Independent Environmental Monitoring Agency

PUBLIC WATCHDOG OF EKATI DIAMOND MINE

2024-2025 ANNUAL REPORT

Independent Environmental Monitoring Agency

A PUBLIC WATCHDOG FOR ENVIRONMENTAL MANAGEMENT AT EKATI DIAMOND MINE

Independent
Environmental
Monitoring Agency

PUBLIC WATCHDOG OF EKATI DIAMOND MINE

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Message from the Chair

I am pleased to present the 2024 Annual Report on behalf of the Independent Environmental Monitoring Agency. Joining the Independent Environmental Monitoring Agency in 2024 for me bookends an association with the Ekati Diamond Mine that dates back to the days of exploration and Weatherhaven tents.

The Ekati Diamond Mine was the first diamond project to be proposed in Canada, located on traditional lands of the Indigenous peoples in a pristine and environmentally sensitive area of the Northwest Territories. In 1994 we looked at the potential effects that could occur if the Ekati Diamond Mine was built and operated, acknowledging that we didn't know what we didn't know, so further measures were needed. In addition to the extensive monitoring programs and comprehensive management plans required by regulatory permits, the Environmental Agreement (EA), a legally binding commitment between the federal and territorial governments and the company that owns the Ekati mine, was put into place in 1997 to establish the Independent Environmental Monitoring Agency.

The EA set out its role, which is to:

- provide an integrated approach to protection of land, water, wildlife and the land-based economy as being essential to well-being and way of life of Indigenous peoples;
- to facilitate the use of holistic and ecosystem-based approaches for the monitoring, management and regulation of the Project;
- to provide advice to the mine owner to assist them in managing the Project consistent with these purposes;
- to maximize the effectiveness and co-ordination of environmental monitoring and regulation of the Project;
- and to facilitate effective participation of the Aboriginal Peoples and the general public in the achievement of these purposes.

The mandate of the Agency is set out in further detail in the EA and includes serving as a public watchdog of the regulatory process, maintaining a public repository for data, reports and records, and fulfilling a communications role in sharing information between Indigenous Peoples, the public, the mine,

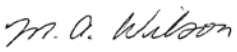
and regulators. Given hindsight, I have been reflecting on how effective the Agency has been in improving environmental protection for this mine and in holding regulators accountable.

Over the decades since its creation the Agency has represented an objective, balanced, well-informed and strong voice for environmental protection, with a team of dedicated Agency members bringing the right mix of expertise to the table. I am excited to join them and to continue with this important role!

This Annual Report is one of the ways we seek to bring information forward and to highlight activities and developments associated with the Ekati Diamond Mine.

The 2024-25 Annual Report summarizes summarizes our activities over the past year and provides an assessment of how environmental management is being conducted at the Ekati Diamond Mine.

I would like to encourage communities and organizations that have any questions or would like to discuss any aspects of environmental management at the mine to contact the Agency – we would be happy to meet and talk about any concerns or questions, or to arrange community meetings.



Anne Wilson
Chairperson

Sable Pit with morning fog, October 2024

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Sable effluent flow path, October 2024

Plain Language Summary

Current activities

Through 2024, the Ekati mine processed kimberlite ore form Sable Open Pit and Misery Underground. At the end of 2024, mining activities started at the Point Lake Open Pit. In May 2025, open pit mining was completed at the Sable Pit. On July 18, 2025, Burgundy Diamond Mines Ltd. (Burgundy) announced mining at Point Lake would be temporarily paused. This means that all the ore is coming from the Misery Underground with some low-grade ore from Fox Pit stockpiles. Burgundy shared a new Life of Mine Plan in July 2025. It predicts mining will extend from 2029 to 2040.

Before Point Lake mining stopped, the top layer of rock was removed and stored in the overburden stockpile. A channel and pond were built to collect runoff from the waste rock pile.

Exploration

In 2024, there was no exploration drilling on the Ekati claim block. More kimberlite ore was found below the Misery Underground. Burgundy will mine deeper underground to access this ore.

Permitting and Applications

In 2024, Burgundy applied to extend mining at the Sable Pit. The application was to allow Burgundy to mine Sable underground. Burgundy started the Wek'eezhıı Land and Water Board's (WLWB) regulatory process for the project but withdrew the application the day before the public hearing. In a letter, Burgundy told stakeholders it needed more time to collaborate with Indigenous parties and that there was a renewed focus on the Misery Underground.

Cumulative effects and Regional Monitoring

The Ekati mine contributes to cumulative effects on wildlife and habitat over time because the effects of the mine's activities combine with the effects of other developments and activities in the region. Burgundy is responsible for managing its contributions to cumulative effects through a combination of environmental monitoring, adaptive management strategies, and mitigation measures.

These cumulative effects are monitored and managed through the Wildlife Management and Monitoring Plan (WMMP) which uses adaptive management to adjust mitigation and monitoring strategies over time. The WMMP applies to the mine footprint and does not include the Joint Venture Tibbitt to Contwoyto Winter Road (Winter Road). The Winter Road affects barren-ground caribou through impacts to movement from truck traffic and by creating easier access for hunters.

The caribou winter distribution often overlaps with the Winter Road, and this occurred during the 2024-2025 season. The public and others were concerned about meat wastage and excessive harvesting, especially of pregnant female caribou.

While the Agency focuses its review efforts on activities associated with the mine footprint, including cumulative impacts in a regional setting, we are also concerned with effects that are indirectly linked to the mine and that contribute to cumulative effects. The Agency believes the impacts to caribou movement and the greater access for hunters from the Winter Road create a high potential for disturbance to caribou and contribute to cumulative impacts arising from the Ekati mine. The existing WMMPs for all contributing mines does not extend to the Winter Road operations, however a draft WMMP for the Winter Road has been developed.

The Agency appreciates the community monitors and guardian programs from the North Slave Métis Alliance, Tłı̨chǫ Government and Yellowknives Dene First Nation and the work they have been doing along the Winter Road in recent years to promote legal and respectful harvesting amongst people on the road.

Wildlife

Wildlife Effects Monitoring Program (WEMP)

The Ekati mine monitors its effects on wildlife through their Wildlife Effects Monitoring Program (WEMP). This includes wildlife presence and management responses. The report covers a range of wildlife including caribou, grizzly bears, wolves, foxes, wolverines, birds (such as falcons, hawks, ravens and migratory birds) and habitats. The data and observations within the report are generally reported clearly. The Agency is pleased that examination of collar data from male caribou are now included in the report.

As the Agency has stated many times in the past, the company needs to integrate datasets. This would help us better understand caribou movement and distribution at the mine and could make monitoring more effective.

Caribou near the mine, photo courtesy of Ekati Diamond Mine

Caribou Activity Level sign showing high caribou activity in the area, October 2024

Caribou Road Mitigation Plan (CRMP)

The objective of the CRMP is to reduce the impacts on caribou from roads and vehicle traffic. The plan uses caribou observations, and locations and movements of collared caribou near mine infrastructure as Action Level triggers. These initiate more intense monitoring and mitigation. In 2024, the red alert level (high risk) was in place from February 29 through October 19. The following was also reported:

- 51 traffic delays due to wildlife (104 hours of loss of equipment operating hours)
- 81 short-term road closures and work stoppages.

Wildlife-vehicle mortalities

There were two reported caribou-vehicle mortalities in 2024, the first ever reported since the start of the mine. The first incident happened in July 2024, when a young male caribou was struck by a vehicle on the Sable Haul Road. The second incident occurred in November 2024, when a calf ran into a stopped vehicle on the Misery Haul Road and succumbed to its injuries.

Traffic monitoring

Remote cameras were installed in various locations along the Misery and Sable haul roads in 2023 and near the Point Lake Development in 2024. The main objective of the cameras is to record vehicle passages along active roads. The camera success rate was very low in 2024, meaning the cameras were only recording 47% (Misery Road), 70% (Sable Road) and 37% (Point Lake Road) of days. Burgundy claims this was due to camera mount failure, snow cover, and battery failure. From the data available, most of vehicle passages occurred on the Point Lake road.

Wildlife Management and Monitoring Plan (WMMP)

The current WEMP is being renamed to the Wildlife Management and Monitoring Program (WMMP). Updates to the WMMP started in June 2022 with workshops and comments from various stakeholders on how to improve the plan. Burgundy was expected to produce a final plan in March 2025, however, as of September 2025 no final plan is available.

Aquatics

Lakes downstream of the new Point Lake Development have been added to the watersheds affected by the mine (Koala, King-Cujo, Pigeon-Fay-Upper Exeter and Horseshoe). These watersheds are monitored by the Aquatic Effects Monitoring Program (AEMP). Leslie Lake has not received discharge from the Long Lake Containment Facility (LLCF) for the past two years as process plant effluent had been redirected to finished mine pits: Beartooth, Koala and Panda.

Monitoring Water

Iron levels are increasing in lakes downstream of effluent discharges. Iron levels are raised under-ice in Kodiak Lake, Fay Bay and Cujo Lake. It has increased to warning levels in Horseshoe Lake and the outflow steams of Horseshoe and Ulu lakes. The source of the iron in Ulu Lake is unknown. A plan to address increasing iron concentrations was submitted to the WLWB for review in February 2025 and with revisions was approved in June 2025.

Acidity (low pH) has been increasing with pH below the normal range for laboratory-measured samples downstream of the LLCF. These changes have been observed in various lakes since 2020.

The Agency believes that pH data measured in the field should be compared to pH results from lake water taken to a lab, and the results of these comparisons reported in each year's AEMP. It may be that field pH proves to be more accurate than lab pH, but the causes of lower lab pH should be determined before removing lab pH from results.

Monitoring Plankton

Phytoplankton has been monitored as the amount of individual edible and non-edible groups available to zooplankton. It would be useful to track the ratio of edible to non-edible phytoplankton every year to identify if there is a change in the amount of food available in the food webs over time.

Cujo Lake phytoplankton biomass exceeded a Medium Action Level for the first time since 2020, likely caused by increased phosphorus, a plant nutrient. Phosphorus itself reached the highest concentration ever recorded for Cujo Lake, exceeding an action level during the open water season. The zooplankton community composition has also changed slightly in Cujo Lake, as it has in Leslie and Moose lakes.

Monitoring Fish

Mercury

There is a significant increasing trend in mercury concentrations in Lake Trout in lakes directly downstream of mine effluent discharge from the LLCF and King Pond. Almost all trout sampled had mercury levels greater than the human consumption screening value set for the mine.

A special study from 2023 suggests particles of organic carbon and sulphate are creating conditions that convert mercury into a harmful form that fish cannot pass out of its body. That study was done in Kodiak Lake which is not downstream of effluent but still has high mercury levels in fish living in it.

Selenium

Selenium, linked to mine effluent from the LLCF, continues to increase in tissues of both harvestable fish species and minnow-sized fish (Slimy Sculpin) in Koala watershed lakes downstream of LLCF. Selenium in Leslie Lake Trout and Round Whitefish muscle continues to be high although slightly lower than in 2018. Selenium levels in Round Whitefish liver in Leslie Lake are greater than the warning level, as they have been in the previous three consecutive fish monitoring programs. However Burgundy believes that since Indigenous people don't eat livers from Round Whitefish this should not be a cause of concern. In 2023, selenium in bottom sediment was high in Leslie Lake where Whitefish feed, as it was for the previous three sediment monitoring programs. In Moose Lake sediments selenium levels climbed to their highest concentration ever.

Round Whitefish seem to be producing fewer eggs in lakes downstream of LLCF, and there have been smaller catches of sculpin. The concentrations of selenium measured in fish can impact fish ovaries and result in not as many young fish coming into the population. Given these findings, the Agency is concerned that we may be seeing the start of reduced reproduction in fish downstream of the LLCF.

Cell B of the Long Lake Containment Facility, October 2023

Air Quality

The Ekati mine monitors air quality to understand how mining activities affect the environment.

- Track weather conditions.
- Calculate greenhouse gas emissions.
- Monitor air pollutants.
- Measure dust levels.
- Study snow chemistry
- Sample lichen tissue.

Overall, the air quality remains good with a few exceptions. It was another very dry year and dustfall levels were high near the main haul roads. There were no exceedances for total suspended particulates (TSP) at the Grizzly Partisol monitoring station, however the 24-hour standard for TSP was exceeded 4 times at the Continuous Air Monitoring Building monitoring station between May and July 2024. Levels of fine particulate matter ($PM_{2.5}$) exceeded the 24-hour standard on several occasions. This may have occurred due to wildfire activity in the area.

The air quality monitoring equipment is aging and may need updating or maintenance to improve how much data are being collected. Data recovery rates have improved since 2023 but are still too low for $PM_{2.5}$ and could be improved for TSP.

Dustfall monitoring

Burgundy uses Envirokleen and water for dust suppression on many roads around the Ekati mine. Although it appears there was an increase in the extent of dust suppression application, the dustfall levels also increased. This is particularly noticeable within 90 m of the haul roads. In 2023, Burgundy discontinued dust monitoring stations near the Point Lake area. This leaves no dustfall monitoring in the project area. When mining continues at Point Lake, dustfall monitoring should be in place near the project area.

Waste Rock Management

Rock that is mined to access deeper kimberlite ore below is called waste rock. This waste rock material is transported to locations known as waste rock storage areas or rock piles. These waste rock piles require careful planning and management as they are permanent landscape structures that will stay on the land after the mine closes. In 2024, waste rock was mostly produced at the new Point Lake Development and Sable Open Pit, with small amounts from Misery Underground.

When water comes in contact with a rock pile it is referred to as seepage. This seepage must meet specific criteria before it can be released into the environment.

The Seepage Response Framework includes action levels and helps determine what steps to take when seepage does not meet criteria. A framework was submitted in May 2024; however, it was not approved, and Burgundy is required to address several concerns raised during the review.

Point Lake waste rock

In 2024, Burgundy started construction of a new waste rock pile and overburden stockpile for the Point Lake development. Waste rock from Point Lake pit is different from other waste rock at Ekati because almost all of the rock is metasediments. This means there is a greater potential for the rock to produce acid and release metals and other potentially harmful contaminants in seepage. Burgundy is required to collect the seepage in a collection channel and pond so it can be managed in the King Pond Settling Facility or in the Lynx Pit before it is released into the environment.

Sable pad extension

An extension of the Sable laydown pads was approved in 2024. The pads as they are approved extend outside of the existing disturbed watersheds. There was no preliminary screening or public review for these laydown area expansion requests. The GNWT concluded the expansion was within the scope for the existing Land Use Permit and Water Licence.

