main Camp and the Sable site will be used to access the underground mine. Culverts along the access road will be maintained or upgraded as necessary to maintain drainage;</li> <li>○ Infrastructure that serves the Ekati Mine is satisfactorily sized and requires no replacement or modification due to the Project;</li> <li>○ Runoff and seepage from Project facilities is managed, as appropriate, to avoid adverse environmental effects in downstream waterbodies;</li> </ul> </li> </ul>	<p>Arctic has indicated that by implementing mitigation practices, no measurable changes to hydrology from the Project are anticipated in downstream waterbodies relative to baseline conditions. There will be no new disturbed areas at the site and no alterations to existing drainage patterns.</p> <p>The current Licence requires a Wastewater and Processed Kimberlite Management Plan (WPKMP) that must include the capacity status of the TRSP and contingency options should TRSP approach or exceed capacity. In the Two Rock Outfall Report (approved by the Board on April 28, 2023), Arctic provides an adaptive management approach to respond to unexpected hydrological conditions. This includes increasing the capacity of TRSP by raising Two Rock Dam, reducing flow rates, deploying additional erosion control measures such as riprap, and increased sampling and monitoring frequency. In the amended Licence, the Board could consider updating the Schedule requirements for the WPKMP and/or the Two Rock Outfall Report if warranted through further discussions during the proceeding.</p>

		<ul style="list-style-type: none"> <li>○ Erosion and sediment control practices (e.g., silt fences, runoff management) applicable to northern environments and already in place at the Ekati Mine will be used during construction around disturbed areas, where appropriate; and</li> <li>○ As a requirement of the Ekati Mine Water Licence (W2022L2-0001), water Discharged to the Receiving Environment will meet allowable annual volumes and flow rates will be adjusted during Discharge in response to visual signs of erosion</li> </ul> <ul style="list-style-type: none"> <li>• In response to comments during the public review, Arctic indicated the following: <ul style="list-style-type: none"> <li>○ Arctic was asked to provide additional information about the water volume assumptions used in the water balance inputs of the model, including justification on using average volumes of water from Sable Pit sump and volumes of groundwater (ECCC comments 3 and 7). Arctic indicated if greater volumes of water are encountered in Sable open pit, they will utilize the mitigations and management activities that were provided in the Two Rock Outfall Design Report;<sup>17</sup> and</li> <li>○ Arctic was asked why climate change was not considered in the water quality model given precipitation is expected to be impacted during the time period of the Project TG comment 13 and GNWT-ECC comment 4). Arctic responded that “an adaptive management approach to respond to upset conditions such as multiple wet years or dry years have been defined in Section 5 of the Two Rock Outfall report”. Arctic also indicated that the sub-permafrost region is estimated to be 413 m below ground surface, and climate change won’t impact the groundwater inflow rates or water quality in the timeline of this project.</li> </ul> </li> <li>• The current Water Licence includes the following conditions which can</li> </ul>	<p>Based on comments from reviewers on why climate change was not considered, the Board could also consider including conditions in the Licence related to climate change. This can be further discussed during the proceeding.</p> <p>Based on the described mitigations, considerations, and options available to the Board, it is the Board’s opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern</p>
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<sup>17</sup> See WLWB Online Registry for [Ekati - Two Rock Outfall Report - Version 3.1 - Jan 13 23.pdf](#)

		<p>mitigate potential impacts:</p> <ul style="list-style-type: none"> <li>○ Part D, Condition 1: requirement that water may only be obtained from particular sources;</li> <li>○ Part D, Condition 2: requirement that details annual allowable quantities of fresh water;</li> <li>○ Part H, Condition 5: requirement for a Wastewater and Processed Kimberlite Management Plan, which requires a description adaptive management activities; and</li> <li>○ Part H, Condition 33 and Schedule 6, Condition 5: requirement for the Two Rock Outfall Report which details the final proposed design of the outfall from Two Rock Sedimentation Pond into Horseshoe Lake to the Board for approval.</li> </ul> <ul style="list-style-type: none"> <li>• The Board has standard licence conditions that are typically used to mitigate the identified potential impacts. These standard conditions include:<sup>18</sup> <ul style="list-style-type: none"> <li>○ Water Source and Maximum Volume</li> <li>○ Water Withdrawal Facilities</li> </ul> </li> </ul>	
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<sup>18</sup> See the WLWB Policies and Resources webpage to access the LWB [Standard Water Licence Conditions Template](#).

