

# Dominion Diamond Corporation

Jay Project Developer's  
Assessment Report

Closure and Reclamation Plan

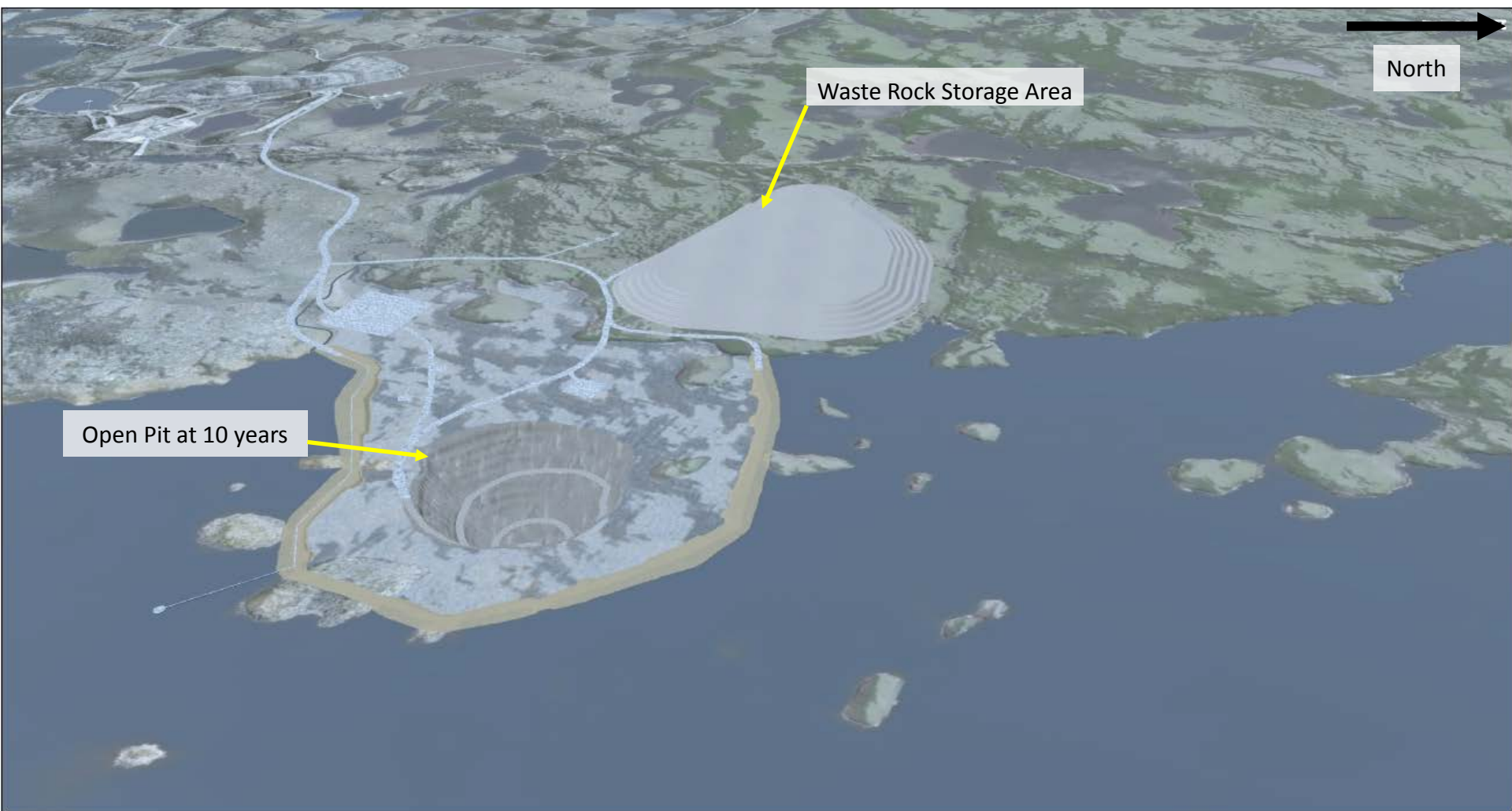


# Jay Project Closure and Reclamation Plan

## Agenda

- Summary of Jay Project Development
- Closure and Reclamation for Jay Project
- Progressive Reclamation during the Jay Project
- Closure and Reclamation for Ekati Mine Facilities