Seepage water quality surveying and testing

Sampling seepage occurs twice a year, during spring freshet and again in fall. Seepage samples are collected from where they are found to be coming out of a rock pile and are analyzed for water quality. The seepage is compared to historical data and long-term trends. If the water quality criteria are exceeded it is called a seep of potential concern. There were 30 seeps sampled in 2024 and 12 of these seeps are considered seeps of potential concern. General observations of the rock piles across the Ekati mine show:

- decreasing levels of nitrogen compounds suggest the ongoing flushing of explosive and blasting residue within the rock piles
- variable levels of dissolved metals and other parameters suggest there are still substances being released from the rocks and transported by seepage; and
- the pH levels in seepage continue to become less acidic.

There were 10 seeps that exceeded Water Licence criteria. These exceedances were located at Main camp, the Fox rock pile, the Point Lake Development and the Lynx crusher pad. Burgundy has installed silt curtains to catch the flow of some seeps while others were to be addressed in spring 2025.

Wastewater and Processed Kimberlite Management

Burgundy is authorized to discharge wastewater from specific locations if the water meets water quality criteria. In 2024, a total of 734,000 m^3 of wastewater was discharged from King Pond Settling Facility and the Two Rock Sedimentation Pond.

Burgundy used a total of 101,000 m^3 of water (fresh water and wastewater) for road watering. This is 2/3 the total amount of water used to control dust on the roads in 2023, which means less effort to control dust in 2024 than in 2023.

Point Lake Dewatering

Dewatering of Point Lake continued in 2024 with water being pumped from Point Lake to King Pond in July and August. The water in King Pond was then pumped to Lynx Pit or discharged to Cujo Lake. Burgundy planned to complete dewatering in 2022, however dewatering continued in 2023 and 2024.

King Pond discharge

During the discharge from King Pond Settling Facility in June and July 2024, Burgundy exceeded the maximum allowable average concentration for total aluminum.

Construction of the Point Lake seepage collection ditch, October 2024

The ammonium nitrate building, October 2024

Fine processed kimberlite and process plant water management

The process plant uses water from the LLCF to process the diamonds. This produces a slurry – a mixture of water and processed kimberlite ore. The LLCF continues to be the main source of water for the process plant however more water is removed compared to the volume of wastewater that is discharged into the LLCF. This creates a shortage of water that can be used from the LLCF. Through the 2023 Water Licence renewal application, Burgundy was allowed to use fresh water from upper Exeter Lake to meet the additional demands of the process plant. Although Burgundy did not use fresh water from upper Exeter Lake in 2024, the Agency is still concerned about the potential consequences of using fresh water instead of recycled water (wastewater that is separated from the fine processed kimberlite).

Dam Management

Burgundy made important progress to many aspects of the management of dams. This includes:

- dam safety review reports for the Long Lake Outlet Dam and Panda Diversion Dam
- dam classification assessments report
- updated Operations, Maintenance and Surveillance manuals for the processed containment area and water retention structures.

These are all important steps to ensure Ekati's dam management is in line with best practices. The Agency is pleased with this progress but there is still more work to be done. Creating an independent tailings review panel is the best practice for managing facilities like the LLCF and allows for independent expert oversight of the design, operation and closure of dams and ponds.

Closure and Reclamation

Closure planning progress

The Interim Closure and Reclamation Plan (Closure Plan) is a working document that details Burgundy's plans for how to close and reclaim the mine site. The plan includes the entire mine site, but is also composed of individual plans for specific areas. A final closure plan must be submitted two years before the planned end of mining operations. Based on the current Water Licence and permitting for Ekati, the mine is scheduled to operate until 2029.

In the Annual Closure and Reclamation Plan Progress Report Burgundy confirms that there was no progress made on developing any closure criteria in 2024 and there were no progressive reclamation activities for 2024 or any planned activities for 2025. Burgundy delayed the submission of Final Closure Plans for Pigeon Pit and Pigeon Waste Rock Storage Area until 2026.

The Agency is disappointed with the lack of progress on closure planning and progressive reclamation. A lot of work must be completed before the submission of the Interim Closure Plan v4.0 in 2026.

Financial Security

The GNWT holds financial security equal to the total predicted cost to close and reclaim the Ekati mine. As of December 31, 2024, GNWT holds a total reclamation security of approximately $326.8 million. This increased from 2023 because it now includes the Point Lake Development.

RECLAIM update

RECLAIM is a tool used to estimate the cost of closing and reclaiming a mine site. In early 2025, GNWT in collaboration with CIRNAC started a public review of proposed updates to RECLAIM and associated user manual. The updates to RECLAIM are to consider inflation rates, current standards and costs to reclaim projects in the North. This update also includes consideration of costs for building and maintaining the winter road that supplies Ekati, Diavik and Gahcho Kúe. Public review and workshops related to the proposed updates to RECLAIM are expected to continue throughout 2025.

Traditional Knowledge and Community Engagement

The Traditional Knowledge Elders Group or TKEG was developed when the Jay Project underwent environmental assessment. The TKEG helped develop the Traditional Knowledge Management Framework in 2018, however since then, there has been no reported activity with the group. In Burgundy's Environmental Agreement and Water Licence Annual Report, it is not clear if the TKEG has been temporarily or permanently disbanded. Burgundy does list the Traditional Knowledge projects and preservation programs carried out in 2024, however, the details of these projects and programs are not provided.

Community Fish Monitoring Program

In the past years of monitoring of harvestable fish species, Traditional Knowledge holders and other community members were involved with assessing fish health and palatability during sample collection. The Traditional Knowledge data included in the 2024 AEMP report is minimal compared to previous years. The 2024 report does not include observations of internal organ conditions, and all observations are of external anatomy only.

Wildlife monitoring

Burgundy hosted two workshops with Indigenous communities and representatives to discuss road modifications that could make the roads more caribou-friendly. While the details are not provided, the Agency believes this was a productive use of community input for managing haul roads.

Closure and reclamation planning

Burgundy held two community engagement sessions related to the Pigeon Pit and Waste Rock Final Closure Plans. This included a visit to the mine and a workshop held in Yellowknife. The objectives discussed during the engagement include: self-sustaining aquatic ecosystems, safe exits from pit lakes for wildlife and humans, safe seepage water quality, maintaining physical stability of the waste rock pile and safety for wildlife and humans.

Recommendations

The Agency requests responses to its recommendations each year. These responses are found in Appendix A of this report.

Recommendations to Burgundy Diamond Mine

Aquatic Effects Monitoring Program: Increasing selenium exposure

To better characterize the potential for effects associated with increasing selenium exposure in Round Whitefish in lakes downstream of the LLCF, the Agency recommends that selenium concentrations be analysed in Round Whitefish eggs and ovarian tissue, and results compared to the Federal Environmental Quality Tissue Guideline (FEQG) of 14.7 ug/g dry weight for egg-ovary fish tissue.

To identify the extent of reproductive effects in Round Whitefish, sampling should be done before the next scheduled harvestable fish sampling year of 2030. The Agency recommends that a targeted sampling of Koala watershed Round Whitefish egg/ovary tissue be carried out in 2026. Results should be reported in both wet weight and dry weight.

Air quality: Data recovery at CAMB station

Data recovery rates for $PM_{2.5}$ were below CCME data quality objectives in 2024 and for TSP were just above objectives, and the Agency recommends that steps be taken to improve data collection for these parameters. The Agency supports the review of changes to air monitoring equipment at the CAMB to improve data collection.

Air quality: Dustfall monitoring

Prior to active mining, a dustfall monitoring transect should be established between the intersection of the Point Lake Haul Road and the Lac du Sauvage Road, and the Misery site. The transect should be aligned with prevailing wind directions to effectively monitor fugitive dust from activities at the Point Lake Project.

Wastewater and Processed Kimberlite Management: Independent Tailings Review Panel

The Agency believes that best-practice for tailings facilities requires the establishment of an Independent Tailings Review Panel and therefore the Agency recommends that WLWB require the establishment of the Panel and that Burgundy establish an Independent Tailings Review Panel regardless of regulatory requirements.

Recommendation to GNWT

Wildlife and the Tibbitt to Contwoyto Winter Road

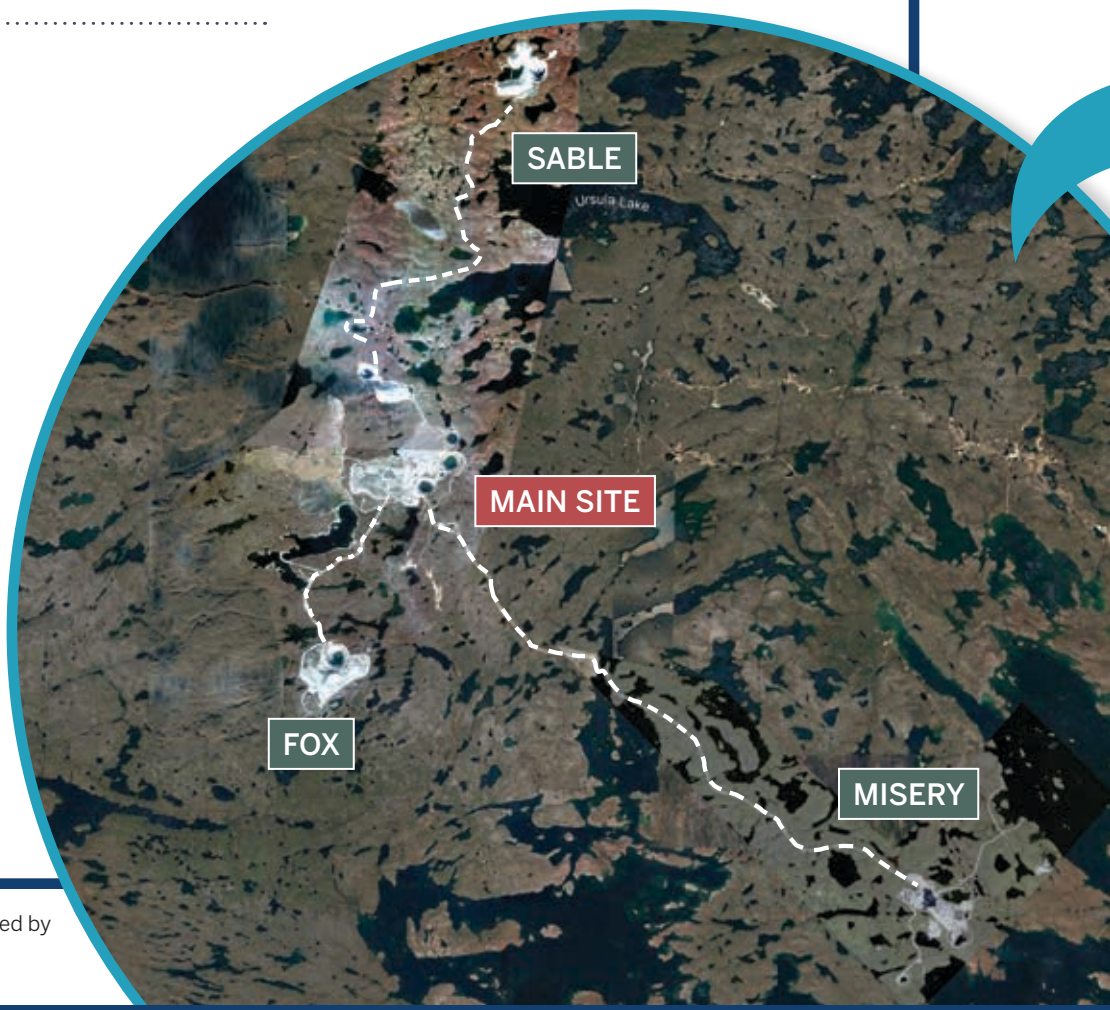
A publicly reviewed WMMP for the JV TCWR should be finalized with an accompanying stakeholder meeting to be organized by GNWT-ECC. An approved WMMP should be in place in time for the 2026 winter road season. The Plan should meet the requirements of Section 95(1) of the ***Wildlife Act***, specifically with respect to mitigating effects on caribou movement and population impacts associated with winter road truck traffic and increased hunting pressures from increased access arising from the winter road.

Ekati Diamond Mine Site Map

- 1 Waste Rock Pile (Panda-Koala-Beartooth WRSA)
- 2 Waste Rock Pile (Fox WRSA)
- 3 Waste Rock Pile (Pigeon WRSA)
- 4 Waste Rock Pile (Sable WRSA – full extent of footprint)
- 5 Waste Rock Pile (Misery and Lynx WRSA)
- Coarse Kimberlite rejects storage area
- Proposed Footprint

- Long Lake Containment Facility (Cells A-E)
- King Pond Settling Facility
- Two-Rock Sedimentation Pond

- Incinerators
- 1 Pigeon Stream Diversion
- 2 Panda Diversion Channel
- 1 Main Site
- 2 Old Camp
- 3 Misery Camp
- Airstrip