<p>Groundwater impacts: water table alteration; infiltration changes</p>	<p>Groundwater inflow to the Sable underground development; withdrawal of shallow groundwater that enters the open pit; withdrawal of groundwater as minewater from underground workings</p>	<ul style="list-style-type: none"> <li>• The Applicant noted the following in its Application: <ul style="list-style-type: none"> <li>○ Arctic provided a hydrogeological evaluation for the Project and determined that no effect on regional groundwater quality or quantity are expected from the Project.</li> </ul> </li> <li>• The Applicant proposed the following mitigations in the Application <ul style="list-style-type: none"> <li>○ Experience at the Sable Open Pit indicates that the quantity of shallow groundwater will be small;</li> <li>○ A large portion of the underground workings (upper zones) will remain in permafrost and, therefore, there will be no interaction with deep groundwater until later in the life of the Project;</li> <li>○ All minewater (shallow and deep) will be pumped to TRSP for management according to the Water Licence and approved management plans already in place. For closure, the underground workings and open pit will be flooded with natural lake water and stable groundwater regimes are expected to establish; and</li> <li>○ Underground use of hydrocarbons and chemicals is limited and residual products at the completion of underground mining will be removed such that no impacts to deep groundwater are expected.</li> </ul> </li> <li>• In response to comments during the public review, Arctic indicated the following: <ul style="list-style-type: none"> <li>○ In the Application, Arctic included dewatering underground workings as a water use for the Project; however, Arctic did not propose any changes to Part D of the Licence which details water use. Arctic was asked whether Part D should be updated to include dewatering (WLWB staff comment 1). Arctic indicated that the dewatering was reflective of an alteration of flow of groundwater and surface water runoff into the underground workings, rather than use of water from a freshwater source, and therefore believes that Part D of the Licence does not need to be updated.</li> </ul> </li> <li>• The current Licence includes a condition to include a description of the</li> </ul>	<p>Arctic indicated that only small amounts of shallow groundwater will be removed from the open pit. Arctic also indicated that water removed from the open pit and underground mine will be added to the TRSP which will then become part of the surface water regime. Arctic committed to reporting on the quantity and quality of water pumped from the Sable Underground and report in the Annual Report (as indicated in Attachment D with the Application for the proposed changes to the WPKMP).</p> <p>Overall, Arctic reports that no residual effects to groundwater quantity or quality are expected. At this time, it is unclear if the removal of groundwater from the underground may be considered a water use; however, this can be further discussed through the proceeding, and the Board can reflect any discussion in the Licence, if warranted.</p> <p>Based on the described mitigations, considerations, and options to the Board, it is the Board's opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern</p>
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		Groundwater monitoring and reporting program for the open pits and underground mines in the Wastewater and Processed Kimberlite Management Plan (WPKMP) (Schedule 6, Condition 1I).	
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<p>Changes in water quality</p>	<p>Transfer of minewater to TRSP; discharge from TRSP to Horseshoe Lake; runoff and seepage from the WRSA into Horseshoe Lake and Ulu Lake; excavation of stockpiling of earth or gravel adjacent to a watercourse</p>	<ul style="list-style-type: none"> <li>• See subsection 4.1.1 of these Reasons for Decision for further discussion.</li> <li>• The Applicant proposed the following mitigations in the Application: <ul style="list-style-type: none"> <li>○ As a requirement of the existing Water Licence, effluent discharged from TRSP must meet effluent quality criteria in the Water Licence. Water discharged from TRSP is monitored at the outlet of the TRSP and in the Receiving Environment as a requirement of the Water Licence, which provides input for adaptive management;</li> <li>○ Model predictions indicate that no constituents were predicted to exceed EQC in TRSP during open-water season (June to September) for the SUG Project duration. The maximum nitrate-N concentration was predicted to slightly exceed the EQC in winter from 2029 to 2031. However, discharge from TRSP to Horseshoe Lake is not planned during winter months and, regardless, the TRSP water quality trends will be tracked through SUG operations to anticipate and plan for the potentially elevated concentrations late in operations;</li> <li>○ Underground development waste rock is anticipated to be geochemically the same as mined in the open pit such that seepage from the Sable WRSAs is not expected to be noticeably affected by the addition of a minor quantity of additional waste rock; and</li> <li>○ Spills of petroleum products will be reported and remediated according to approved Waste Management and Spill Contingency Plans such that no impacts to surface water are expected.</li> <li>○ A Minewater Management Plan (as part of the Wastewater and Processed Kimberlite Management Plan (WPKMP)) will be implemented for the Project and will be based on previous experience at site;</li> <li>○ Similar to other satellite operations at the Ekati mine such as the Misery underground, kimberlite ore will be temporarily stored on surface for transfer to haulage trucks to the process plant. The temporary kimberlite stockpile(s) will be located on existing work pads and the kimberlite ore will be fully removed at the end of operations; and</li> </ul> </li> </ul>	<p>See subsection 4.1.1 of these Reasons for Decision for further discussion on water quality.</p> <p>Based on the described mitigations, considerations, and options available to the Board, including permit conditions, it is the Board's opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern.</p>
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		<ul style="list-style-type: none"> <li>○ Erosion and sediment control practices (e.g., silt fences, runoff management) applicable to northern environments and already in place will be used during construction around disturbed areas, where appropriate.</li> <li>• Several comments were made related to water quality during the public review. See subsection 4.1.1 for further discussion. <ul style="list-style-type: none"> <li>○ Arctic indicated that the waste rock has virtually no risk of containing metasediments and is not expected to be potentially-acid generating. The waste rock will be tested to verify that the rock being mined remains geochemically similar to the pre-development characterization (response to WLWB staff comment 3 and IEMA comment 12).</li> <li>○ Arctic was asked to address the possibility of seepage from the North and South Work pads to enter downstream lakes (IEMA comment 4). Arctic responded that the Work Pads are constructed out of non-reactive material and therefore seepage sampling is not required for work pads at Ekati.</li> </ul> </li> <li>• The current Licence includes Effluent Quality Criteria for all discharges to the Receiving Water from the Sable Development (Part H, Condition 26(d)).</li> </ul>	
