



April 30, 2025

Mason Mantla,
Chair
Wek'èezhii Land and Water Board
#1, 4905 – 48th Street
Yellowknife, NT, X1A 3S3

Dear Mr. Mantla:

Re: W2022L2-0001 - Ekati Diamond Mine 2024 Aquatic Effects Monitoring Program Annual Report

Arctic Canadian Diamond Company Ltd. (Arctic Canadian) is a wholly owned subsidiary of Burgundy Diamond Mines Ltd. (Burgundy) and is pleased to provide the Wek'èezhii Land and Water Board (the Board) with the 2024 Aquatic Effects Monitoring Program (AEMP) Annual Report for the Ekati Diamond Mine. The AEMP Annual Report is submitted under Part J, Item 6, of Water Licence W2022L2-0001.

The 2024 AEMP was conducted as specified in the approved Ekati Diamond Mine: AEMP Design Plan for 2023 to 2025, Version 8.1 and associated Addendum (collectively, the Plan), which were approved by the Board on December 15, 2023¹ and October 8, 2024².

The 2024 AEMP included the following program components:

- under-ice and open-water season physical limnology and lake water quality;
- open-water season stream hydrology;
- open-water season stream water quality;
- open-water season aquatic biology (i.e., phytoplankton, zooplankton, lake and stream benthos, and small- and large-bodied fish).

The 2024 AEMP Annual Report includes a summary of the 2024 AEMP and Aquatic Response Framework reporting. In addition to the Executive Summary, the main 2024 AEMP Annual Report is comprised of two parts:

- Part 1 – Annual Report; provides summaries of the methods used to evaluate potential mine-related changes in the aquatic environment and the results of those assessments; and
- Part 2 - Statistical Report; provides the detailed methods used to assess change in the

¹ [Ekati - AEMP - 2023-2025 AEMP Design Plan Version 8.1 - Decision Letter - Dec 15_23.pdf](#)

² [Ekati - AEMP - Plankton and Benthos RP V 3.3 and ARF Addendum - Conformity Confirmation - Oct 8_24.pdf](#)



aquatic environment and the detailed results of the statistical analyses reported in Part 1.

The 2024 AEMP water quality data were compared to the Aquatic Response Framework Action Levels following receipt of the laboratory data files in the spring and fall of 2024 and the Board was notified of the identified Action Level exceedances, except for total phosphorus and biological variables. As defined in the Plan, total phosphorus and biological variables are compared to the Action Levels and presented to the Board in the 2024 AEMP Annual Report. Table 1 outlines the Action Level exceedances identified for these variables in 2024. Additional details about these Action Level exceedances are provided in the 2024 AEMP Report – Part 1, Appendix B.

Table 1: 2024 Aquatic Response Framework Action Level Exceedances for Total Phosphorus and Biological Variables

Variable	Lake where Action Level was Exceeded		
	Low Action Level	Medium Action Level	High Action Level
Koala Watershed and Lac de Gras			
Phytoplankton community composition	Leslie	-	-
Zooplankton community composition	Leslie, Moose	-	-
Slimy Sculpin catch per unit effort	Kodiak, Leslie, Moose	-	-
Slimy Sculpin whole body mercury concentration	Kodiak, Leslie, Moose	-	-
Slimy Sculpin whole body selenium concentration	Leslie, Moose	-	-
Lake Trout muscle mercury concentration	-	-	Kodiak, Leslie, Moose
Lake Trout muscle selenium concentration	Moose	Leslie	-
Round Whitefish muscle mercury concentration	-	Kodiak	Leslie, Moose
Round Whitefish liver mercury concentration	Kodiak, Leslie, Moose	-	-
Round Whitefish muscle selenium concentration	Moose	Leslie	-
Round Whitefish liver selenium concentration	Leslie, Moose	-	-
King-Cujo Watershed and Lac du Sauvage			
Open-water season total phosphorus concentration	Cujo	-	-
Phytoplankton biomass	-	Cujo	-
Zooplankton community composition	Cujo	-	-
Slimy Sculpin catch per unit effort	Cujo	-	-
Slimy Sculpin whole body mercury concentration	Cujo	-	-



Lake Trout muscle mercury concentration	-	-	Cujo
Round Whitefish muscle mercury concentration	-	Cujo	-
Round Whitefish liver mercury concentration	Cujo	-	-
Round Whitefish muscle selenium concentration	Cujo	-	-
Round Whitefish liver selenium concentration	Cujo	-	-
Pigeon-Fay and Upper Exeter Watershed			
<i>No total phosphorus or biological Action Level exceedances were identified.</i>			
Horseshoe Watershed and Lower Exeter Lake			
<i>No total phosphorus or biological Action Level exceedances were identified.</i>			
Point Lake Development Lakes			
<i>No total phosphorus or biological Action Level exceedances were identified.</i>			

The current Response Plan for Total Phosphorus, Version 2.1 addresses low Action Level exceedances for open-water season total phosphorus concentrations in Cujo Lake. Version 2.1 was submitted to the Board in October 2021 and approved in April 2022 (see further description of Response Plans in the 2024 AEMP Report – Part 1, Appendix B). No update to this plan is necessary.

The current Response Plan for Plankton and Benthos, Version 3.3 addresses the low Action Level exceedances for phytoplankton and zooplankton community composition in Leslie, Moose, and Cujo lakes. This plan will be updated to address the medium Action Level exceedance for phytoplankton biomass in Cujo Lake in 2024, since a medium Action Level for phytoplankton biomass has not previously been exceeded. The Response Plan for Fish will also be updated to address the low Action Level exceedances for catch per unit effort and medium and high Action Level exceedances for mercury and selenium in fish tissues in 2024. Both plan updates will be submitted to the Board by July 29, 2025.

Burgundy trusts that you will find this to be clear and informative. Should you have any questions please contact the undersigned at Sheila.Chernys@burgundydiamonds.com or 403-910-1933.

Sincerely,

Original signed by Sheila Chernys

Sheila Chernys

Head, Health, Safety, Environment, Communities and Training