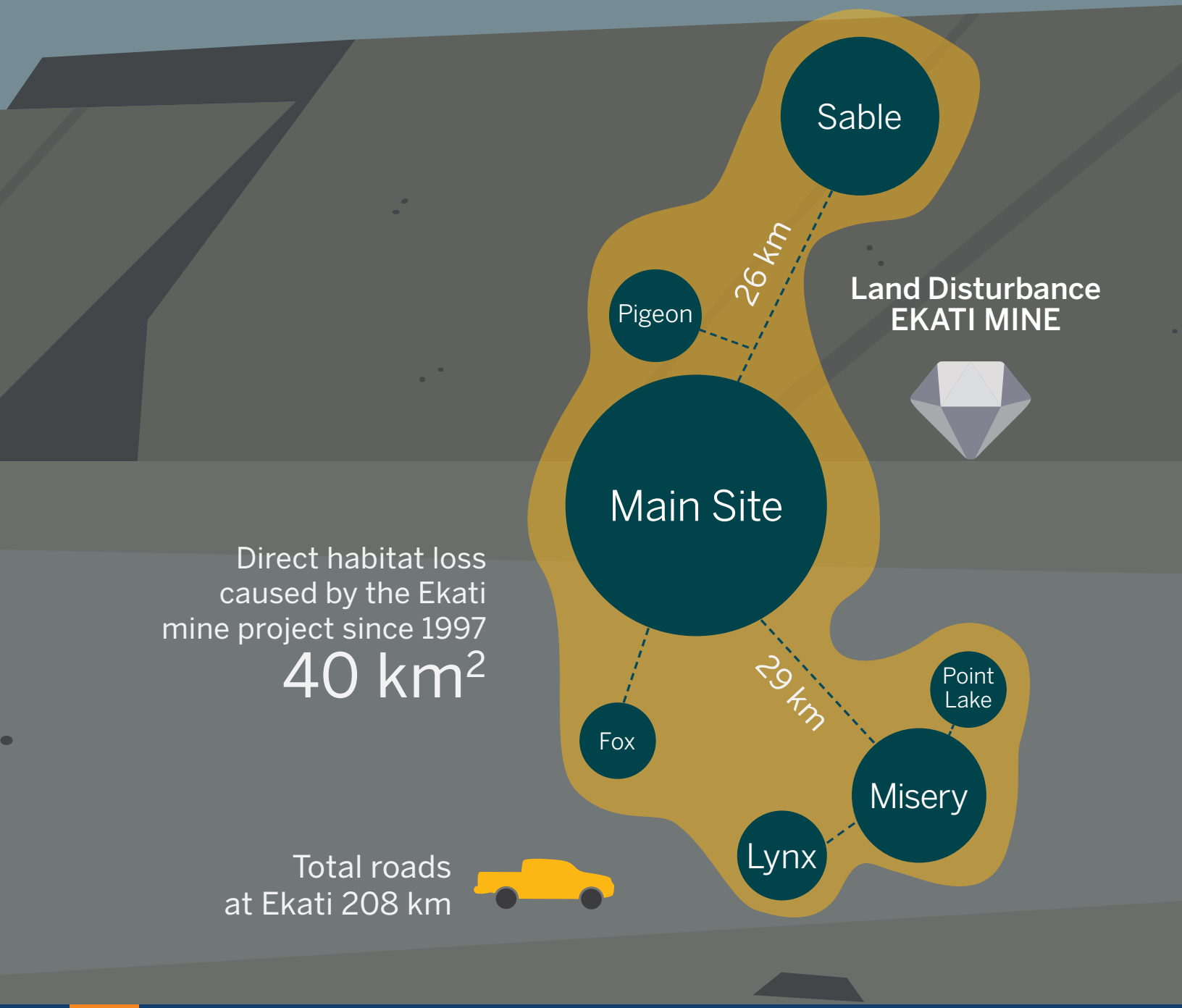


Base satellite images provided by Ekati Diamond Mine, 2023


SABLE ROAD
PIGEON PIT
BEARTOOTH PIT
PANDA PIT
KOALA PIT
MISERY ROAD
FOX ROAD
FOX PIT
SABLE PIT
SABLE ROAD
LAC DU SAUVAGE ROAD
POINT LAKE PIT
MISERY PIT
LYNX PIT
A
B
C
D
E

Land Disturbance and Road Length

The Ekati Diamond Mine has disturbed approximately 40 km² of land since the project first started in 1997. The following is the total estimated footprint of nearby communities in comparison to the amount of land disturbed by mining activities.



Direct habitat loss caused by the Ekati mine project since 1997

40 km²

Total roads at Ekati 208 km

30km²
City of Yellowknife

2.4km²
Behchokǫ̀
estimated footprint

2.5km²
Kugluktuk
estimated footprint

	APPROX LAND DISTURBANCE	HOW MUCH BIGGER IS THE EKATI MINE?
Yellowknife	30 km²	x 1.3
Kugluktuk	2.5 km²	x 15
Behchokǫ̀	2.4 km²	x 16
Cambridge Bay	1.6 km²	x 24
Łutselk'e	1.3 km²	x 29
Whatì	0.8 km²	x 47
Gametì	0.8 km²	x 47
Wekweètì	0.5 km²	x 76

Initial stripping at the Point Lake Pit. October 2024

Current Mining Operations and Exploration

Mining operations continued at the Ekati mine throughout 2024-2025 with ore feeding the process plant from Misery Underground and Sable Open Pit. Based on the Water Licence and Permitting, currently permitted operations are expected to continue until 2029. Burgundy Diamond Mines (Burgundy) released an updated Life of Mine Plan in July 2025 that extends mining to 2040.

Please note that as of July 18, 2025 Burgundy Diamond Mines shared it has temporarily paused open pit mining at Point Lake. Instead, the company will continue to focus on underground mining at Misery and low grade ore at the Fox Pit.

Point Lake Development

Construction at the Point Lake Development is well underway. The final stages of dewatering were completed in 2024, quickly followed by the construction of the waste rock seepage collection ditch and sump, and both rock piles (waste rock and overburden).

Sable Underground (SUG)

In April 2024, Burgundy applied for a Water Licence amendment to extend mining operations of the Sable Project. The amendment would allow Burgundy to convert the open pit to underground mining operations. It is estimated that the underground mining operations would provide kimberlite ore to the process plant for a five-year period starting in 2026.

The Project went through the regulatory process but on September 24th, 2024 Burgundy withdrew the application for the SUG Project the day before the scheduled Public Hearing. In a brief letter to participants, Burgundy stated more work was required and continued talks with Indigenous communities were needed before going ahead with the project. According to a press release, Burgundy plans to reschedule the Project for 2026 and states a renewed focus on extending operations at the Misery underground.

Open Pit mining at the Sable development was completed in May 2025.

Misery Underground (MUG)

Underground mining operations continued throughout 2024-2025. In a September press release, Burgundy announced there may be a large ore body below the current Misery Pit. The company expects to focus on mining the main Misery ore body which it hopes will extend operations at the Misery development.

Exploration

Burgundy has completed limited drilling programs within the existing Ekati claim block. Many of these drill holes were aimed at the Misery pipe and exploring the ore body below.

Underwater Remote Mining

There was no activity for underwater remote mining in 2024-25. Trials in Lynx pit were originally scheduled for summer 2025 however, this is now planned for 2026. Burgundy expects to transport the equipment to the mine using the winter road.

Ice road, photo courtesy of Ekati Diamond Mine

Truck driving on ice road, photo courtesy of Ekati Diamond Mine

Cumulative Effects and Regional Monitoring

Highlights

- The Joint Venture Tibbitt to Contwoyto Winter Road (JV TCWR), an essential component for resupply to the Ekati mine, contributes to cumulative impacts on wildlife in the region; in particular, caribou.
- Barren-ground caribou are impacted by haul-truck traffic on the winter road as well as by the easier access by hunters to wintering herds.
- It is unclear whether the JV TCWR has an approved WMMP for its operation.
- Agency Society Members raised concerns about impacts of the winter road on caribou health.

Definitions

Adaptive Management: a management system with continual monitoring. If a mitigating action does not work, additional actions are used to keep the impacts within accepted levels or below thresholds.

Cumulative Effects/Cumulative Impacts: the combined effects/impacts of human activities and natural processes on the environment over time and across a landscape.

Cumulative Effects Monitoring: collecting and analyzing repeated observations and measurements to characterize conditions and to evaluate change and impacts of change, all to ensure that the combined effects of various activities are considered in decision-making to avoid unexpected or unacceptable environmental damage.

Mitigation, Mitigating: an action that is intended to reduce the negative impacts of a condition or situation. To avoid or reduce harm; to make sure environmental impacts from activities associated with the mine are as minimal as possible.

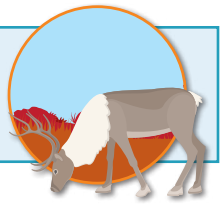
Wildlife Management and Monitoring Plan (WMMP): A WMMP is a plan required for development activities that could significantly affect wildlife or their habitat. It must outline how the project will minimize impacts, monitor wildlife and habitat, and address potential cumulative effects.

Activities in 2024

The Ekati mine contributes to cumulative effects on wildlife and habitat over time because the effects of the mine's activities combine with the effects of other regional developments. Burgundy Diamond Mines Ltd. (Burgundy) has responsibility for managing its contribution to cumulative effects at the Ekati mine through a combination of environmental monitoring, adaptive management strategies, and mitigations. Possible cumulative effects include:

FIGURE 1

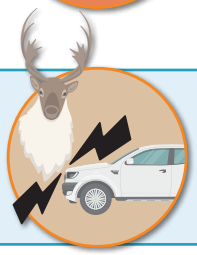
Habitat loss and fragmentation: Direct and ongoing loss of terrestrial wildlife habitat through site clearing, infrastructure development, and facility expansion. The total area of habitat loss is tracked annually and includes all disturbed areas, even those under reclamation.



Sensory disturbance and displacement: Wildlife, especially caribou, may be disturbed or displaced by noise, dust, human presence, vehicles, and aircraft associated with mine operations.

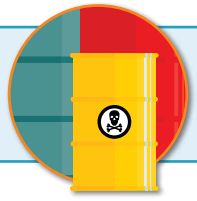
Semi-permeable barrier effects to movement: Roads and other linear infrastructure and human activity associated with them can create barriers that some caribou are reluctant to cross, potentially affecting movement and migration.

Wildlife mortality and injury: Increased risk of direct injury or mortality from wildlife-vehicle collisions, infrastructure hazards (such as open pits), and human-wildlife interactions. Attraction to the site by improper waste management can also increase mortality risk for carnivores and other wildlife.



Attraction and increased predator numbers: The presence of attractants (e.g., food waste) can lead to increased human-wildlife interactions and potentially higher predator numbers, which may have broader ecosystem effects.

Health effects: Wildlife may be exposed to toxins, metals, or other contaminants, potentially affecting their health.



Impacts on migratory birds and other species: Loss of nesting habitat, disturbance, and collisions with vehicles or infrastructure can reduce abundance and diversity of migratory birds and other wildlife.

Old Camp, October 2023

These cumulative effects are monitored and managed through the Ekati Mine Wildlife Management and Monitoring Plan (WMMP), which uses adaptive management to adjust mitigation and monitoring strategies over time. While data from the WMMP can be used in other studies and research to better understand the potential cumulative effects of mining activities at a regional scale, the Ekati WMMP is for the mine footprint and does not include the Tibbitt to Contwoyto Winter Road, which operates separately as a joint venture and which also contributes to cumulative effects. Specifically, the Joint Venture Tibbitt to Contwoyto Winter Road (JV TCWR) has three partner diamond companies, with trucks supplying three diamond mines during an approximately 2-month winter season. The winter road affects barren-ground caribou through impacts to movement as a result of the truck traffic (in effect, a semi-permeable barrier to movement; Smith and Johnson 2023[1]) and through enabling easier access by hunters to wintering caribou herds, including the critically low-population Bathurst herd (for which hunting is prohibited within the NWT and is enforced with the aid of a mobile hunting prohibition zone, and is severely restricted within Nunavut). Caribou winter distribution overlaps the JV TCWR in some years. This occurred during the winter of 2024-25, and in February-March 2025, concerns were raised by the public and others about meat wastage and excessive harvest, especially of pregnant female caribou (see March 21, 2025 GNWT News release[2]). As later confirmed by GNWT in a letter to the Agency[3],

[1] Smith, A., and C. J. Johnson. 2023. Why didn't the caribou (*Rangifer tarandus groenlandicus*) cross the winter road? The effect of industrial traffic on the road-crossing decisions of caribou. Biodiversity and Conservation 32:1-17 DOI: 10.1007/s10531-023-02637-4

[2] https://www.gov.nt.ca/en/newsroom/gnwt-and-indigenous-leaders-call-respectful-harvesting-amid-rising-caribou-wastage

[3] Ekati – GNWT_ECC Letter to IEMA – related to WMMP – May 7_25.pdf

during the 2025 winter road season there were 14 investigations of illegal hunting, including 11 wastage cases, two cases of illegal harvest in the mobile zone, and one case of dangerous harvesting.

While the Agency primarily focuses its review efforts on activities associated with the mine footprint, including cumulative impacts in a regional setting, we are also concerned with effects that are indirectly linked to the mine and that contribute to cumulative effects. The Agency believes the impacts to caribou movement and the enhanced access for hunters from the JV TCWR constitute a high potential for disturbance to caribou and contribute to cumulative impacts from the Ekati mine. Existing WMMPs for the three diamond mines do not extend to the winter road operations. Although a draft (August 2024) WMMP for the JV TCWR has been developed, the Agency understands that a finalized version is still pending.

The Agency appreciates the community monitors and guardian programs from the North Slave Métis Alliance, Tłı̨chǫ Government and Yellowknives Dene First Nation and the work they have been doing along the winter road in recent years to promote legal and respectful harvesting amongst people on the road.

AGENCY RECOMMENDATION

A publicly reviewed WMMP for the JV TCWR should be finalized with an accompanying stakeholder meeting to be organized by GNWT-ECC. An approved WMMP should be in place in time for the 2026 winter road season. The Plan should meet the requirements of Section 95(1) of the *Wildlife Act*, specifically with respect to mitigating effects on caribou movement and population impacts associated with winter road truck traffic and increased hunting pressures from increased access arising from the winter road.

Dike B of the Long Lake Containment Facility, with Cell B to the right and Cell C to the left, October 2023

Wolverine pawprints near the Point Lake dewatering pipeline

Wildlife Effects

Highlights

- Most incidental observations of caribou occurred in fall and winter.
- Traffic data were collected on major haul roads using remote cameras during 2024, but large gaps in data collection occurred.
- Two caribou died in vehicle collisions, which according to Burgundy are the first vehicle-related caribou mortalities since the start of the mine.

Definitions

Adaptive Management: a management system with continual monitoring. If a mitigating action does not work, additional actions are used to keep the impacts within accepted levels or below thresholds.

Incidental Observations: records of observations (also termed sightings) of any wildlife by any person and in all areas at the mine.

Mitigation, Mitigating: an action that is intended to reduce the negative impacts of a condition or situation. To avoid or reduce harm; to make sure environmental impacts from activities associated with the mine are as minimal as possible.

Monitoring: collecting and analyzing repeated observations and measurements to illustrate conditions and to evaluate change and the impacts of change. Watching habitat and wildlife, and 'keeping an eye' on things all the time.

Systematic Surveys: surveys of wildlife species conducted by the Ekati Environment Department using specific methods and covering an established area, such as all main roads.

Wildlife Incident: an interaction between wildlife and human(s) that may compromise the safety of the wildlife and/or human(s).

Grizzly bear spotted at kilometer 15 of the Misery Road

Arctic hare at Dike C of the LLCF

Summary of Activities

The Burgundy Diamond Mines Ltd. (Burgundy) Wildlife Effects Monitoring Program (WEMP) documents wildlife presence and wildlife management responses at the Ekati mine. The 2024 WEMP was the 27th annual program and report and focused on caribou, grizzly bears, wolves, wolverines, foxes, raptors (falcons, hawks and ravens [considered functional raptors]), migratory birds, and wildlife habitat. The WEMP provided detailed reporting on habitat alteration and loss, waste management, incidental observations, wildlife survey monitoring programs, and wildlife incidents and management actions. Structured activities included systematic surveys for the haul roads and Long Lake Containment Facility (LLCF), behavioural monitoring, and camera surveys along infrastructure and adjacent areas. Many of the activities are required for management of caribou under the Caribou Road Mitigation Plan (CRMP).