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<p>Loss and alteration of permafrost</p>	<p>Construction activities</p>	<ul style="list-style-type: none"> <li>• The Applicant proposed the following mitigations in the Application <ul style="list-style-type: none"> <li>○ Design of the Project avoids the construction of new surface facilities that might have an effect on permafrost;</li> <li>○ Support equipment installations are within the open pit or on existing work pads such that there are no anticipated effects on permafrost;</li> <li>○ Existing facilities and those constructed for the Project will be insulated to minimize heat loss;</li> <li>○ The Project will make use of existing surface infrastructure and existing work pads to avoid additional loss and alteration of undisturbed aquatic and terrestrial land cover (i.e., habitat);</li> <li>○ Limitation of the footprint disturbance area, while maintaining safe construction and operation practices; and</li> <li>○ Permafrost is anticipated to aggrade into the roads and work pads (i.e., not degrade permafrost).</li> </ul> </li>   <li>• In response to comments during the public review, Arctic indicated the following: <ul style="list-style-type: none"> <li>○ Arctic was asked if there is a risk to potential loss of permafrost at depths of underground mining (WLWB staff comment 11). Arctic responded that as stated in the Project Impact-Mitigation Table (Appendix F to the Water Licence Amendment Application), “the underground workings lie directly beneath the Sable Open Pit such that the planar (horizontal) area of the underground workings is within the area exposed in the Sable Open Pit. (i.e., no increase in the area of permafrost disturbed)”. Arctic also indicated that there could be minor thawing to localized areas, but that it would not extend beyond the planar area of the Sable Open Pit. Arctic concluded that no mitigation is required.</li> </ul> </li> </ul>	<p>As described, the Project footprint will not increase from the previous footprint. Any new facilities will be constructed to minimize heat loss and will be built on existing work pads (e.g., the 100-person camp). Arctic indicated some minor localized thawing at the depth of underground mining but will not extend laterally beyond the horizontal area exposed in the open pit.</p> <p>Based on the described mitigations and considerations, it is the Board’s opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern.</p>
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<p>Air Quality impacts: Changes in air quality; harm to living things</p>	<p>Mobilization and operation of equipment for construction and operational activities; road traffic</p>	<ul style="list-style-type: none"> <li>• The Applicant noted the following in the Application: <ul style="list-style-type: none"> <li>○ Road dust has been studied at the Ekati mine and mitigation measures will be applied to the Project.</li> </ul> </li> <li>• The Applicant proposed the following mitigations in the Application: <ul style="list-style-type: none"> <li>○ Fossil fuel usage and emissions are minimized through operating procedures such as regular maintenance, inventory control and minimizing equipment usage;</li> <li>○ Road traffic on the Sable Road (ore haul) will decrease from current levels that underwent environmental assessment for the Sable open pit development. Road dust is monitored and there are effective mitigation measures in place that will continue to be applied through operations, such as speed limits and application of dust suppressant. Road dust is monitored to inform adaptive management;</li> <li>○ The use of existing surface facilities will limit the area disturbed at construction thereby limiting the quantity of new air and dust emissions; and</li> <li>○ Ultra-low sulphur fuel is used at the Ekati Mine.</li> </ul> </li> <li>• In response to comments during the public review, Arctic indicated the following: <ul style="list-style-type: none"> <li>○ ECCC recommended that Arctic consider mitigations to NO<sub>x</sub> air emissions including using engines that meet Tier 4 emission standards, but highlighted the challenges associated with the use of such equipment (comment 12). Arctic indicated that it will employ the existing mining equipment that are currently used in the Misery Underground development.</li> <li>○ IEMA recommended that Arctic include an air quality assessment endpoint to assess changes in air quality given plants and animals could be affected by air quality (IEMA comment 7). Arctic responded that the Air Quality Monitoring Program (AQMP) is implemented site wide (including the Sable Road) to provide input for adaptive</li> </ul> </li> </ul>	<p>The Air Quality Monitoring Program (AQMP) is in place to monitor air quality and to provide input for adaptive management. While this document is not for Board approval, Arctic noted this program is a requirement under Ekati’s Environmental Agreement held with various Parties. Arctic has previously included the results from the AQMP in an appendix in the Annual Report.</p> <p>Arctic has also indicated that road traffic will be reduced with the SUG project from the current open pit operations. Road dust is monitored and effective mitigation measures are in place that will continue to be applied through operations, such as speed limits and application of dust suppressant.</p> <p>Based on the described mitigations and considerations, it is the Board’s opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern.</p>
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		<p>management and suggests that current environmental design features and mitigation measures implemented at Ekati Mine are effective at mitigating the effects of the mine on air quality. In addition, water quality monitoring will take place in lakes closest to the Project (i.e., Horseshoe Lake) to monitor for potential effects from dust and air emissions.</p>	
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<p>Air Quality impacts: Increased greenhouse gases</p>	<p>Burning of fossil fuels</p>	<ul style="list-style-type: none"> <li>• The Applicant proposed the following mitigations in the Application: <ul style="list-style-type: none"> <li>○ Fossil fuel usage and emissions are minimized through operating procedures such as regular maintenance, inventory control and minimizing equipment usage. GHG emissions are publicly reported and evaluated through the Mining Association of Canada Towards Sustainable Mining program; and</li> <li>○ The Air Quality Monitoring Program (AQMP) is implemented at the Ekati Mine to provide input for adaptive management.</li> </ul> </li> <li>• In response to comments during the public review, Arctic indicated the following: <ul style="list-style-type: none"> <li>○ Arctic committed to providing information related to GHG emissions to the Tłı̨chǫ Government on a regular basis (response to TG comment 10).</li> </ul> </li> </ul>	<p>Arctic has committed to minimize fossil fuel usage and emissions through operating procedures. The AQMP is in place to monitor air quality and to provide input for adaptive management. Arctic indicated that the GHG emissions are publicly reported through the Mining Association of Canada's Towards Sustainable Mining program.</p> <p>Based on the described mitigations and considerations, it is the Board's opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern.</p>
