

# Summary of the “Justification for the Use of Waters Frequented by Fish as Mine Waste Disposal Areas” prepared by the Arctic Canadian Diamond Company Ltd., dated March 2021

## Context

Following a review of information previously submitted by the Ekati Mine, a diamond mine in the Northwest Territories, it was determined that fish are present in three water bodies that are being used for mine waste (e.g. tailings) management. These water bodies are known as Cells D and E of the Long Lake Containment Facility (Figure 1) and Two-Rock Sedimentation Pond (Figure 2). In Canada, Section 36(3) of the *Fisheries Act* prohibits the deposit of deleterious substances in waters frequented by fish. The *Metal and Diamond Mining Effluent Regulations* (MDMER) contain provisions to allow mine owners and operators to dispose of deleterious materials such as mine waste into fish-frequented waters if certain conditions, such as the implementation of a fish habitat compensation plan, are met.



The Ekati Mine, a diamond mine in the Northwest Territories

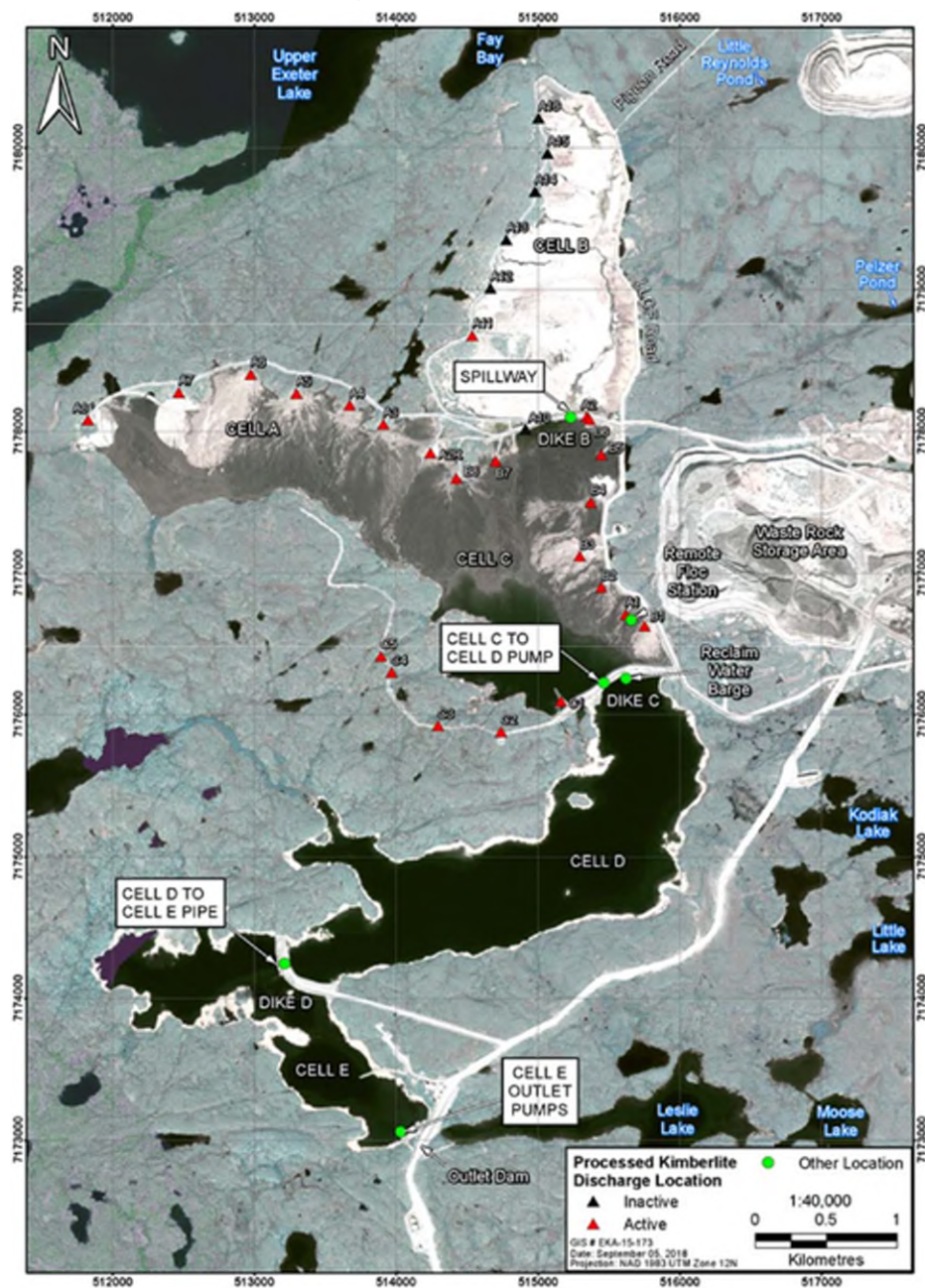
The Ekati mine was previously authorized to use water bodies to manage its mine waste under a separate authorization, as the MDMER did not apply to diamond mines before 2018. The authorization came from the Department of Fisheries and Oceans (DFO), under section 35 of the *Fisheries Act*.