The data and observations within the report were generally reported clearly, and the figures and tables – especially the trends over time – were largely well presented. The management of waste that may attract wildlife (general garbage and kitchen waste) is an ongoing challenge at the mine, and Burgundy continues to do a good job as a result of its continued education and waste management awareness. The Agency also is pleased that collar data from male caribou are now incorporated into the report. However, as we have repeatedly stated over the years, there is still limited integration of datasets from incidental observations, haul road survey data, LLCF monitoring surveys, and caribou collar data, despite assurances from Burgundy that this would occur. Integration of datasets would lead to a more comprehensive picture of caribou movement and distribution at the mine site and possibly make monitoring more efficient. Also, pages of seasonal regional caribou collar distribution maps are still reported in the WEMP report, which contribute little if anything to monitoring or evaluation of management practices. It would be more useful to focus on annual, finer-scale examination of collar distribution and movements around the mine footprint.

The Ekati Mine Footprint

The Ekati mine footprint increased by approximately 1 km^2 in 2024 due to expansion of the Sable Waste Rock Storage Area (WRSA) and construction of Point Lake Pit. The mine footprint currently covers 40.4 km^2, double in size since 2005. As of 2022, 208 km of roads have been constructed.

Directors observing wildlife tracks near the dewatering pipeline

Wildlife Observations and Incidents

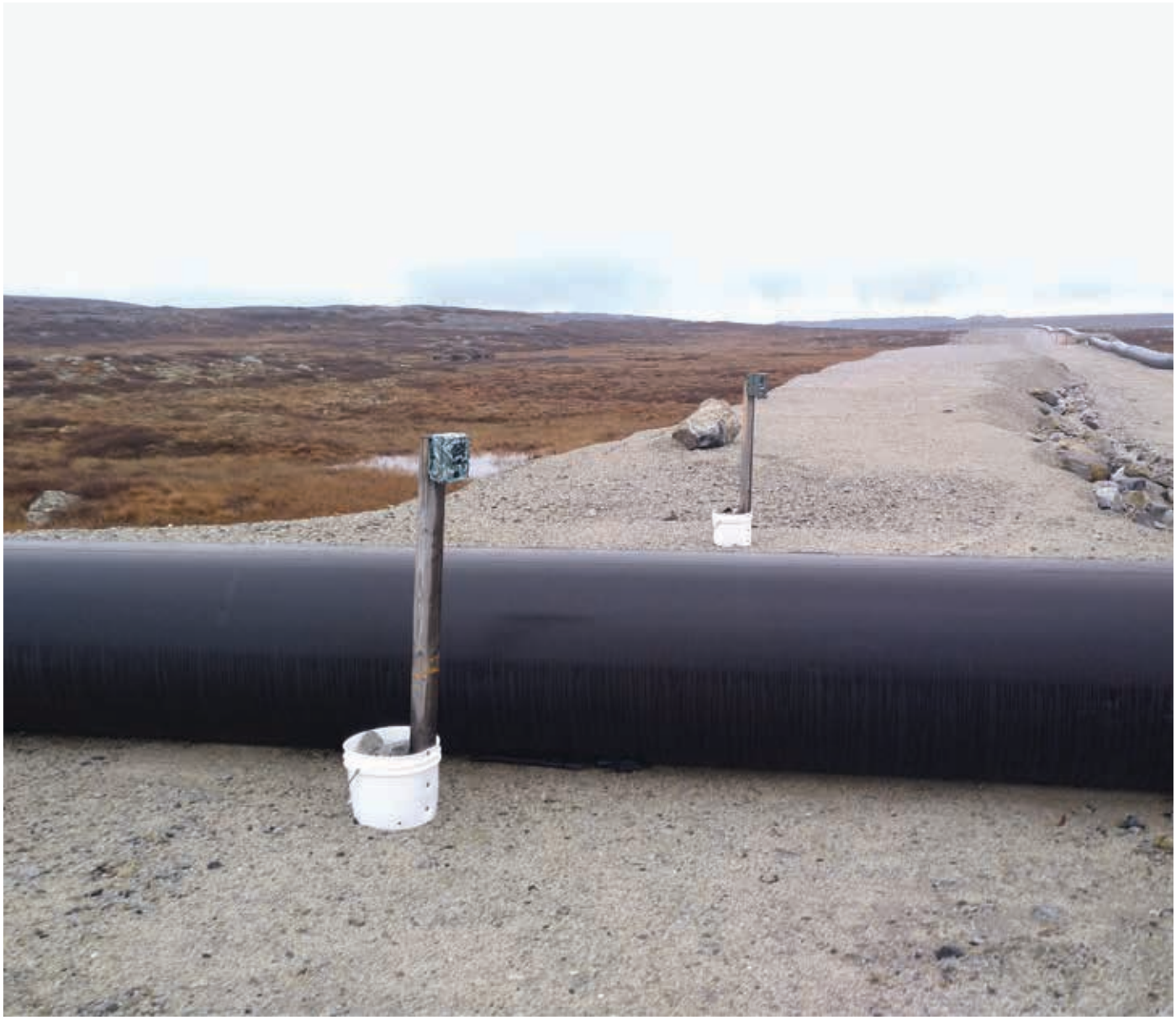
Wildlife observations are summarized in several ways, primarily through incidental observations, systematic surveys (haul roads, LLCF), wildlife incidents and management actions. Numbers and details are scattered throughout the WEMP, often with differing values reported in various sections of the report. There appeared to be no integration of data and no obvious significant changes from previous years. Most incidental observations involved caribou, with the majority observed during fall and winter in 2024.

Caribou Road Mitigation Plan

Objectives of the CRMP include "*avoid and reduce potential barrier effects of [roads] to caribou movement and migration; and limit the effect of sensory disturbance from roads and traffic on caribou behaviour*". The CRMP is designed to use locations and movements of collared caribou and observations of caribou near mine infrastructure as Action Level triggers to initiate intensified levels of monitoring and mitigation. The Agency has requested better presentation of the trigger(s) to changes in or maintenance of alert levels, which would be useful for assessing monitoring effectiveness. The 2024 WEMP provided a table of general information on alert triggers that resulted in changes to alert levels and management actions. As an example, the WEMP indicates that the Red alert level (Level 3 – high risk) was in place from 29 February to 19 October based on "*Collar data reported that caribou are starting to move into the Mine area*". Further details were not provided. Better presentation of the trigger(s) to changes in or maintenance of alert

levels would be useful for assessing monitoring effectiveness. As it is, it is not possible to evaluate the effectiveness of monitoring methods used to trigger enhanced mitigation and of applied mitigation, limiting the ability to evaluate adaptive management.

During 2024, 51 traffic delays due to wildlife (presumably mostly caribou) resulted in about 104 hours of loss of equipment operating hours. There were also 81 short-term road closures and work stoppages, the vast majority due to observations of caribou, of which over half occurred along Sable Haul Road. A total time for these closures and stoppages was not provided, with limited details provided in an appendix. No details on the distance, numbers and composition of caribou groups causing the stoppages and road closures were provided, making it impossible to evaluate how caribou distribution related to these traffic delays, or which monitoring method proved most effective. Although the CRMP concludes with "*Documenting the mitigation and monitoring efforts related to CRMP will continue in future years and provide information for adaptive management, as required*", it is challenging to review the limited information feeding into adaptive management.



Wildlife cameras beside a dewatering pipeline during the Point Lake dewatering

Wildlife-Vehicle Mortalities

A young male caribou was struck by a light vehicle in July 2024 on the Sable Haul Road, and a calf ran into a stopped vehicle and succumbed to its injuries on the Misery Haul Road in November 2024. Also, a wolverine was found dead from a vehicle collision on the Sable Haul Road in early September. While unfortunate, vehicle collisions with caribou and wolverine are extremely rare; these were the first cases reported for both species in the history of the mine.

Traffic Monitoring

Since the sensory disturbance from vehicles on roads is likely one of the main semi-permeable barrier effects to caribou passage through mine infrastructure, the Agency has repeatedly called for traffic monitoring to correlate with analysis of caribou monitoring and mitigation. After a pilot study in 2022, dedicated remote cameras were deployed on the Misery and Sable haul roads beginning in 2023 and the Point Lake road beginning in 2024. Unfortunately, traffic data from cameras were recorded in 2024 on only 47% (Misery Road), 70% (Sable Road) and 37% (Point Lake Road) of days, which is lower than the 2023 camera success rate (68–72%). Reasons provided for missed data include camera mount failure, snow cover, and battery failure. The available data from 2024 indicated peak average daily vehicle passages on the Misery Road of 150 passages per day (one vehicle passage every 9.6 minutes if spread evenly throughout a 24-hour period), about 220 per day on the Sable Road (a vehicle passage every 6.5 minutes) and about 435 vehicle passages per day on the Point Lake Road (a vehicle passage every 3.3 minutes). Detailed analyses of the traffic camera data will be released in 2026. Although the Agency is encouraged that traffic data are finally being collected, it is disappointing that large gaps in data collection remain.

Caribou, photo courtesy of Ekati Diamond Mine

Burgundy Caribou Telemetry Analysis and Report

In part due to a 2021 analysis conducted by the Agency and at the insistence of the Department of Environment and Climate Change, Burgundy committed in 2022 to use caribou collar data to examine if caribou changed their distribution and movements as they got closer to the mine. Meetings with community and science experts were held in 2022 to discuss the approach and methods, and Burgundy released a draft of their report for review and discussion in February 2024. Based in part on further discussion, Burgundy subsequently revised portions of the analyses and report, and released a final report in July 2024. The methods used were complex and the authors of the report invested a significant amount of effort into the analysis.

The Burgundy study concluded, not surprisingly, that habitat was an important determinant of caribou distribution. The study also concluded that "*Ecologically, the concerns of exposure to diamond mining infrastructure and roads yielding deflected, longer movements and delays in range-scale movements do not appear to be warranted*". However, collared caribou tended to move more slowly when closer to mine infrastructure in about half of seasons. The Agency and other reviewers voiced a number of concerns with the draft and final approach, methodology, and statistical analysis, and hence the resultant conclusions. How much caribou changed travel direction was dropped from analysis early in the process, even though high rate of changes in direction could be indicative of nervous milling behaviour. The Burgundy study also didn't examine the proportion of collared caribou displaying a given behaviour, which would have been more informative than only identifying behaviours where the vast majority of caribou were doing the same thing. Most studies elsewhere in the caribou and reindeer field of study have showed that caribou generally slow their movement rate and show a greater proportion of higher changes in direction at shorter distances from roads or mine infrastructure, often resulting in deflections and paralleling (in the case of roads) and ultimately delays in crossing.

Burgundy stated that the results of their study contributed to minor changes to mitigation and monitoring measures in the Caribou Road Mitigation Plan (which will be included in the revised Wildlife Management and Monitoring Plan; see text box).

Wildlife Management and Monitoring Plan

The process to update the Wildlife Management and Monitoring Plan (WMMP; formerly the Wildlife Effects Monitoring Plan) began in June 2022 when the Government of the Northwest Territories informed the mine that they expected that a revised Tier 3 WMMP would be provided with the pending water licence renewal application. A draft plan was submitted in November 2022, followed by a workshop, initial comments, and responses from Burgundy by April 2023. The process to update the WMMP has stalled. Burgundy had indicated to the Agency in February 2025 that they would submit a revised WMMP to the Department of Environment and Climate Change by 31 March 2025, but as of this writing (September 2025), no plan has been forthcoming. The Agency continues to hope for timely progress on this important document.

Photo courtesy of Ekati Diamond Mine

Aquatics Effects

Highlights

- Mercury in Lake Trout and Round Whitefish has increased to levels exceeding the screening value for safe human consumption in lakes downstream of the mine.
- Selenium levels in fish exceeded the Medium Action Level in Leslie Lake.
- Additional lakes have been added to the Aquatic Effects Monitoring Program to monitor lake effects from the new Point Lake Development.

Definitions

- **Action Level:** the concentration of a substance specified in the Aquatic Response Framework which represents a level above which the company must take action to understand what drives the exceedance to reduce or remove the potential for harm.

Benchmark: a standard against which to compare or assess a monitored parameter.

Benthic Macroinvertebrate: all animal life forms without bones living on lake and stream bottoms (i.e. clams, snails, crustaceans, insect larvae and worms).

Discharge: a direct or indirect deposit or release of any Water or Wastewater from mine infrastructure to Receiving Water.

Dry Weight: remove all the moisture from the tissue sample before weighing the tissue; Wet weight: includes the water content of the sample.

Epiphyton: algae that grows on submerged rocks and plant stems.

Fecundity: ability to produce offspring, measured by an index of female fertility (average # of eggs; average # eggs/gm body wt)

Methylation of Mercury: turning the mercury that can be safely metabolized and passed out of the body into another form (methylmercury) that gets incorporated into fish tissue where it can cause harm to the fish or to other species that eat it.

Phytoplankton: floating microscopic plants found in aquatic environments. They are an important food source for zooplankton.

Zooplankton: small, mostly microscopic animals that live suspended in waterbodies. Zooplankton feed on phytoplankton and are an important food source for fish.