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<p>Land Impacts: soil compaction; destabilization/erosion; change in soil structure; inability to support vegetation</p>	<p>On-site storage or disposal of wastes (domestic garbage, sewage, waste petroleum products, drilling waste and hydraulic flowback fluids, hazardous wastes, etc.); transfer, storage, use of petroleum products and/or chemicals; transfer, storage, and use of explosives; use of motorized and heavy equipment; construction of new infrastructure; construction of a 100-person camp; use of the Sable WRSA for storage of waste rock</p>	<ul style="list-style-type: none"> <li>• The Applicant proposed the following mitigations in the Applications: <ul style="list-style-type: none"> <li>○ The Project will make use of existing surface infrastructure and existing work pads to avoid additional loss and alteration of undisturbed aquatic and terrestrial land cover (i.e., habitat);</li> <li>○ No new waste facilities will be required for the Project. As a continuation of current procedures and similar to procedures in place for the Misery Camp, wastes will be stored temporarily on site and routinely transferred to established treatment/disposal facilities at Main Camp. Wastes will be managed according to the Board-approved Waste Management Plan;</li> <li>○ There will be no changes to the existing bulk storage facility for petroleum products and no bulk storage of chemicals on-site. Mobile equipment will be re-fueled at the bulk storage facility or by a mobile fuel truck applying established procedures. The diesel generator and other surface facilities located on site will have day-tanks that are re-filled by a mobile fuel truck using established procedures. The day tanks will include secondary containment to the satisfaction of the Inspector. Spills will be reported and remediated according to approved Waste Management and Spill Contingency Plans such that no impacts to land are expected;</li> <li>○ There will be no bulk storage of explosives on site. Operational quantities will be stored in authorized explosives magazines and current transfer procedures will remain in effect;</li> <li>○ Motorized and heavy equipment will operate only on designated roads and winter trails per the standard conditions of the Land Use Permits. Land disturbance is minimized by using existing roads;</li> <li>○ Banks and vegetated areas will be stabilized, if disturbed;</li> <li>○ Erosion and sediment control practices (e.g., silt fences, runoff management) applicable to northern environments and already in place at the Ekati Mine will be used during construction around disturbed areas, where appropriate; and</li> <li>○ Disturbed areas will be reclaimed for physical stability according to approved Closure and Reclamation Plans.</li> </ul> </li> </ul>	<p>No new land will be disturbed for the Project. Arctic holds an approved Spill Contingency Plan which details the processes for managing spills on land. Arctic also has an approved Waste Management Plan in place with procedures for disposal of wastes.</p> <p>Based on the described mitigations, considerations, and options available to the Board, including permit conditions, it is the Board’s opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern.</p>
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		<ul style="list-style-type: none"> <li>• In response to comments during the public review, Arctic indicated the following: <ul style="list-style-type: none"> <li>○ IEMA indicated that the North and South work pads were outside of the initial mine footprint (comment 9); however, Arctic indicated that the location of the work pads are within the Sable Land Use Permit (W2023D0002) and were approved by the Inspector.</li> </ul> </li>   <li>• The Board has standard Licence/Permit conditions which are typically used to mitigate the described impacts: <ul style="list-style-type: none"> <li>○ Waste Management Plan</li> <li>○ Spill Contingency Plan</li> <li>○ Width Right-of-Way</li> <li>○ Use Approved Equipment</li> <li>○ Winter Roads</li> <li>○ Progressive Erosion Control</li> <li>○ Repair Erosion</li> <li>○ Off-Road Vehicle Travel</li> <li>○ Prevention of Rutting</li> <li>○ Suspend Overland Travel</li> <li>○ Vehicle Movement Freeze-up</li> </ul> </li> </ul>	
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<p>Vegetation impacts: Direct loss of vegetation; Loss of Species at Risk or may-be-at-risk plants; Change in species composition; Introduction of nonnative(invasive) species; Effects on plant health (dust, metals, toxins); Increased risk of fire; Compaction of vegetation</p>	<p>Use of motorized and heavy equipment; burning of fossil fuels; Transfer, storage, and use of petroleum products and/or chemicals; Excavation or stockpiling of earth and/or gravel</p>	<ul style="list-style-type: none"> <li>• The Applicant proposed the following mitigations in the Applications: <ul style="list-style-type: none"> <li>○ All new surface facilities will be located within the Sable open pit or on existing work pad;</li> <li>○ Reclamation activities will be completed per the approved closure and reclamation plan to reflect the local native vegetation communities;</li> <li>○ Fossil fuel usage and emissions are minimized through operating procedures such as regular maintenance, inventory control, and minimizing equipment usage;</li> <li>○ Road traffic on the Sable Road (ore haul) will decrease from current levels that underwent environmental assessment for the Sable open pit development. Road dust has been monitored and there are effective mitigation measures in place that will apply to the Project, such as speed limits and application of dust suppressant. Road dust is monitored to inform adaptive management;</li> <li>○ There will be no changes to the existing bulk storage facility for petroleum products and no bulk storage of chemicals on-site. Mobile equipment will be re-fueled at the bulk storage facility or by a mobile fuel truck applying established procedures. The diesel generator and other surface facilities located on site will have day-tanks that are re-filled by a mobile fuel truck using established procedures. The day tanks will include secondary containment to the satisfaction of the Inspector. Spills will be reported and remediated according to approved Waste Management and Spill Contingency Plans such that no impacts to vegetation are expected; and</li> <li>○ Underground development waste rock will be placed within the existing Sable WRSAs with no additional disturbance of vegetation.</li> </ul> </li> <li>• The Board has standard License/Permit conditions which are typically used to mitigate the described impacts: <ul style="list-style-type: none"> <li>○ Waste Management Plan</li> <li>○ Spill Contingency Plan</li> </ul> </li> </ul>	<p>No new land will be disturbed for the Project. Arctic holds an approved Spill Contingency Plan which details the processes for managing spills on land. Arctic also has an approved Waste Management Plan in place with procedures for disposal of wastes.</p> <p>Based on the described mitigations, considerations, and options available to the Board, including permit conditions, it is the Board's opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern.</p>
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		<ul style="list-style-type: none"><li>○ Off-Road Vehicle Travel</li><li>○ Prevention of Rutting</li><li>○ Suspend Overland Travel</li><li>○ Vehicle Movement Freeze-up</li><li>○ Fuel Containment</li></ul>	