# Jay Project – End of Operations



# Jay Project Closure and Reclamation Plan

Section 3 Appendix 3B presents a Jay Project Conceptual Closure and Reclamation Plan

The reclamation goal for the Ekati mine is *“to return the Ekati Mine site to viable, and wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment, human activities, and the surrounding environment.”*

“Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories” issued by the Mackenzie Valley Land and Water Board (MVLWB) and Aboriginal Affairs and Northern Development Canada (AAND) have been considered for the development of the closure and reclamation activities





# Jay Project Closure and Reclamation Plan

## Jay Project Facilities:

- new facilities introduced by the Jay Project (Jay Dike, Pit, Jay waste rock storage area)
- existing facilities that are modified by the Jay Project (Lynx, Misery, Panda and Koala Pits)

## Existing facilities used by Jay Project:

- processing facilities, Ekati main camp, Misery camp, Misery Road, long lake containment facility (Cell D and Cell E)

## Progressive Reclamation Opportunities (during operation of the Jay Project):

- Lynx Pit, Pigeon Pit and long lake containment facility (Cells A, B and C)

# Jay Project Facilities - Closure and Reclamation Plan

## New facilities

- Jay Pit: back-flooded using water from Misery Pit and Lac du Sauvage
- Within diked area: back-flooded using water from Lac du Sauvage
- Jay waste rock storage area: wildlife egress ramps, cover layer of non-PAG, levelling upper surface to discourage snow accumulation
- Sub-Basin B diversion channel: return drainage back through natural drainage pattern
- Buildings and infrastructure will be reclaimed following the existing Ekati Interim Closure and Reclamation Plan (ICRP)
- Jay Dike: locally breached to provide hydraulic connection with Lac du Sauvage

# Jay Project Facilities – Closure and Reclamation Plan

Existing Ekati Mine facilities modified by Jay Project:

- Lynx Pit will be back-flooded using water that comes from dewatering of the Jay Pit area. Water will initially have elevated levels of total suspended solids which will settle with time. This accomplishes the proposed reclamation of the Lynx Pit using water from Lac du Sauvage rather than from Lac de Gras
- Misery Pit will be used for water management during the Jay Project. Reclamation will involve pumping portion of water contained in Misery to the Jay Pit then a freshwater cap (planned 60 m) will be placed
- Panda and Koala Pits will be used as containment areas for fine processed kimberlite. Closure will involve creation of a freshwater cap (planned 30 m)

# Jay Project – Progressive Closure and Reclamation

## Progressive reclamation opportunities

- Reclamation research will continue, which can enhance final closure and reclamation plans
- Cells A, B and C of the LLCF will be progressively reclaimed, as per approved ICRP, during the Jay Project
- Pigeon Pit will be flooded due to potential concerns with exposed meta-sediment in the pit walls after open-pit mining operations have ceased. Flooding activities will occur during the Jay Project and will be completed as described in the existing approved ICRP.





# Jay Project– Closure and Reclamation Plan

- Processed kimberlite will go in open pits where mining is complete
- Closure and Reclamation includes back-flooding with fresh water cap over processed kimberlite