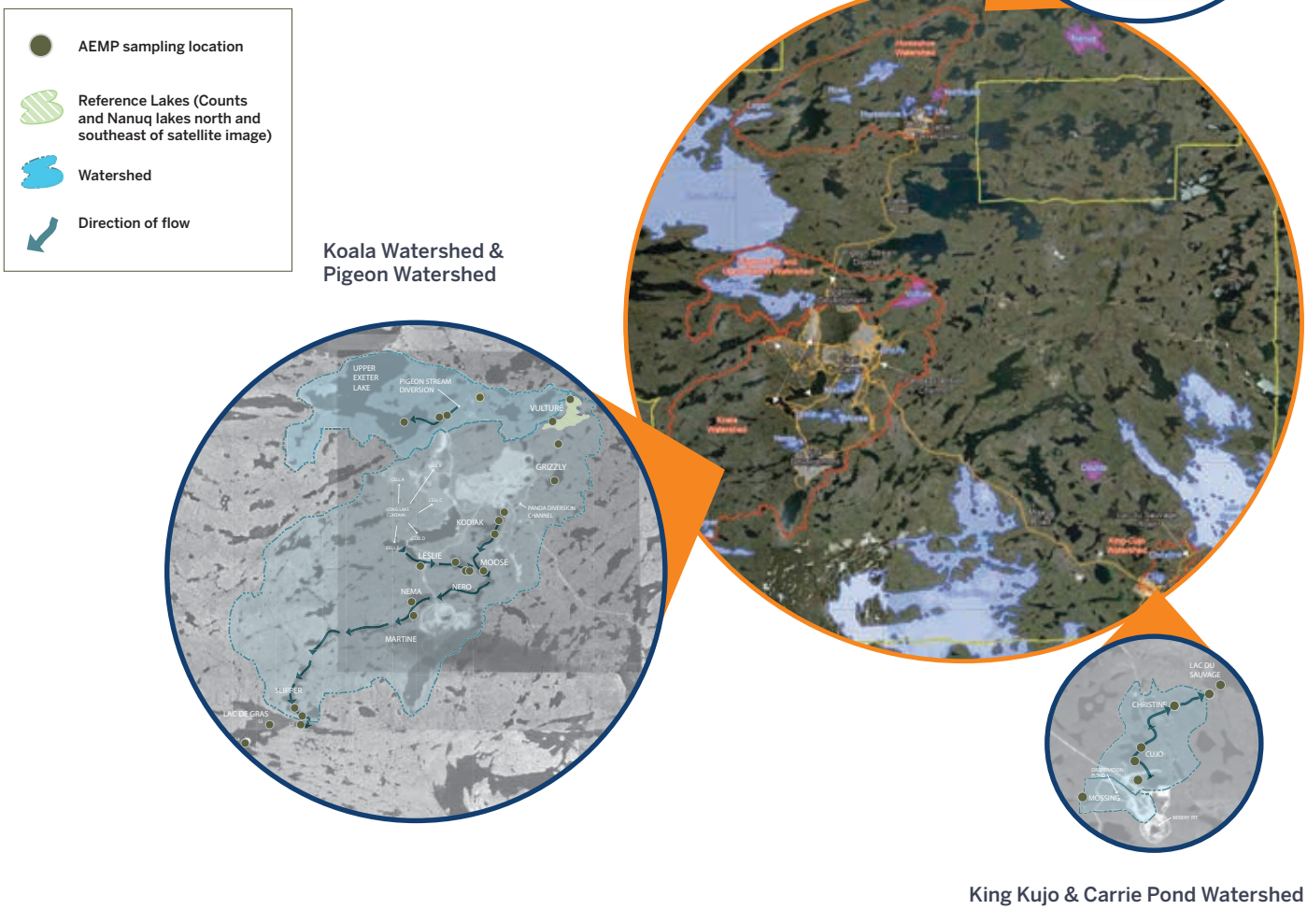
Each year monitoring programs are conducted at the Ekati Diamond Mine to determine if changes in the downstream aquatic environment are occurring as a result of mining activities.

There are five watersheds affected by mining operations: Koala, King-Cujo, Pigeon-Fay-Upper Exeter, Horseshoe and the lakes downstream of the Point Lake project (Figure 2). Lakes and streams in these watersheds, as well as a few unaffected sites upstream and in different watersheds, are sampled each year under the Aquatic Effects Monitoring Program (AEMP) as required in Burgundy Diamond Mine's (Burgundy) Water Licence. Using information collected through the AEMP, changes and trends in water and sediment quality, benthic macroinvertebrate communities, phytoplankton and zooplankton, as well as fish populations and fish health, can be identified.

Similarly, the Aquatic Response Framework (ARF) is an adaptive management tool that helps to ensure the protection of waterbodies downstream of the Ekati mine for use by people, wildlife and fish. The Response Plans for various water quality variables and biotic metrics within the ARF show improvements with each new iteration.

Together, the AEMP and ARF have been effective in alerting Burgundy and regulators of possible deterioration in water quality and biological communities downstream of the mine site.

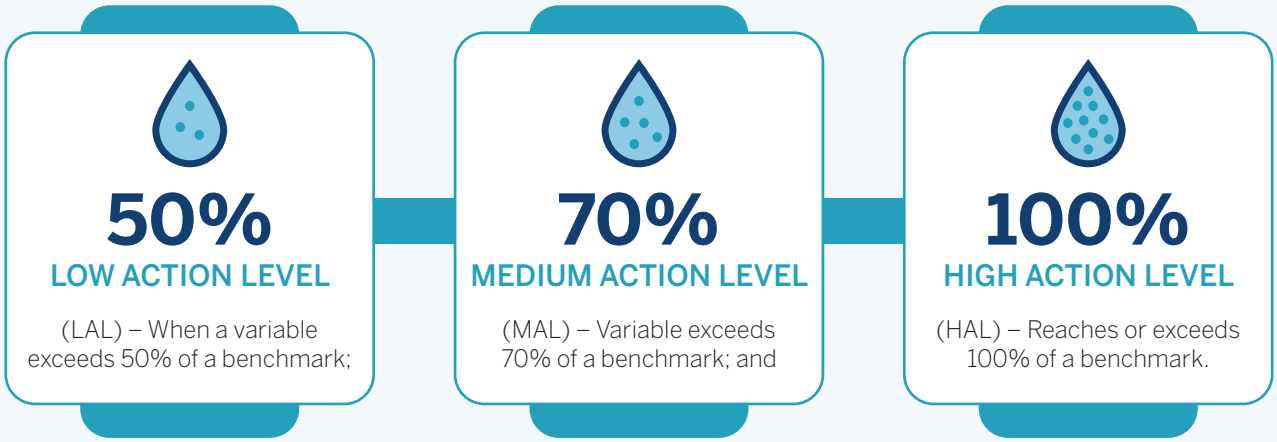
FIGURE 2: EKATI MINE WATERSHED MAP WITH FLOWS AND SAMPLING SITES



Aquatic Response Framework

Within the ARF, water quality and biological communities (plankton, benthos and fish) are assessed against specific action levels (concentrations of water quality variables and metrics of biota). Any exceedance of an action level requires development of a corresponding Response Plan that describes adaptive management actions to be taken before disturbances reach levels that can cause harm to aquatic life and other water users.

THERE ARE THREE TIERS OF ACTION LEVELS, EACH WITH ASSOCIATED TRIGGERS, FOR WATER QUALITY VARIABLES OTHER THAN DISSOLVED OXYGEN:



Aquatic Effects Monitoring Program

Overall, the AEMP continues to be an effective program for monitoring changes in the aquatic environment of lakes and streams downstream of the Ekati mine. 2024 was the 27th consecutive year of aquatic effects monitoring in the Koala watershed, and the first year of monitoring the lakes downstream of the new Point Lake Development.

Water Quality

Action Level Exceedances

In 2024 there were four Low Action Level exceedances for water quality parameters. Aquatic Response Plans are in place for each of the variables listed in Table 1.

Increases in iron levels downstream of the mine have been detected in several watersheds at the Ekati mine. Concentrations of iron were elevated under-ice in Kodiak Lake, Fay Bay and Cujo Lake. It has exceeded Low Action Levels (LAL) in Horseshoe Lake and exceeded the benchmark in outflow streams of both Horseshoe & Ulu lakes. The source of the iron in Ulu stream is unknown as Ulu Lake does not receive any surface discharge from the Sable project. It is close to the north end of the Sable waste rock pile but no surface seepage has yet been reported by Burgundy. The exceedance of the LAL in Horseshoe Lake required a new Response Plan for iron, which was submitted for review in February 2025.

Although not yet reaching concentrations directly harmful to aquatic life, potassium continues to exceed thresholds under-ice in Leslie Lake which has been the case for 10 of the past 12 years.

Lab-Measured pH Values

A mine-related cause was concluded for lab-measured pH results that were below the normal range for samples downstream of the Long Lake Containment Facility (LLCF). Changes in lab-measured pH values have been observed since 2020 at various locations and were investigated in 2022 and 2023.

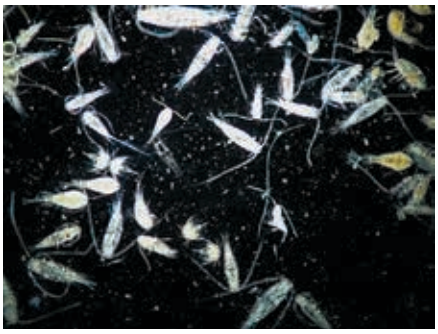
Changing analytical laboratories was ruled out as the cause of these low pH values, and various other factors were noted as possible contributors to the difference in pH values (see Burgundy's 2023 AEMP report Appendix A).

Field pH measurements have been done since 2022; the difference between field and laboratory-measured pH in the same lakes for both 2022 and 2023 did not demonstrate a consistent direction or spatial pattern. It would be useful to have ongoing comparisons of field and lab-measured pH presented in each AEMP annual report. The Agency believes field pH data should be plotted against lab pH results to identify any trends and differences, and both pH measurements should also be included in comparisons shown in AEMP reports. Our concern lies with uncertainty introduced by discounting lab-measured pH results without having a clear understanding of the cause of the lower values. Field measurements can be more reliable than lab measurements given proper calibration of meters and use of standards in the field to confirm accuracy and may be more relevant for reporting and evaluating pH.

TABLE 1: WATER QUALITY EXCEEDANCES

	AFFECTED LAKES	
Water quality variable	**Open water**	**Under ice**
Dissolved oxygen		Cujo Lake
Total phosphorus	Cujo Lake	
Total iron	Horseshoe Lake	
Total potassium		Leslie Lake

Ulu Lake as seen from the Sable crusher pad, October 2024



Zooplankton under the microscope, photo courtesy of The Canadian Encyclopedia

Plankton

Action Level Exceedances

In Cujo Lake the Medium Action Level (MAL) for phytoplankton biomass (chlorophyll *a*) was exceeded for the first time since 2020, likely driven by increased phosphorus, a plant nutrient. Phosphorus exceeded the LAL during the open-water season in 2024, reaching the highest mean concentration ever recorded for Cujo Lake.

Phyto- and zooplankton community composition changes have exceeded the LAL in lakes downstream of the LLCF. In Leslie Lake, where phytoplankton community composition has changed slightly, green algae (Chlorophyta) are displacing diatoms (Bacillariophyta) over the past 3 years, 2022-24. Zooplankton community composition has also changed slightly, exceeding the LAL in Leslie, Moose, and Cujo lakes.

The Plankton and Benthos Response Plan submitted in July 2025 addresses this new phytoplankton MAL exceedance.

For explanations of the more statistically complex action levels for phytoplankton biomass and community composition for phyto- and zooplankton, see Burgundy's Response Plan for Plankton and Benthos Version 3.2 January 2024 [Table 2.2-1 (biomass and density) and Table 2.2-5 (community composition)].

Edible vs non-Edible Phytoplankton

Phytoplankton species have been categorized as edible or non-edible based mostly on size. The purpose of classifying by edibility is to provide a measure of phytoplankton that are edible to zooplankton. Density of edible phytoplankton is currently an AEMP evaluated variable with action level conditions identified.

It would be useful to track the relative proportions of edible to non-edible phytoplankton to identify whether there is a shift in food availability occurring for zooplankton and fishes. Currently, densities are reported for both types of phytoplankton. Ideally, density counts would be linked to estimates of biomass in order to compare overall volume (mass) of phytoplankton available to zooplankton. Changes in the ratio of edible:non-edible plankton biomass over time would provide an indication of broad community changes that are linked to food availability for fishes.

Fish

Catch per Unit Effort (CPUE)

The Low Action Level for CPUE was triggered for Slimy Sculpin in Kodiak, Leslie, Moose and Cujo Lakes, with significantly lower numbers of fish caught in 2024 compared to reference lakes and previous years.

Mercury in Fish

Overview

Mercury in the aquatic environment is a concern, particularly in fish because it can bioaccumulate and stays in the body for a long time. This can pose a long-term risk to people or animals that eat the fish. Mercury is closely monitored in the aquatic environment around the Ekati mine by the AEMP and the associated Response Framework which sets early detection limits called action levels thresholds. In 2024, action levels were triggered for mean concentrations of mercury in various lakes for small- and large-bodied fishes, based on ARF thresholds (see Table 2).

On site sample collection, photo courtesy of Ekati Diamond Mine

Lake Trout mercury levels

A significant increasing trend was found in Lake Trout (Trout) muscle mercury concentrations in Leslie & Cujo lakes directly downstream of mine effluent and Burgundy concluded this is an effect of the mine. Mercury increased to the highest historical concentrations in Trout muscle in all lakes downstream of the LLCF and King Pond. In all monitored lakes closest to the Panda Diversion Channel, LLCF or King Pond, almost all Trout muscle mercury concentrations in 2024 were above the 0.28 mg/kg site-specific human consumption screening value. A large proportion in each lake were even above the Health Canada guideline for infrequent fish consumption (see Table 3). We know that mercury bioaccumulates in a fish over time, but these exceedances of Health Canada's guideline aren't restricted to the oldest fish in the Koala watershed lakes, as they are in Cujo Lake. Incidence of high mercury levels in old piscivorous fish is not uncommon in natural waterbodies, including Ekati's reference lakes. However high levels in younger fish is a concern. It suggests that these levels of mercury in younger fish from mine-impacted lakes may be a sign of a non-natural source. If this persists to post-closure years, then a larger proportion of each of these lakes' Trout populations would likely be considered potentially unfit or harmful for human consumption. This is of particular concern since in the original Environmental Assessment for the Ekati mine, fish were considered a Valued Ecosystem Component that needed to be protected and not impacted.

TABLE 2: ACTION LEVEL EXCEEDANCES FOR MERCURY IN FISH

	AFFECTED LAKES			
	Kodiak Lake	**Leslie Lake**	**Moose Lake**	**Cujo Lake**
Round Whitefish	LAL (liver) MAL (muscle)	LAL (liver) HAL (muscle)	LAL (liver) HAL (muscle)	LAL (liver) MAL (muscle)
Lake Trout	HAL (muscle)	HAL (muscle)	HAL (muscle)	HAL (muscle)
Slimy Sculpin	LAL (whole body)	LAL (whole body)	LAL (whole body)	LAL (whole body)

LAL = Low Action Level, MAL = Medium Action Level, HAL = High Action Level

Whitefish mercury levels

In Round Whitefish (Whitefish), mean muscle mercury concentrations exceeded the MAL in Cujo and Slipper lakes, and the HAL in Moose and Nema lakes. The report also states the HAL was exceeded in Leslie Lake as well, but there appears to be a discrepancy for the mean calculated for Leslie Lake of 0.25 mg/kg (2024 AEMP, Table 3.9-27) as data in Table 3.9-20 for the 20 samples has a mean of 0.14 mg/kg.