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<p>Terrestrial Wildlife Habitat Impacts - Direct loss and fragmentation of wildlife habitat; Loss or removal of keystone species and/or SAR habitat; Fragmentation of wildlife corridor; Direct injury or mortality; Disturbances to key lifecycle stages: breeding, feeding, nesting, staging; Effects on population abundance; Change in species diversity; Effects on wildlife health(toxins, metals, etc.); Changes to</p>	<p>Construction of structures (buildings, water or waste management facilities, etc.); Increased traffic risk to wildlife; Increased human presence; Noise (use of heavy equipment, blasting, crushing, drilling); Transfer, storage, and use of petroleum products and/or chemicals; On-site storage or disposal of wastes (domestic garbage, sewage, waste petroleum products, drilling waste and hydraulic flowback fluids, hazardous wastes, etc.)</p>	<ul style="list-style-type: none"> <li>• The Applicant proposed the following mitigations in the Applications: <ul style="list-style-type: none"> <li>○ No new land disturbance or direct disturbance of wildlife habitat is planned for the Project;</li> <li>○ The Project will not result in new sources of attractants;</li> <li>○ The Wildlife Management and Monitoring Plan (WMMP) is implemented at the Ekati Diamond Mine and is periodically reviewed;</li> <li>○ Minor new surface facilities (buildings) will be constructed on existing work pads following established procedures for protection of wildlife per the WMMP approved under the <i>Wildlife Act</i>;</li> <li>○ Road traffic on the Sable Road (ore haul) will decrease from current levels that underwent environmental assessment for the Sable open pit development. The Caribou Road Mitigation Plan (CRMP) is implemented site-wide and will apply to the Project. There have been no caribou mortalities at the Ekati Diamond Mine due to vehicle accidents through 25 years of operations. Caribou ramps and crossings have been constructed at strategic locations along the Sable Road using field-based Traditional Knowledge input for locations and design. Signage is in place to identify caribou crossings and areas of high wildlife use;</li> <li>○ Human presence at the Sable site will decrease from current levels that underwent environmental assessment for the Sable open pit development. Measures are in place to minimize human-wildlife interactions, including providing awareness training;</li> <li>○ Sensory effects from the presence of buildings, lights, smells, noise, blasting activity, and vehicles will decrease from current levels that underwent environmental assessment for the Sable open pit development. Measures are in place to minimize effects of noise;</li> <li>○ There will be no changes to the existing bulk storage facility for petroleum products and no bulk storage of chemicals on-site. Mobile equipment will be refueled at the bulk storage facility or by a mobile fuel truck applying established procedures. The diesel generator and other surface facilities located on site will have day-</li> </ul> </li> </ul>	<p>No new land disturbance or direct disturbance of wildlife habitat is planned for the Project.</p> <p>Arctic holds a WMMP, which includes mitigations for road traffic, staff education, and waste management. Although the WMMP is not for Board approval, it is periodically submitted to the GNWT where Parties can review the WMMP through the GNWT's process. Arctic also holds an approved Waste Management Plan which aims to ensure potential adverse effects to the environment and wildlife are minimized through waste management practices. The approved Spill Contingency Plan also aims to minimize impact on the local and surrounding environment.</p> <p>Based on the described mitigations, considerations, and options available to the Board, including permit conditions, it is the Board's opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern.</p>
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<p>migratory movement patterns; Changes to predator-prey relationships; Human-wildlife conflicts</p>		<p>tanks that are re-filled by a mobile fuel truck using established procedures. The day tanks will include secondary containment to the satisfaction of the Inspector. Spills will be reported and remediated according to approved Waste Management and Spill Contingency Plans such that no impacts to wildlife are expected;</p> <ul style="list-style-type: none"> <li>○ Small amounts of domestic garbage or sewage may be temporarily stored on site prior to transfer to approved facilities at Main Camp. The risk of attraction of animals to the Project site is minimized by use of existing infrastructure;</li> <li>○ Littering and feeding of wildlife is prohibited;</li> <li>○ Deterrent measures will be implemented, as needed; and</li> <li>○ Road closures when caribou are present.</li> </ul> <ul style="list-style-type: none"> <li>• The Land Use Permit for the Point Lake Project (W2021D0005) includes a condition that requires a Road Modification Plan including the location, design, and proposed construction timing of caribou mitigations for several site roads, including Sable Road (Condition 37).</li> <li>• The Board has standard Licence/Permit conditions which are typically used to mitigate the described impacts: <ul style="list-style-type: none"> <li>○ Waste Management Plan</li> <li>○ Spill Contingency Plan</li> <li>○ Habitat Damage</li> <li>○ Garbage Container</li> </ul> </li> </ul>	
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<p>Aquatic Habitat Impacts - Breeding disturbances; Change in species diversity; Effects on health (toxins, metals, sediment, etc.); Changes to migratory movement patterns; Changes to predator-prey relationships; Effects on population abundance; Change in species diversity</p>	<p>Blasting near a watercourse; Retaining, storing, or diverting water; Direct or indirect disposal of waste into water</p>	<ul style="list-style-type: none"> <li>• The Applicant proposed the following mitigations in the Applications: <ul style="list-style-type: none"> <li>○ No new disturbance of aquatic habitat is planned for the Project;</li> <li>○ Blasting in the Sable open pit has been safely undertaken throughout operations with respect to Fisheries and Oceans Canada’s (DFO’s) “Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters”. Those blasting procedures will extend to blasting in the underground mine; and</li> <li>○ There are no new uses of freshwater or changes in the annual water withdrawal sources and rates specified in the Water Licence for domestic or mine operations purposes. During mine operations, surface flows into the Sable open pit from its small catchment area will be transferred to TRSP, a temporary alteration of its natural flow path. However, the (regulated) discharge from TRSP flows to Horseshoe Lake, which is the same watershed. This alteration was previously assessed and approved for the Sable open pit development. As a requirement of the existing Water Licence, effluent discharged from TRSP must meet effluent quality criteria in the Water Licence. Water discharged from TRSP is monitored at the outlet of TRSP and in the Receiving Environment as a requirement of the Water Licence, which provides input for adaptive management.</li> </ul> </li> <li>• The Board has standard Licence/Permit conditions which are typically used to mitigate the described impacts: <ul style="list-style-type: none"> <li>○ Effluent Quality Criteria</li> <li>○ Habitat Damage</li> </ul> </li> </ul>	<p>No new disturbance of aquatic habitat is planned for the Project. Arctic follows blasting guidelines for use of explosives in or near Canadian Fisheries Water, which are set out by DFO.</p> <p>Based on the described mitigations, considerations, and options available to the Board, including licence/permit conditions, it is the Board’s opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern.</p>