# Jay Project Closure and Reclamation

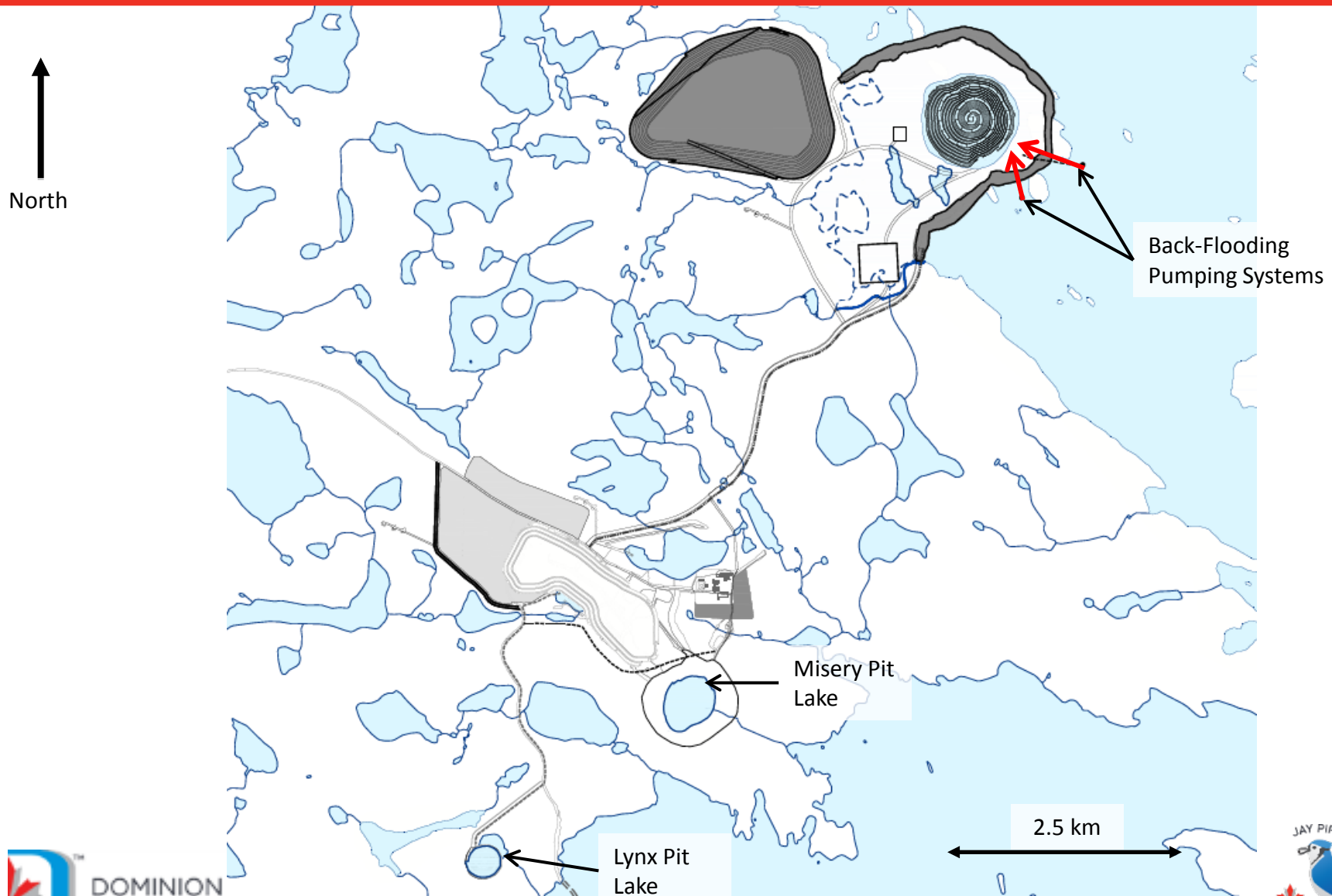
Misery Pit, Jay Pit and the diked area will be back-flooded

Back-flooding will occur in the following sequence over approximately 4 years:

- Top 60 m of Misery Pit minewater will be pumped to the lower part of the Jay Pit
- Water from Lac du Sauvage will be pumped to back-flood the top 60 m of the Misery Pit and the remaining part of the Jay Pit to create a freshwater cap
- Water from Lac du Sauvage will be pumped to back-flood the diked area
- Jay Dike will be strategically breached in several locations

Area	Estimated Time for Back-Flooding	Back-Flooding Volume (million m <sup>3</sup> )
Jay Pit	3 years and 1 month	94
Diked Area	8 months	27
Total	3 Years and 9 months	121