An updated Fish Response Plan is expected to be submitted in July 2025 which addresses the 2024 information on Action Level exceedances and potential response actions, including further investigations and mitigations. The Agency notes that the ARF focuses evaluations on near-field lakes; however, effects extend downstream to Nema and Slipper lakes for elevated mercury concentrations in fish muscle. For Whitefish, Nema Lake would exceed the HAL, and Slipper Lake the MAL. Mercury in Trout in the two lakes furthest from LLCF effluent, Nema and Slipper, exceeded the HAL, and Health Canada's consumption guideline in the case of Nema. Statistical evaluations are done for all these lakes; Response Plans should be considered for these furthest downstream lakes which are demonstrating effects. The Agency looks forward to including this in upcoming December discussions of the AEMP design.

Special Study

A special study was done in 2023 to determine the source of mercury to Kodiak Lake, which is not downstream of effluent (fish-size-adjusted mercury means in 2018 for both Trout and Whitefish were above the benchmark). It found that increasing mercury concentration in Kodiak fish was most correlated to influence of wetlands near the lake (through high Total Organic Carbon [TOC] and sulphate flowing out from there) and high production of

TABLE 3. LAKE TROUT & ROUND WHITEFISH ABOVE VARIOUS THRESHOLDS FOR MERCURY IN FISH TISSUE.

Lake Trout				
Lake:	% of sample above ARF screening value of 0.28 mg/kg wwt (sample size)	% of sample above the 0.500 mg/kg Health Canada guideline for infrequent eating of fish	Mean exceeding High Action Level	**Age in years** (for fish above Health Canada guideline)
Kodiak	100 (20)	75	yes	7 - 14
Leslie	100 (19)	47	yes	7 - 14
Moose	90 (20)	50	yes	7 - 14
Nema	90 (20)	55	yes	8 - 15
Cujo	73 (22)	18	yes	14 - 32

Round Whitefish n = 20				
Lake:	% of sample above ARF screening value of 0.23 mg/kg wwt	% of sample above the 0.500 mg/kg Health Canada guideline	Mean exceeding High Action Level	**Age in years** (for fish above Health Canada guideline)
Kodiak	30	0		-
Leslie	65	0	yes	-
Moose	65	10	yes	13 - 14
Nema	70	5*		3
Cujo	30	0		-

* Liver and muscle values may have been transposed (muscle concentration over 1.8x higher than liver conc for RDWH #20...Data Report p.631)

phytoplankton. Increasing sulphate can increase populations of sulfur-reducing bacteria known to methylate mercury to a harmful form; particles of organic carbon act as a substrate for this process. Inflow from the two wetlands had the highest amount of methylmercury as a percentage of total mercury of all streams monitored at the Ekati mine (16.2% & 20.5%). This study suggests that mercury is methylated in waters high in TOC and sulphate and enters fish in Kodiak Lake through biomagnification from water into phytoplankton then to zooplankton.

The Agency wonders whether the Kodiak study results also hold true for lakes downstream of effluent and if there is anything Burgundy can do to limit the loading of sulphate and TOC into these lakes. We look forward to a robust discussion of this with the company and all interested stakeholders during the AEMP re-evaluation process in December 2025.

Selenium in Fish: Effects on Fish Reproduction

Overview

Selenium in egg-bearing animals can cause harm to the next generation – fish can have elevated selenium in their bodies and not appear to be affected, but there is toxicity to their eggs and offspring. Bioaccumulation of selenium in fish ovaries can cause deformities to fish embryos. Neonate (hatched fish) deformities would affect their survival and thus lower recruitment into the population. Under the current AEMP fish monitoring protocol, effects may not be detected until they occur at a population level (i.e. reduced numbers). More effective monitoring for selenium toxicity would include measuring selenium concentration in fish ovaries and eggs as there is a direct correlation with impacts to larval stages.

Fecundity (ability to produce offspring) is known to be impacted by high selenium levels in fish. Fecundity indices in 2024 were the lowest ever recorded in Whitefish from lakes downstream of the LLCF. The previous fish monitoring year's report found that for lakes downstream of the LLCF "*a significant spatial trend of decreasing round whitefish egg count with proximity to mine infrastructure was observed*." (2018 AEMP, p. 3-90) As well, a metric of gonad mass, the gonadosomatic index (GSI), for females and especially males in most Koala watershed lakes has been trending lower since 2017. Also noteworthy is that the population index CPUE has declined for lake-bottom dwelling Slimy Sculpin in Leslie and Moose lakes in 2024 to the point it has exceeded the LAL for the first time in these lakes, while Slimy Sculpin body burdens of both selenium and mercury have maintained high levels since 2015 (2024 selenium over 1.5 times higher than the BCMOE 2025 whole body guideline; mercury above LAL).

Selenium levels in fish

Action levels for mean selenium concentrations in fish were triggered when concentrations exceeded the LAL, MAL and HAL Action Level conditions set out in the AEMP Design Plan (see Table 4).

TABLE 4: SELENIUM ACTION LEVEL EXCEEDANCES

	AFFECTED LAKES		
	Leslie Lake	**Moose Lake**	**Cujo Lake**
Round Whitefish	LAL (liver) MAL (muscle)	LAL (liver) LAL (muscle)	LAL (muscle and liver)
Lake Trout	MAL (muscle)	LAL (muscle)	
Slimy Sculpin	LAL (whole body)	LAL (whole body)	

Selenium continues to increase in tissues of large- and small-bodied fishes from monitored lakes, and these increases have been linked to mine-related activity. The highest concentrations are seen in the Whitefish liver samples from Leslie Lake, followed by Moose Lake. Whitefish muscle selenium concentrations are also significantly elevated in Leslie Lake. Mean Whitefish liver selenium (12.7 mg/kg dwt) is above the High Action Level[1] of 11.3 mg/kg in Leslie Lake, as it has been in the previous three consecutive fish monitoring years' AEMP. Selenium in Leslie Trout & Whitefish muscle continues to be high although slightly lower than in 2018. The Agency notes that levels are more than double the BCMOE 2025[2] whole body & muscle guideline of 4.0 mg/kg dwt for the protection of fish.

This selenium loading in Whitefish is attributable to LLCF discharge. Selenium in 2023 in Leslie Lake sediment, where Whitefish do much of their feeding, was high, as it was for the previous three sediment monitoring years, and in Moose Lake sediments selenium levels climbed to their highest concentration ever.

Given elevated levels of selenium can impact fish ovaries, lower fecundity rates and GSI in fish, and lower numbers of forage fish (Slimy Sculpin) that Whitefish may eat, there may be the start of reproductive impairment in fish downstream of the LLCF. Statistical analysis should be undertaken to determine if a correlation exists between selenium concentration in Whitefish tissue and reproductive indices (fecundity and GSI).

A mine-related effect, likely due to dietary selenium uptake, was concluded for Slimy Sculpin whole-body selenium concentrations downstream of the LLCF in Leslie, Moose, Nema, and Slipper lakes.

AGENCY RECOMMENDATION

To better characterize the potential for effects associated with increasing selenium exposure in Round Whitefish in lakes downstream of the LLCF, the Agency recommends that selenium concentrations be analysed in Round Whitefish eggs and ovarian tissue, and results compared to the Federal Environmental Quality Tissue Guideline (FEQG) of 14.7 ug/g dry weight for egg-ovary fish tissue.

To identify the extent of reproductive effects in Round Whitefish, sampling should be done before the next scheduled harvestable fish sampling year of 2030. The Agency recommends that a targeted sampling of Koala watershed Round Whitefish egg/ovary tissue be carried out in 2026. Results should be reported in both wet weight and dry weight.

Mean concentrations in Leslie Lake peaked in 2018 at 8.8 mg/km wet weight (wwt) and were 6.47 mg/km wwt in 2024. Whole-body tissue concentrations are reported in wet weight which isn't directly comparable to the Federal

[1] Leslie Lake mean selenium concentration in Round Whitefish liver of 12.68 mg/kg dwt is above the High Action Level — Condition H1 set at 11.3 mg/kg. However the AEMP report states it only exceeds LAL, which the Agency has flagged in a letter to WLWB explaining why we think otherwise.

[2] BC Ministry of Environment 2025. British Columbia Approved Water Quality Guidelines: Aquatic Life, Wildlife & Agriculture. Guideline Summary – May 2025. http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-quality/water-quality-guidelines/approved-water-quality-guidelines

Environmental Quality Guidelines (FEQG) value for selenium of 6.7 ug/g dry weight (dwt) but would be expected to exceed this if concentrations were converted to and reported as dry weight. There is typically a ratio of about 1:4 to 1:5 between wet weight and dry weight concentrations, which would suggest Slimy Sculpin levels well above High Action Levels. The Agency believes selenium concentrations for whole-body Slimy Sculpin analysis should be reported in dry weight as well as wet weight and evaluation of effects considered.

The updated Fish Response Plan to be submitted to the Board in July 2025 should identify what mitigative measures are necessary to address selenium loading in near-field and downstream lakes in which effects above action levels have been measured.

Data Outliers

The introduction to the 2024 AEMP Data Report states that this report includes "*A discussion of any outliers detected in the 2024 AEMP dataset that were removed prior to Evaluation of Effects*". We could not find any concise listing of all the data outliers that were removed from analysis for either water quality or biological metrics, with the reasons for being considered suspect, as was done in previous AEMP reports. Data outliers can be caused by such things as sample contamination, lab error or incorrectly transcribed number into data sheets. The Agency found previous AEMP reports' discussion of outliers helpful in evaluating data transparency and accuracy of results.

An example from the 2024 report of an outlier that requires an assessment for its inclusion or removal from the dataset is concentrations of lead measured in muscle samples of Slipper Trout. The reported mean of 2.4 mg/kg ***(Health Canada's guideline for maximum safe level in fish is 0.5 mg/kg.)*** is orders of magnitude higher than Trout sampled in Slipper Lake in all previous years, and in any other AEMP lake in all monitoring years. This higher-than-expected mean was attributable to a single Trout sample with 53.9 mg/kg of lead. Without that sample the mean would be less than 0.05 mg/kg. We could not find in the report nor appendices any reference to this one Trout sample as an outlier for lead.

Wastewater Discharged to the Aquatic Environment

There was no wastewater discharged from the Long Lake Containment Facility (LLCF) to Leslie Lake in 2023 and 2024. Between August 3 and September 11, 2024, 268,100 m^3 of wastewater was discharged from the Two Rock Sedimentation Pond into Horseshoe Lake. A volume of 465,685 m^3 of wastewater was discharged from the King Pond Settling Facility (KPSF) to Cujo Lake between June 24 and July 21, 2024.

Monitoring of three lakes downstream from the Point Lake development as part of the AEMP started in 2024. Blasting for construction of the Point Lake Open Pit began in May 2024. No effluent will be discharged from the Point Lake Development to the Point Lake Development Lakes (Connor, Alexia, and Thinner).

Dust monitoring stations

Air Quality

Highlights

- Ambient air quality generally remains good at the Ekati mine except for the significantly high summertime dustfall levels found within 90 m of the Misery and Sable haul roads.
- Dustfall reached background concentrations by 1,000 m from the haul roads, with seasonal averages of dustfall concentrations at 300 m from the roads remaining below the GNWT interim objective (1.53 mg/dm^2/day).
- Acid deposition calculated from nitrate and sulphate concentrations measured in dustfall exceeded the eastern provincial critical soil load threshold at one site (SABLE-U30).
- Reduced diesel use has contributed to a drop in estimated greenhouse gas emissions at the mine.

Definitions

Ambient Air Quality: the quality of outdoor air in the surrounding environment.

Concentration: the amount of a substance in a defined volume of air; usually expressed in units such as mg/m^3 or µg/m^3.

Data Recovery Rate: the number of samples collected compared to the number of samples that could have been collected. The rate is expressed as a percentage.

Dust Suppressant: products that prevent or reduce the amount of dust spreading into the air.

Greenhouse Gases: gases in the atmosphere that trap heat. They allow sunlight to pass through and warm the earth but prevent the warmth from leaving. Most common greenhouse gases are water vapour, carbon dioxide, methane, ozone, nitrous oxide and chlorofluorocarbons.

Meteorology: the science of weather and climate; the conditions of the atmosphere in an area.

Monitoring: collecting and analyzing repeated observations and measurements to illustrate conditions and to evaluate change and the impacts of change. Watching habitat and wildlife, and 'keeping an eye' on things all the time.

Particulates/Particulate Matter: very tiny pieces of dust, smoke, and other materials in the air. Some are big enough to see with your eyes; others can only be seen with a microscope. Particulate matter is a mix of particulates and liquid droplets.

Air Quality Monitoring at the Ekati Mine

The Air Quality Monitoring Program (AQMP) was started in 1998 as a requirement under the Environmental Agreement and is comprised of:

- meteorological monitoring;
- ambient air quality monitoring of airborne particulates, sulphur dioxide (SO_2), nitrogen dioxide (NO_2), nitric oxide (NO), and oxides of nitrogen (NO_X);
- dustfall monitoring;
- greenhouse gas (GHG) emission calculations; and
- snow chemistry and lichen tissue monitoring (every three years).

An expanded report is issued every third year; the 2024 report presents 2024 monitoring data and included broad comparisons to the original modeling predictions.

Meteorological Monitoring

Meteorological monitoring takes place at the Koala station near the airport where wind speed and direction, air temperature, humidity, precipitation and snow depth are monitored year-round. This is supplemented by limited observations collected by personnel at the Ekati airport.

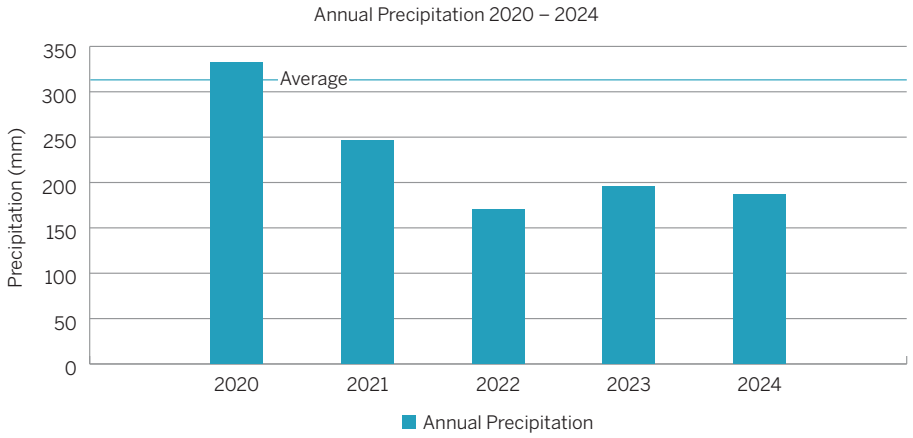
The annual average temperature at the Koala meteorological station in 2024 was -7.3°C, slightly warmer than the historical average of -8.8°C.