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<p>Wildlife Harvesting Impacts – Loss or reduction in game species population; effects on traditional land use, subsistence, and harvesting rights</p>	<p>Noise (use of heavy equipment, blasting, crushing, drilling); Construction (development or alteration: widening, straightening, detours), maintenance and operation of lines, trails, or rights-of-way; Increased traffic risk to wildlife; Withdrawal of water from a watercourse; Direct or indirect disposal of waste into water.</p>	<ul style="list-style-type: none"> <li>• The Applicant proposed the following mitigations in the Applications: <ul style="list-style-type: none"> <li>○ The Ekati Diamond Mine is within the traditional and current harvesting areas of Inuit, Dene and Metis people. The Closure and Reclamation Plan seeks to provide for those uses of the land after mine closure and the Project does not compromise that work.</li> <li>○ The Project does not introduce new risks or effects to post-closure wildlife harvesting.</li> </ul> </li> </ul>	<p>Given there are no new risks or effects to post-closure wildlife harvesting, it is the Board’s opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern.</p>
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<p>Cultural Integrity and Heritage Resources Impacts - Change to or loss of cultural integrity; Change to or loss of traditional lifestyle; Change to or loss of heritage resources</p>	<p>Noise (use of heavy equipment, blasting, crushing, drilling); Construction (development or alteration: widening, straightening, detours), maintenance and operation of lines, trails, or rights-of-way; Increased human presence; Withdrawal of water from a watercourse; Retaining, storing, or diverting water; Direct or indirect deposit of waste into water</p>	<ul style="list-style-type: none"> <li>• The Applicant proposed the following mitigations in the Applications: <ul style="list-style-type: none"> <li>○ The Project does not plan new land disturbances that could disturb heritage resources beyond effects previously assessed for the Sable Site, Sable Road, and Ekati mine generally. An Archaeological Management Plan and Chance Find Procedure is in place that mitigates risks of disturbance of existing or newly identified heritage resources during mine operations; and</li> <li>○ Project development plans at the Ekati Diamond Mine are informed by Traditional Knowledge and seek to preserve the cultural integrity of the land to the extent practicable during mine operations. The Project does not introduce new risks or effects to the cultural integrity of the land.</li> </ul> </li> </ul>	<p>Given there are no new risks or effects to the cultural integrity of the land, it is the Board's opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern.</p>
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<p>Social and Economic Well-being Impacts – Increased human health hazard and risk; Economic opportunities or losses (employment, training); Change in ecological, cultural, social, or economic values identified for protection in approved Land Use Plans; Impairment of the recreational or traditional uses of the land or water; Impairment of the aesthetic quality of the land or water; Changes to the use of the area by other non-Indigenous</p>	<p>Noise (use of heavy equipment, blasting, crushing, drilling); Transfer, storage, and use of petroleum products and/or chemicals; On-site storage or disposal of wastes (domestic garbage, sewage, waste petroleum products, drilling waste and hydraulic flowback fluids, hazardous wastes, etc.); Construction (development or alteration: widening, straightening, detours), maintenance and operation of lines, trails, or rights-of-way); Increased human access and presence; Operating in a remote location inaccessible or not easily accessible by emergency aid.</p>	<ul style="list-style-type: none"> <li>• The Applicant noted the following in the Application: <ul style="list-style-type: none"> <li>○ The Project continues the substantive positive socio-economic benefits of the Ekati Diamond Mine through continued northern employment, northern contracting, northern purchasing, Impact Benefits Agreement (IBA) and royalty payments, support of community development and well-being programs. These strong positive effects combined with the effective mitigation of potential negative effects support the Project going ahead as proposed.</li> </ul> </li> <li>• The Applicant proposed the following mitigations in the Applications: <ul style="list-style-type: none"> <li>○ Employee and visitor risks are governed by health and safety regulations;</li> <li>○ Spills will be reported and remediated according to approved Waste Management and Spill Contingency Plans. Mitigations include: regular equipment maintenance (e.g., regular checks for leaks); all hazardous substances are stored and handled on site in accordance with applicable regulations; fuel is stored at central bulk fuel farms and fuel tanks are housed within bermed areas; the Project will follow Ekati’s standard policies in the event of a spill and includes spill response training; Hydrocarbon impacted material will continue to be handled in accordance with the management plan; spills (i.e., fuels, petroleum products, reagents) on site; A Spill Contingency Plan is in place for the Ekati Diamond Mine and will be updated to incorporate the Project; Regular equipment maintenance (e.g., regular checks for leaks); All hazardous substances are stored and handled on site in accordance with applicable regulations; Fuel is stored at central bulk fuel farms and fuel tanks are housed within bermed areas;</li> <li>○ Small amounts of domestic garbage or sewage may be on site prior to transfer to approved facilities at Main Camp. The risk of attraction of animals to the Project site is minimized by use of existing infrastructure;</li> <li>○ All Project components will be reclaimed according to the approved</li> </ul> </li> </ul>	<p>Based on Arctic’s response, it is the Board’s opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern.</p>
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<p>people (e.g. trappers, outfitters, residents, hunters, forest harvesters, other authorized projects)</p>		<p>Closure and Reclamation Plan, which seeks to provide for continued traditional uses of the land;</p> <ul style="list-style-type: none"> <li>○ Policies ensuring no hunting, no-fishing, and no recreational access onto the land are in place and govern all employees and visitors; and</li> <li>○ First aid and medical facilities, staff and emergency evacuation procedures are in place at the Ekati Diamond Mine and will encompass the Project.</li> </ul> <ul style="list-style-type: none"> <li>• The Board has standard Licence/Permit conditions which are typically used to mitigate the described impacts: <ul style="list-style-type: none"> <li>○ Waste Management Plan;</li> <li>○ Spill Contingency Plan.</li> </ul> </li> </ul>	
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#### 4.1 Consideration of Potential Impacts