This authorization required that the mine develop and implement plans to compensate for the loss of fish habitat caused by the use of the water bodies for mine waste management. An Environmental Assessment also identified that using these water bodies was the most suitable option for mine waste management.

Cells D and E of the Long Lake Containment Facility as well as Two-Rock Sedimentation Pond have been successfully used to manage mine waste for multiple years up until the present day. Their approval has gone through rigorous scrutiny and public review. This Schedule 2 authorization process will bring the mine into compliance with the [new] MDMER and the *Fisheries Act*.



**Figure 1:** Map of the Long Lake Containment Facility, showing Cells D and E (bottom)



**Figure 2:** Map of Two Rock Lake, currently known as Two Rock Sedimentation Pond



## Overview

Generally, the MDMER can allow mine owners and operators to use fish-frequented water bodies to manage mine waste if they can assess other options and prove that the chosen locations for mine waste disposal impacting fish-bearing waters represent the best options from environmental, technical, economic and socio-economic perspectives. The mine must also develop a compensation plan to counterbalance the loss of fish habitat resulting from the disposal of mine waste.

In the case of the Ekati mine, since the mine's waterbodies have already been reviewed, approved, and compensated for, ECCC requested that the mine justify the continued use of these three waterbodies to dispose of mine waste. The associated document was prepared by the Ekati Mine and includes:

- a description of the fish habitat in the waterbodies before being used for mine waste management;
- a description of the existing compensation for this loss of fish habitat;
- a justification for why the Ekati mine must keep using the water bodies and why doing so is the best option for mine waste management;
- information on the current and future operations of the mine; and
- details on mining processes as well as mine waste and water management.

## Conclusion

The Ekati Mine requires the use of all three waterbodies for mine waste management purposes. Not doing so would be detrimental to the mine's ability to continue its mining operations for economic reasons. The mine also lacks suitable alternatives for mine waste management. New waterbodies would possibly need to be considered, the use of which may cause environmental impact.

Furthermore, no additional compensation is required for the waterbodies as the existing compensation under S.35 of the *Fisheries Act* meets the requirements of the MDMER.

ECCC and DFO do not expect any new impacts to fish and fish habitat resulting from the Schedule 2 authorization. Hence, no additional fish habitat compensation measures are required under the MDMER. The Ekati Mine will continue to use these three water bodies for mine waste management as previously approved by DFO under the *Fisheries Act*.

The MDMER helps protect Canada's lakes and rivers by setting strict limits on the quality of effluent that can be discharged by the mine. These limits, and other elements of the MDMER, such as environmental effects monitoring, still apply to the Ekati mine.