2024 was the seventh warmest year on record at the Ekati mine since monitoring began in 1995.

2024 was a very dry year, with annual precipitation of only 187 mm (40% of the 1994 – 2024 annual average) making 2024 the third driest year of total precipitation (a combination of snowfall and rainfall) at the Ekati mine since 1994 (Figure 3).

Prevailing winds at the Ekati Diamond Mine area were predominantly from the northwest and east-southeast in 2024.

FIGURE 3: ANNUAL PRECIPITATION FOR 2020 - 2024



Ambient Air Quality Monitoring

Total Suspended Particulate (TSP) levels are monitored at the Grizzly Partisol Station while TSP, fine particulate ($PM_{2.5}$), SO_2, NO_2, NO and NO_X levels are monitored at the Continuous Air Monitoring Building (CAMB) located near the main camp. Air quality monitoring results are compared to standards and guidelines established by the Government of the Northwest Territories (GNWT) and Canadian Council of Ministers of the Environment (CCME).

No TSP concentrations were measured above the 24-hour GNWT TSP standard of 120 µg/m^3 at the Grizzly Partisol Station with daily mean concentrations ranging from 0.5 to 75.4 µg/m^3. The annual mean TSP concentration of 11.6 µg/m^3 was under the annual GNWT TSP standard of 60 µg/m^3.

There were four exceedances at the CAMB station of the 24-hour standard for TSP between May and July in 2024 and $PM_{2.5}$ levels exceeded the 24-hour standard on two occasions. These exceedances were noted to occur during a period of high regional wildfire activity, which can contribute particulate matter and smoke. The Agency suggests that fugitive dust from the Long Lake Containment Facility (LLCF), roads and airport runway also likely contributed to the high TSP and $PM_{2.5}$ levels.

The hourly, daily and annual concentrations of SO_2 and NO_2 measured at the CAMB station were below the applicable standards in 2024 with the exception of one exceedance in May for the maximum 1 hour NO_2 value. There are no applicable standards for NO and NO_X. According to the CCME data quality objectives, a 75% data recovery rate is required to ensure confidence in any decisions made with the resulting data. The Agency notes that there were areas that lacked data completeness, notably TSP at 78% hours of valid data and $PM_{2.5}$ at 53% (Table 3.2-3). Clarification should be provided for these low $PM_{2.5}$ data completeness rates. Operational times for SO_2 and NO_2/NO/NO_x were high at 95% and 94%, respectively, in 2024, which is a significant improvement from 2023 operational times for NO2, NO and NO_X of only 15%.

AGENCY RECOMMENDATION

Data recovery rates for $PM_{2.5}$ were below CCME data quality objectives in 2024 and for TSP were just above objectives, and the Agency recommends that steps be taken to improve data collection for these parameters. The Agency supports the review of changes to air monitoring equipment at the CAMB to improve data collection.

Burgundy has stated that it will review potential changes to the air monitoring equipment, and QA/QC processes in the CAMB to allow for better data collection and/or consistent monitoring of air quality components, noting that the CAMB equipment is aging.

Dustfall Monitoring

Dustfall sampling was conducted at 27 monitoring stations located near haul roads, the LLCF and the airstrip, and two off-site reference stations in 2024. Stations are established along the haul roads on transects that cross perpendicular to the road length at distances 30 m predominantly upwind and 30, 90, 300 and 1,000 m downwind of the road to measure fugitive dustfall levels at varying distances.

In 2024, the seasonal dustfall levels at 300 m from the Misery, Lynx and Sable haul roads were all below the GNWT interim dustfall objective of 1.53 mg/dm^2/day for the 300 m distance. However, as noted in previous years, levels monitored 30 m and 90 m from the Misery and Sable roads continue to be significantly higher than those measured at the 300 m stations, and in 2024 all but one station

Dust suppressant stored in container on site

exceeded the dustfall objective. These dustfall levels, although not directly comparable to the GNWT interim objective because of their shorter distance from the road, again demonstrate the need for improving dust suppression on haul roads, particularly during exceedingly dry years as was 2024. For the sites at 30 m upwind and downwind and 90 m downwind of the haul roads, dustfall levels increased in 2024 compared to 2023 by 38% overall. Individual sites showed increases in the mean total dustfall observed of up to 70%.

The 2023 AQMP report states that: "*In 2023 EnviroKleen® and water was used around Main Camp, Misery Haul Road (from Km 1-5 and 24 to 27) and Sable Haul Road. EK-35 was used on the airport apron and airstrip*." Water was used to supplement road dust suppression at other locations.

The 2024 AQMP report states that: "*In 2024 EnviroKleen® and water was used around the Main Camp and Misery Haul Roads from kilometer 1 to 27 with marked spray zone and no spray zone markers. Sable Haul Road also applied an application of EnviroKleen® from kilometer 1 to 17 with marked spray zone and no spray zone markers. EK-35 was also applied on the airport runway, apron, and taxi-way. Road watering was used to supplement dust suppression when necessary*."

AGENCY RECOMMENDATION

Prior to active mining, a dustfall monitoring transect should be established between the intersection of the Point Lake Haul Road and the Lac du Sauvage Road, and the Misery site. The transect should be aligned with prevailing wind directions to effectively monitor fugitive dust from activities at the Point Lake Project.

It is not clear what would have caused the notable increases in dustfall levels, as it appears the extent of dust suppression application was increased. However, frequency of application is not specified, nor what conditions trigger use of dust suppressants. It is not clear how much EnviroKleen was used vs water on the Misery Haul Road. Given the continued high (and increased) dustfall levels measured at stations within 90 m of haul roads, Burgundy is encouraged to increase dust suppression efforts along the haul roads.

The dustfall monitoring sites JAY-U30, JAY-D30, JAY-D90 and JAY-D300 were discontinued in 2023, and this leaves no dustfall monitoring in the Point Lake Project area. With the increase in mining and activity along the haul road occurring in this area, the Agency suggests that a dustfall monitoring transect be established.

Burgundy is considering changing the way dustfall monitoring data are managed, as noted in Section 3.1.3:

"*Each dustfall station consisted of two adjacent monitoring stands to collect dustfall for laboratory analysis. Each collection bottle was exposed for a period of approximately 30 days, after which the bottle was collected by Burgundy staff and sent for laboratory analysis. Samples were analyzed for particulates (soluble and insoluble), anions, nutrients (sulphate, nitrate, chloride, and ammonia) and total metals. Two samples from each station were analysed by BV laboratory.* ***In this and past reports, the highest concentration from each station was used for further analysis. As this is an overly conservative method when comparing collocated samples, consideration is being reviewed to use the average of collocated samples*** *for future AQMP reports*."

Before such changes are made there needs to be consideration given to how this may affect the comparability of data going forward.

Acid Deposition

The 2024 AQMP Report states that: "*Acid deposition was calculated from the acid loading of sulphate and nitrate deposition assessed at the dustfall monitoring stations from the months of June to September. The calculated acid deposition for all stations ranged from 20.6 eq/ha/year (AQ-49 and AQ-54 in June/July and Air-P125 in July/August) to 492.5 eq/ha/year (Air-P162 in June/July). The calculated acid deposition for background stations AQ-49 and AQ-54 ranged from 20.6 to 195 eq/ha/year in 2024. The highest mean and median values observed at all sites was 322 and 375 eq/ha/yr respectively (SABLE-U30). This median value is above the 5th percentile critical soil load for two out of six of the eastern provinces...*"

The Agency acknowledges that critical soil load standards are not available for the NWT, but notes that a Potential Acid Input load of 250 eq/ha/yr is the standard for highly sensitive soils adopted by the Government of Alberta. Burgundy has not provided an evaluation of the potential significance of the reported deposition levels.

Vent raise for the Koala Underground, October 2023

Greenhouse Gas Emissions

Diesel fuel is used in mine vehicles, to heat buildings and to generate electricity; combustion of which is the major source of GHG emissions with smaller sources being the combustion of jet fuel, open pit blasting, solid waste incineration, composting and sewage plant emissions. GHG emissions in 2024 were calculated to be 157.4 ktCO_2e (kilotonnes of carbon dioxide equivalent), a reduction of 8% from estimated 2023 emissions. This reduction is due to reduced transportation consumption and a drop in diesel used for blasting.

The Agency notes that there was no waste oil consumption in 2024 (reported as zero) and questions whether waste oil heaters are being phased out.

Solid waste incinerator building

Solid Waste Incinerator Air Emissions Testing

The Incinerator Management Plan requires Burgundy to complete air emissions stack testing of the two solid waste incinerators operating at the Ekati mine once every three years. Emissions testing was delayed from 2023 until 2024 due to the lack of available transportation and logistical support caused by wide-spread wildfires in the NWT. The AQMP report states that stack testing was done in 2024 with all results below CCME standards for mercury and dioxins and furans, and that results suggest complete combustion is being achieved in both incinerators. Test data were not provided in the report for the 2024 stack testing. The Agency requests that stack testing results be included in AQMP reports.

Air Quality Report Section 4 Recommendations

This section of the report (Section 4, page 4-1) includes errors and text copied from the 2023 report; it leaves out the recommendation to remove Lynx dustfall stations and includes a recommendation (#2) on snow chemistry and lichen sampling locations that was from the 2023 report. Recommendation #3 is similarly from the 2023 report and not relevant to the 2024 report. The Agency suggests an update with corrections to this section would be helpful.

Sable WRSA, October 2024

Waste Rock Management

Highlights

- In 2024, 8.04 million mt of waste rock and overburden were deposited in three waste rock storage areas (WRSA), the majority from the Point Lake Development. The Coarse Kimberlite Reject Storage Area received 1.14 million mt, for a total waste amount of 9.18 million mt. This was a drop from the 2023 total of more than 17.6 million mt of waste.
- The Point Lake Waste Rock Storage Area construction proceeded, including a basal layer for the waste rock and overburden stockpiles, seepage collection channels and a collection sump. Placement of waste rock and overburden began in 2024.
- Burgundy submitted the Seepage Response Framework (SRF) v1.0. and has been directed to submit v1.1 with revisions. The purpose of the SRF is to set action levels for seepage quality and identify potential actions to be taken if exceedances occur.

Definitions

Acid Neutralizing Potential: the ability of rock waste to buffer against changes in acidity.

Acid [rock] Drainage: outflow of water that has become acidic from contact with exposed rock surfaces in waste rock piles, pits and underground workings.

Daylight/Daylighting: the emergence of seepage from a waste rock storage area to the surface of the adjacent ground.

Kinetic Geochemical Testing: a category of laboratory testing where measurements designed to predict the likelihood of acid drainage from rocks are made over a long period of time (e.g., one year).

Metasediment: a type of metamorphic rock; rock transformed by heat, pressure, other natural actions.

Neutralize: to make something neutral or harmless. In this case, to make an acidic or alkaline substance chemically neutral.

Overburden: rock or soil or lake bottom mud covering a mineral or diamond deposit.

Seepage: the slow escape of liquid through a porous material or small holes. In this case, water escaping from waste rock piles that may contain contaminants.

Seeps of Potential Concern: seeps where the concentration of a contaminant is greater than the regulated maximum concentration or is greater than 95% of all historical data of a waste rock pile (WRSA) more than once during a two-year sampling period.

Static Geochemical Testing: a category of laboratory testing where measurements designed to predict the likelihood of acid drainage from rocks are made over a short period of time (e.g., one day).

Unauthorized Release: A release of any water or waste to the environment that is not authorized under the Water Licence or Land Use Permit.

Metric Tonnes (mt): 1,000 kilograms of a material in its natural state, e.g. waste rock or coarse kimberlite.

Waste Rock Storage Areas

Large quantities of overburden material and adjacent rock must be removed to access the deeper kimberlite ore. This waste material is transported from the pits and underground by truck and deposited in large areas known as Waste Rock Storage Areas (WRSA). These storage areas require careful planning and management as they are permanent landscape structures that will remain in place following closure of the mine site.

There are currently four WRSAs at the Ekati mine that have reached their final closure footprints and heights - Panda/Koala/Beartooth, Fox, Lynx and Pigeon. The Misery WRSA is still receiving modest quantities of waste rock from the Misery Underground mining but is near its final height. The Sable Pit remained active in 2024 and waste rock was continually added to the adjacent WRSA, which includes a recent extension. Construction of a new WRSA and overburden stockpile for the Point Lake Development began in 2024. In addition, there is a large active pile of waste kimberlite, known as the Coarse Kimberlite Reject Storage Area (CKRSA), located within the Panda/Koala/Beartooth WRSA but managed separately. A description of each storage area is provided in Table 5 (see page 50).

Waste Rock Management

Waste rock was principally produced at the Point Lake Development and the Sable Pit, with minor amounts from the Misery Underground in 2024. A total of just under 9.2 million metric tonnes (mt) of waste rock, overburden and coarse kimberlite was deposited at four locations in 2024 (Table 6).

TABLE 6 – WASTE ROCK, OVERBURDEN AND COARSE KIMBERLITE REJECT MATERIAL DEPOSITED IN 2024.

Source of Waste Rock & Overburden Produced	Deposit Location	Quantity (mt)
Sable Pit	Sable WRSA	2,408,891
Misery Underground	Misery/Lynx WRSA	97,809
Point Lake Pit	Point Lake WRSA	5,537,279
Central Mill Processing Facility	CKRSA	1,141,789

TABLE 5 – WASTE ROCK STORAGE AREA (WRSA) PHYSICAL CHARACTERISTICS[1]

WRSA	Panda/ Koala/ Beartooth	Fox	Pigeon	Misery	Lynx	Sable	Point Lake	Point Lake Overburden	Coarse Kimberlite Reject[2]
Operational Status	Complete	Complete	Complete	Active	Complete	Active	Planned	Planned	Active
Rock Types	Granite Diabase Till	Granite Diabase Kimberlite Till	Granite Metasediment Till	Granite Diabase Metasediment	Granite Diabase	Granite Diabase	Metasediment	Overburden	Coarse Processed Kimberlite
Planned Footprint (square kilometers)	3.4	3.2	0.8	1.1	0.3	1.8	0.7	0.3	1.2
Planned Height (m)	50 (now at 40)	50	70 (now at 58)	65	35 (now at 32)	65/60/42	48	40	50
Internal Facilities[3]	Overburden Stockpile Waste Rock Quarry Landfill Landfarm	Overburden Stockpile HC Impacted Material[4]	None	Overburden Stockpile Landfill HC Impacted Material[4]	None	None	None	None	None

Notes
1 Source – Interim Closure and Reclamation Plan v3.1 with updates from WROMP V13.1 Table 2.4-3.
2 The Coarse Kimberlite Storage Area is located within the Panda/Koala/Beartooth WRSA and is managed separately.
3 'Internal Facilities' refers to other types of materials stored within the footprint of the WRSA.
4 Hydrocarbon Impacted Material is rock and soil greater than 4 cm in diameter that contains spilled hydrocarbons.