Based on the potential impacts and proposed mitigations identified above in Table 1, the Board considered whether the changes to the Project might have a significant adverse impact on the environment. More detailed consideration of specific potential impacts and associated mitigations related to water quality are discussed in section 4.1.1 below. In general, impacts of the changes to the Project on the environment can be mitigated through the use of permit and/or licence conditions of two general types:

1. conditions in the existing Permit and/or Licence, including requirements for management and monitoring plans, with revisions where necessary; and
2. new or unique conditions that may be needed to mitigate potential impacts of the changes to the Project that may not be addressed by the conditions in the existing Permit and/or Licence, and which may be from the Board's standard conditions list or established by the Board as per the LWB [Standard Process for Creating New Conditions](#).

These conditions may include requirements for management and monitoring plans that provide detailed information regarding the implementation of mitigation measures and the evaluation of their effectiveness.

The conditions for the Water Licence and mining permit will be discussed in further detail by all Parties through the regulatory proceeding and will be finalized by the Board following completion of the regulatory proceeding. In finalizing the conditions for the Water Licence and Mining permit, the Board will consider all of the evidence provided through the regulatory proceeding.

A draft Permit for the early works activities was provided with the Application and was circulated for review. All Parties were given the opportunity to provide comments and recommendations on the draft conditions.

##### 4.1.1 *Water Quality*

Arctic provided updated water quality modelling results with the Application to inform whether water from Two Rock Sedimentation Pond (TRSP) would continue to meet Effluent Quality Criteria (EQC) as defined in the Water Licence with operation of the SUG Project. During the Public Review of the Application, several comments and recommendations were made by Parties regarding water quality and the predictions made in the model.

Reviewers had comments on whether the assumption of full mixing of the effluent from the TRSP with Horseshoe Lake was conservative enough (ECCC comments 2 and 9; GNWT-ECC comment 8). Arctic responded that the results of the near-field model suggests that at Two Rock Sedimentation Pond (TRSP) outfall, the mixing and dilution is expected at a proposed 100 m defined mixing zone of Horseshoe Lake. The Board previously approved the 100 m mixing zone but did require model verification to confirm there is a balance between the model being conservative enough to meet benchmarks and also accurate to meet



the Board's waste minimization objectives.<sup>19</sup> The next model verification is meant to come in with the Two Rock Plume Delineation Report which will be submitted in conjunction with the next discharge event. Through the Licence amendment proceeding, the Board could require an update to the model if warranted.