# Mine Water Management – Dewatering Pumping and Pipelines



## Mine Water Management – Closure Stage – Dike Breaches and Decommissioning of Sub-basin B Diversion Channel

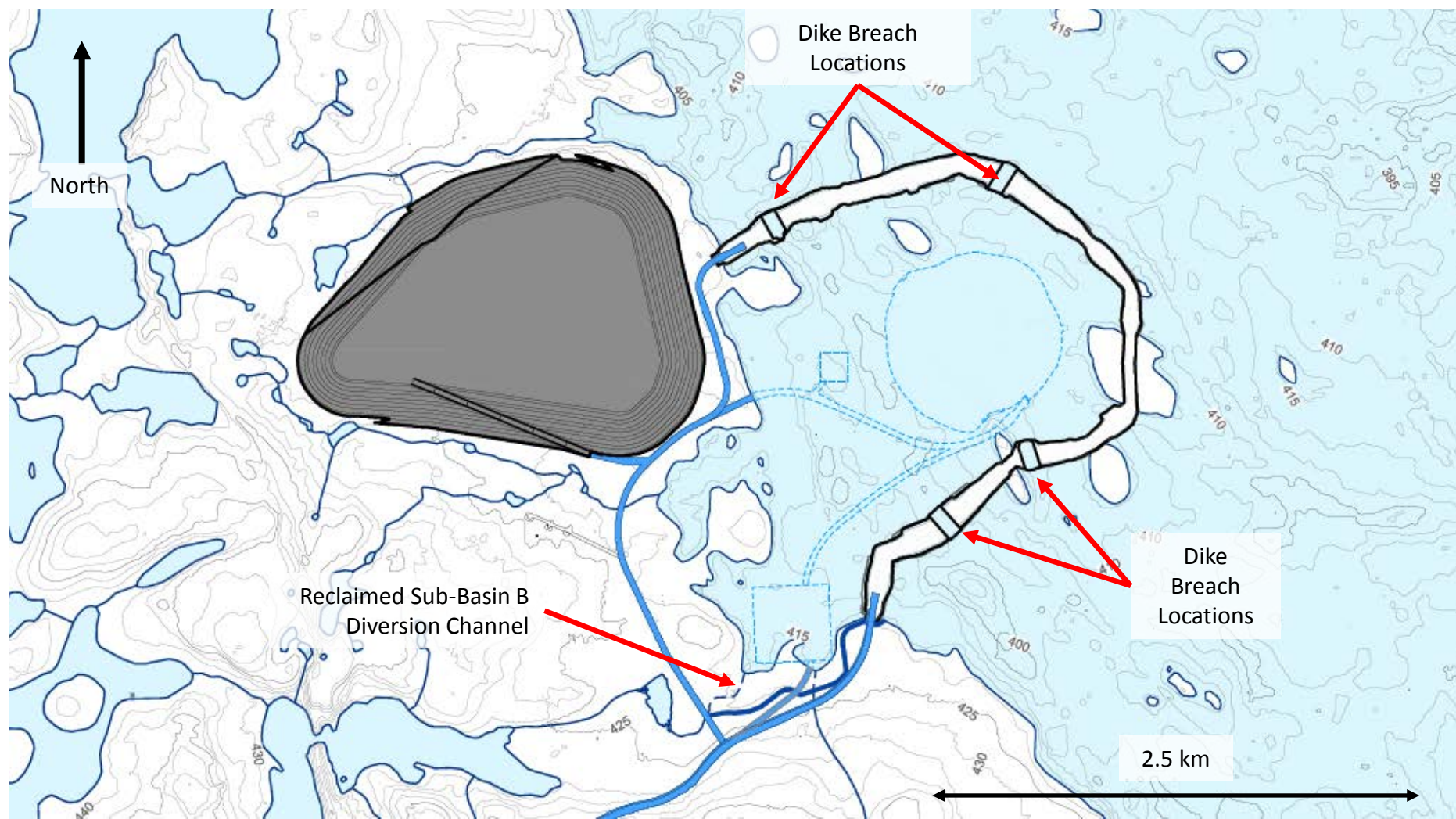
At completion of back-flooding and once water quality in the back-flooded area is proven to be suitable for mixing with the natural lake, the Jay Dike will be locally breached and the Sub-basin B diversion channel will be reclaimed.

The dike will be breached in 4 locations to a depth of approximately 2 to 3 m below the minimum water level at Lac du Sauvage to account for ice formation, fish movement, and navigable water requirements.

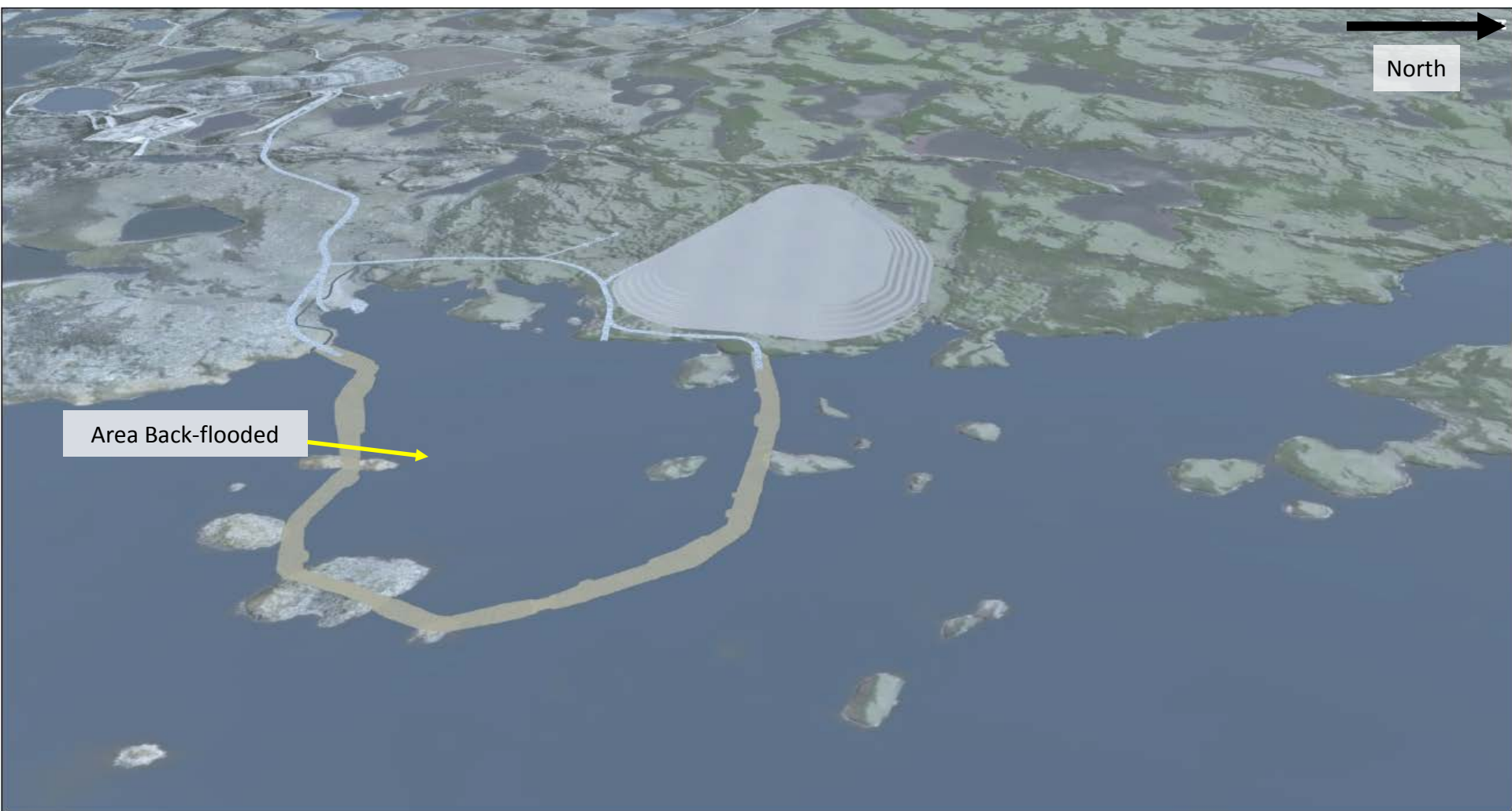
The Sub-Basin B Diversion Channel will be re-graded to promote drainage through the natural drainage pattern to Lac du Sauvage. The reclaimed diversion channel will be made safe for movement of wildlife and people.