Reviewers also commented on the rationale for the assumptions made regarding water quality concentrations that were used in the model, including the rationale for the statistical values used (e.g., average vs. 95<sup>th</sup> percentile) (ECCC comments 4, 5, and 6; GNWT-ECC comments 5, 6, and 7). ECCC asked Arctic to clarify the conditions represented by the source terms for Sable Pit Sump water quality (comment 5). Arctic responded that it used average data from the Misery Underground Project since the hydrogeologic conditions are expected to be similar at SUG (response to ECCC comment 5). For the runoff and seepage from the Waste Rock Storage Area (WRSA), when asked why it used the average concentrations (as opposed to other statistics), Arctic indicated that there was only a small dataset to use and therefore an average concentration was used to represent runoff/seepage contributions (response to ECCC comment 6). In response to a recommendation to provide a sensitivity analysis for the water quality concentrations from the seepage/runoff from the WRSA, Arctic indicated that runoff and seepage from the WRSA has been minimal to date from the Sable site and therefore not amenable to statistical analysis (response to GNWT-ECC comment 6). When asked why the data for establishment of the natural runoff was pooled, Arctic indicated that the natural runoff water quality included in the model was characterized using pooled baseline data prior to influences of mining activity (response to ECCC comment 4). Arctic was also asked which statistical value was used as the input for the Sable Pit sump water quality, to which Arctic responded it used the average water quality concentrations for the Sable Pit sump which it said was reasonable (response to GNWT-ECC comment 5). Given there were several comments on the data used in the model, further discussion on this topic is anticipated to take place during the Technical Session. As mentioned the Board could require an update to the model if warranted.

Arctic predicted that the effluent quality criteria (EQC) for nitrate-N in the TRSP will be exceeded from October to May 2029-2031 when deep Sable Underground minewater is added. Many reviewers commented on the predicted exceedances and what mitigations Arctic would be putting into place to prevent the exceedances (TG comments 2-8; ECCC comment 8). Arctic indicated that a number of feasible adaptive management responses to poor water quality in TRSP have been identified and were included in Section 6.4.3 of the Project Description Report. Arctic also indicated that mitigations and management techniques identified in the Nitrogen Response Plan, in addition to strategically timing the Discharge in the open-water season, are expected to reduce source input to TRSP through SUG operations. Arctic also indicated that there are source control practices that can be used during blasting to reduce nitrate; these practices were not accounted for in the model.

Arctic indicated in the Project Description Report that one of the contingencies for non-compliant water

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<sup>19</sup> See WLWB Online Registry for [Ekati - Two Rock Outfall Report Version 3.1 Plume Delineation Report Version 1- Reasons for Decision - Apr 28 23](#)

in TRSP involves trucking it to a Processed Kimberlite Containment Area (PKCA). GNWT-ECC asked Arctic under what circumstances would non-compliant minewater be trucked to a PKCA (comment 12). IEMA voiced concerns of a build up of mine impacted water across the site if they did have to move the minewater from SUG (comment 10). Arctic responded that trucking water is not a preferred mitigation but might be pursued if it was the only feasible means of preventing an intentional discharge of non-compliant water from TRSP. Arctic also indicated that other adaptive management techniques could be used (as described in the Project Description Report), depending on the circumstances. Again, as Arctic indicated, it must comply with the EQC before the water is discharged from the TRSP to Horseshoe Lake; otherwise, Arctic would be out of compliance with its water licence and would be required to cease discharge, among other licence requirements.

Reviewers recommended that water quality model results be provided for nearby Ulu Lake and a discussion on any potential impacts on the aquatic environment (GNWT-ECC comments 2 and 3; IEMA comment 8). Arctic responded that no (or minimal) additional changes to water chemistry in Ulu Lake are expected as a result of the Project, due to the small quantities of Waste Rock (of same geochemical composition) that will be produced, and given that the Waste Rock will be placed at an existing facility. Arctic indicated that the waste rock generated from underground mining is expected to be non-acid generating and the quantities of waste rock are minor compared to what has been deposited previously (i.e., 1% of the total amount of waste rock already placed in the WRSA from the open pit). Therefore, Arctic reported no changes to water chemistry in surrounding lakes are expected.

Based on the described mitigations, considerations, and options available to the Board, including further discussion of the water quality model at the Technical Session, it is the Board's opinion that the proposed activities will not have a significant adverse impact on the environment and will not be a cause of public concern.

#### **4.2 Consideration of Public Concern**

In addition to considering the potential impacts of the changes to the Project, the Board considered whether the changes to the Project might be a cause of public concern.

Based on the evidence provided during the regulatory proceeding thus far, the Board did not identify any comments or issues that indicate that the Project is a cause of public concern.

#### **5.0 Conclusion**

The Board completed previous preliminary screenings and the Ekati project has undergone previous environmental assessments of the Project; however, the Applications include proposed changes to the Project. Accordingly, the Board has determined that Project activities that have already been subject to Part 5 of the [MVRMA](#) are exempt from preliminary screening under Part 1, Schedule 1, section 2.1 of the Exemption List Regulations to the MVRMA. The Board has conducted a preliminary screening of the proposed changes to the Project.

The Board has reviewed all the evidence received during the regulatory process with respect to the Preliminary Screening of the changes to the Project. Based on the evidence, it is the Board’s opinion that the proposed changes to the Project will not have a significant adverse impact on the environment or be a cause of public concern, as set out in paragraph 125(1)(a) of the [MVRMA](#). The Board has therefore decided not to refer the proposed changes to the Project to Environmental Assessment.

If the Board does not receive a notice of referral to environmental assessment by July 8, 2024, the Board will resume the regulatory proceeding.

SIGNATURE



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**Mason Mantla, Chair**  
**Wek’èezhìi Land and Water Board**

June 28, 2024

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**Date**