# Mine Water Management – Closure Stage – Closure Back-flooding

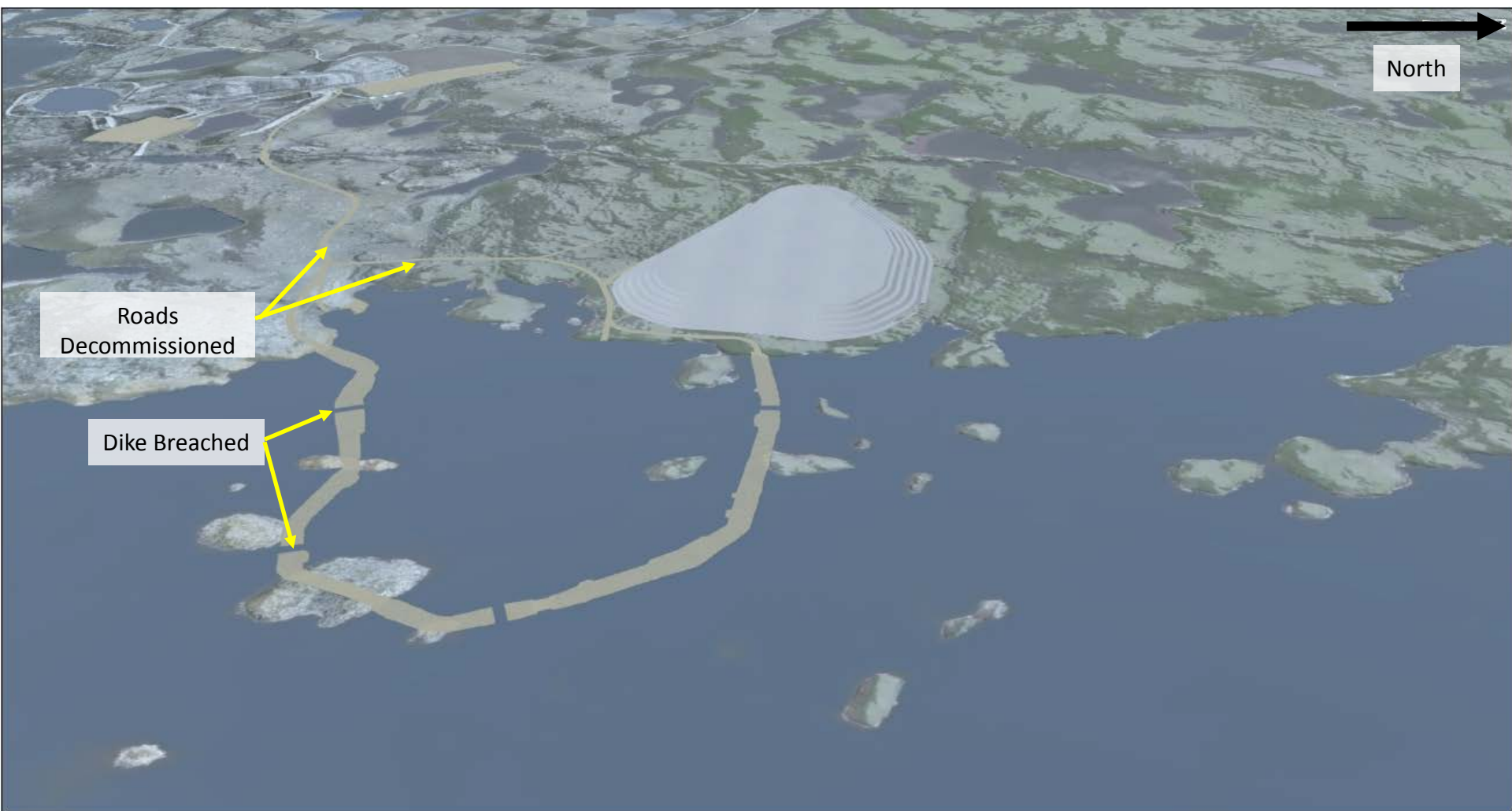


# Jay Project - Closure





# Jay Project - Post-Closure



# Jay Project– Closure and Reclamation Plan



## Buildings and Infrastructure

Roads and laydown pads will be decommissioned once no longer required

Pipelines and Power lines will be removed

Buildings will be dismantled and disposed of at the on-site landfill

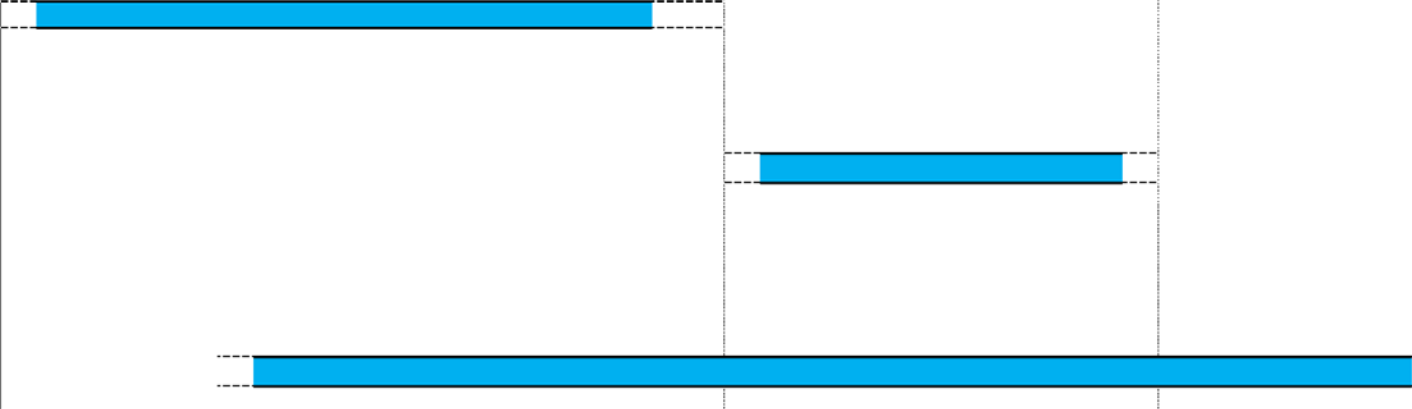


# Jay Project Ekati Facilities Closure and Reclamation Plan

The use of the following Ekati Mine facilities will continue during the Jay Project, and the closure and reclamation of these facilities will be carried out after the Jay Project operations have ceased and there is no further value in them. The closure and reclamation plan for the facilities listed below will not require significant modifications and in general will be undertaken as part of the existing approved ICRP:

- Processing plant and associated facilities
- Ekati main camp, airstrip, explosives storage and manufacture facilities, and associated facilities
- Misery camp and associated facilities
- Cells D and E of the existing LLCF
- Misery Road

# Jay Project Closure and Reclamation Schedule

	Operations (~10 yrs)	Closure (~3 to 4 yrs)	Post-closure
<b>Progressive Reclamation</b>			
LLCF Cells A/B/C			
Pigeon Pit			
Other facilities <sup>(a)</sup>			
<b>Jay Project and Related Facilities<sup>(b)</sup></b>			
Jay Dike/diked area			
Jay Pit/Misery Pit			
Lynx Pit <sup>(c)</sup>			
Panda Pit/Koala Pit			
Building and infrastructure			
<b>Monitoring and Maintenance<sup>(d)</sup></b>			

a) Other facilities may be evaluated for progressive reclamation on a case-by-case basis.

b) Reclamation of Jay Project facilities takes place over a three-year period, except the Jay Dike/diked area over four years.

c) Lynx Pit shown with Jay Project facilities because it serves as an operational contingency through operations.

d) Monitoring and Maintenance typically considers a component-specific 5- to 10-year timeframe following reclamation of individual components.

yrs = years; ~ = approximately; LLCF = Long Lake Containment Facility.

# Questions?