Waste Rock Geochemical Testing

Waste rock from active mining areas is sampled for physical and chemical testing, including acid-base accounting (ABA) and the measurement of major and trace elements, including metals. This testing is necessary to determine the best way to manage and store the waste, to determine suitability for use as a construction material, and to develop closure and reclamation plans and strategies.

Three samples of waste rock from Misery Underground are tested each year, and the CKRSA is sampled quarterly. Samples collected in 2024 from Misery Underground and the CKRSA were classified as being non-Potentially Acid Generating.

Testing of waste rock for acid-base accounting at the Point Lake Development is to be done at a rate of three samples per rock type per bench per year. Nearly all (99%) of the waste rock associated with the Point Lake Pit will be metasediment, which must be managed as being Potentially Acid Generating.

The sampling of waste rock at the Sable Pit was completed in 2019 after only two years of operation because, at that time, the Wek'èezhìı Land and Water Board (WLWB) agreed with Arctic Canadian Diamond Company that the likelihood of acid rock drainage and metal leaching from the granitic waste rock was low. The Agency does not agree with this approach and suggests that routine sampling at all areas of mining occur, which is consistent with modern mining practices and closure planning.

Point Lake Waste Rock Storage Area

Waste rock from the Point Lake Pit is different than other waste rock at the Ekati mine as it is almost all metasediments. Geochemical testing confirms that metasediment has a greater potential than other waste rock types at the Ekati mine to generate acid and release metals and other contaminants in seepage that

daylights from the WRSA. As a result, seepage must be collected and managed in the King Pond Settling Facility (KPSF) and/or Lynx Pit before being released to the environment, and the WRSA maintained in a perpetually frozen state following closure.

The Point Lake WRSA Design Plan v1.1 was approved by the WLWB in November 2023 allowing construction of the Point Lake WRSA to proceed. The WRSA has separate waste rock and overburden stockpiles located adjacent to the pit. Channels have been constructed at the toe of the WRSA to convey the daylighted seepage to a collection sump for transfer to the KPSF. The WRSA Design Plan also proposes a preliminary closure cover design using a 3 m layer of overburden and 0.5 m layer of granite waste rock for a total cover thickness of 3.5 m.

Installation of ground temperature monitors is required during construction of the WRSA. Burgundy will identify locations and techniques for the installation of thermistors that will measure temperature. The Agency is aware that functioning thermistors have not been maintained at many other WRSA and we expect that Burgundy will maintain ongoing capacity to measure temperatures at Point Lake.

Point Lake Overburden Storage Area

The overburden pile is designed to store up to 5.6 million m^3 of lake overburden material, with a final maximum design height of 40 m. An estimated 2.5 million m^3 of the overburden would be used for construction of the 3 m thick WRSA closure cover.

Collection of seepage and runoff at the Point Lake overburden pile, access road and work pad is not required, but Burgundy is required to conduct monthly visual inspections for seepage at the toe of the pile during its construction.

Sable Development Storage Pad Expansion

The Sable Ore Pad Extension covering 8.9 hectares (ha), and the Crusher Stockpile Pad covering 12.7 ha were approved by GNWT Environment and Climate Change division in 2024. These pads are situated south and east of the Sable Pit, and extend outside the watersheds of the previously disturbed area. The Agency notes that there has been no assessment of any potential effects of seepage entering a new watershed, nor evaluation of baseline conditions in the adjacent lakes. Unlike new applications for Land Use Permits and Water Licences which are subject to preliminary screening and public review through the WLWB, a public review of these laydown area expansion requests was not undertaken; the GNWT concluded that the changes fell within the scope of Burgundy's existing Land Use Permit and Water Licence.

Seepage Management

Water that contacts waste rock and emerges from WRSAs is referred to as seepage and is regulated under Ekati's Water Licence. All seepage leaving the waste rock pile must meet the Effluent Quality Criteria (EQC) established under the Water Licence; where seepage has concentrations that exceed the EQC, any discharge is an unauthorized release.

Seepage fundamentally differs from large point sources of controlled discharges of wastewater, such as the Long Lake Containment Facility (LLCF), because of its inconsistent and intermittent occurrence, short surface flow through terrestrial environments and potentially multiple flows into a single receiving waterbody. For this reason, it is widely recognized that the current management process is not suitable for managing the ecological risks associated with seepage. During the 2022 Water Licence Renewal proceedings, the mine proposed managing seepage from waste rock piles via a Seepage Response Framework (SRF), which would work in conjunction with Ekati's existing seepage sampling and monitoring program. The SRF includes setting Action Levels for seepage quality and identifying pre-determined responses that would be taken when action levels are exceeded. This approach is intended to provide an improved "early warning" system to protect the terrestrial environment into which seeps daylight as well as downstream waterbodies (lakes and streams) and aquatic life (fish, invertebrates, aquatic plants and algae).

The Agency believes this proposed seepage management approach holds promise for better managing seepage and provided a detailed technical review to the WLWB when Version 1.0 was submitted by Burgundy and circulated for public review in May 2024. Approval of this version was denied, and Burgundy was advised to resubmit Version 1.1 addressing a number of deficiencies and concerns raised in the review. Until a new Response Framework is approved, the existing management process (e.g., all seepage must meet EQC where it daylights from a WRSA) continues to apply.

There were 10 seeps identified that exceeded ECQs in 2024 (see Table 7). In response, silt-curtains were installed to intercept flow from four seeps, and further measures planned for two other seeps in Spring 2025. Three of the seeps flowed into a containment facility.

TABLE 7 – SEEPS THAT EXCEEDED EQCS IN 2024

Seep	Location	Parameters exceeded
Seep-530	Beartooth/Panda/Koala SW, incl. CKRSA	Sulphate, selenium
Seep-545	Beartooth/Panda/Koala SW, incl. CKRSA	Sulphate, selenium
Seep-355	Beartooth/Panda/Koala SW, incl. CKRSA	Arsenic
Seep-377	Fox WRSA	TSS
Seep-388	Fox WRSA	TSS
Seep-546	Point Lake WRSA Seepage Sump	pH, copper, aluminum, iron
Seep-080	Lynx Crusher Pad	Copper, cadmium
Seep-080A	Lynx Crusher Pad	Copper, cadmium
Seep-081	Lynx Crusher Pad	Copper, cadmium
Seep-081A	Lynx Crusher Pad	Copper, cadmium

Construction of the Point Lake seepage collection channel, October 2024

Seepage Water Quality Surveying and Testing

Seepage surveys are done twice a year, during spring freshet and again in fall. Seepage samples are collected from where they are found to be daylighting from a WRSA and are analyzed for water quality. Reference seepage sites on the tundra are also sampled and analysed to allow comparison with natural water quality and help differentiate changes due to climactic and hydrological conditions.

In 2024 the margin or "toe" areas of each WRSA (Panda/Koala, including the CKRSA, Fox, Misery, Lynx, Pigeon, and Sable) were checked on foot along the tundra in all areas where drainage flowed away from the waste rock. Water quality samples were collected from all seeps with measurable flow (seeps with standing water were not sampled). As in 2023, none of the Sable WRSA seeps were flowing so this area was not sampled in 2024.

Under the current management process, seepage quality is compared to EQC and the historical seepage dataset to identify potential unauthorised discharges and long-term trends. Seeps that exceed these criteria are classified as Seeps of Potential Concern (SoPC). A total of 30 unique seeps were sampled in 2024 and of these, a total of 12 SoPCs were identified in 2024. This compares to 34 seeps sampled in 2023, with 12 SoPCs identified.

For the Point Lake Development, construction site contact water was sampled in 2024 and reflected slightly acidic pH levels and relatively high Total Suspended Solids measurements, along with nitrogen compound residues that arose from blasting activities at the site. Going forward, seepage from the Point Lake WRSA will be managed through the collection ditches and sump constructed in 2024 to collect seepage for transfer to the KPSF and/or Lynx Pit. Point Lake WRSA seepage will be monitored monthly during the ice-free season, and the Overburden Stockpile toe area will have monthly visual inspections for seepage during construction then any seepage flows will be sampled under the current seepage sampling protocol.

Burgundy reports that seepage quality across the WRSAs generally showed similar concentrations and seasonal trends (freshet to fall) when compared to historical data sets. Despite the similarities, several general trends continue to be displayed: decreasing levels of nitrogen compounds suggest the progressive flushing of explosive and blasting residue within the WRSAs; variable levels of dissolved metals and other parameters suggest chemical weathering or dissolution is continuing to occur along the internal flow paths; and a slow progressive increase in pH levels in daylighting seepage continues to be observed.

Misery Camp, October 2024

Wastewater and Processed Kimberlite Management

Highlights

- Burgundy completed dewatering of Point Lake, with water now stored in Lynx Pit and KPSF, or discharged through KPSF;
- Burgundy has made progress on management of dams including tailings dams, by completing a Dam Safety Review, Dam Classification Assessment, and Operations, Maintenance and Surveillance Manuals. These are positive steps but there is more work to be done to make Burgundy's dam management consistent with current best practices for tailings dams.
- The Agency believes that having an independent technical review group for the tailings dams is an important best-practice that will help reduce risks for dams.

Definitions

Effluent Quality Criteria (EQC): numerical or written limits on the quality or quantity of effluent authorized for deposit to a water body.

Fine Processed Kimberlite (FPK): very small particles (sand, silt, clay) sized less than 0.5 mm in diameter, left over as waste from the process of removing diamonds from the kimberlite ore. FPK is the fine portion of Tailings. .

Tailings: by-products of mining, consisting of the processed rock or soil left over from the separation of the commodities of value (i.e., diamonds at the Ekati mine) from the rock or soil within which they occur[1]. At the Ekati mine, Burgundy refers to tailings as Processed Kimberlite.

Wastewater: water that is impacted by mining activities and facilities, either by contact with mine wastes (e.g., waste rock, processed kimberlite) or mine disturbances (e.g., roads), or through use in mine-related processes.

[1] International Council on Mining and Metals, United Nations Environment Program, Principles for Responsible Investment. August 2020. Global Industry Standard on Tailings Management.

Wastewater Discharge and Containment

Burgundy Diamond Mine (Burgundy) is authorized to discharge wastewater from specific locations at the Ekati mine provided that the water meets Effluent Quality Criteria (EQC). In 2024 Burgundy discharged over 734,000 m^3 of wastewater including 466,000 m^3 from King Pond Settling Facility (KPSF) at the Misery site to Cujo Lake and 268,000 m^3 from Two Rock Sedimentation Pond (TRSP) at the Sable site to Horseshoe Lake. Burgundy did not report any other discharges of wastewater.

As shown in Table 8, volumes of wastewater discharged in 2024 were similar to those in 2023 and continued to be much lower than previous years. Most of the wastewater discharged in 2020 and 2021 was from the LLCF to Leslie Lake, while most of the discharge in 2022 was from Point Lake to Lac du Sauvage coming from Point Lake dewatering. The 2023 and 2024 discharges from the KPSF were mostly from Point Lake dewatering. The 2024 discharge from TRSP was the largest annual discharge from that facility, exceeding the 2021 discharge of 217,000 m^3.

TABLE 8 – WASTEWATER DISCHARGE VOLUMES OVER THE PAST FIVE YEARS

Year	LLCF to Leslie Lake (m^3)	KPSF to Cujo Lake (m^3)	TRSP to Horseshoe Lake (m^3)	Total (m^3)
2024	0	466,000	268,000	734,000
2023	0	790,000	0	790,000
2022	0	0	61,000	4,302,000[a]
2021	7,540,000	308,000	217,000	8,065,000
2020	16,041,000	0	0	16,041,000

Note a: Includes 4,241,000 m^3 of dewatering from Point Lake pumped to Lac du Sauvage.

Two Rock Sedimentation Pond with Sable WRSA to the left, October 2024

According to the Water Licence, before starting any discharge Burgundy has to submit water quality data to the Inspector to demonstrate that the water meets the EQC, and it cannot start the discharge until the Inspector provides written authorization. For the 2024 discharge from the TRSP, Burgundy collected a sample on May 27 and received the results from the lab on June 11. The lab report does not indicate that Burgundy requested rush analysis for the sample. Following receipt of the results, Burgundy did not make a request to discharge until June 20, more than three weeks after the sample was collected, and the Inspector authorized discharge later the same day. However, Burgundy did not start the discharge until August 3, almost 10 weeks after collection of the confirmatory sample that was the basis for the decision to authorize discharge. Throughout this time, mining activities were active at Sable resulting in inflows from mine sources into TRSP. The lengthy delay between sample collection and actual start of discharge increases the risk of non-compliant discharge.

Burgundy is also authorized to use fresh water and certain wastewater for dust suppression on roads. Burgundy used approximately 101,000 m^3 of water for road watering in 2024; approximately 36,000 m^3 of wastewater from TRSP, approximately 52,000 m^3 of fresh water from Lac de Gras and approximately 13,000 m^3 of fresh water from Falcon Lake. The total amount of water used for road watering is less than in 2023 (approximately 153,000 m^3) potentially indicating somewhat less effort to control dust from roads at the Ekati mine.

As part of ongoing operations, Burgundy also collects and transfers wastewater in and among facilities at the site. The management of open pit and underground wastewater during 2024 is summarized in Table 9.

TABLE 9 – 2024 OPEN PIT AND UNDERGROUND WATER MANAGEMENT

Mine Area	Source	Water Management Action	2024 Volumes (m^3)
Panda-Koala	Open Pit	Pumped to LLCF or Process Plant.	0 to LLCF or Process Plant
Beartooth	Open Pit	Pumped to LLCF.	0 to LLCF
Fox	Open Pit	Pumped to LLCF during operation. Currently accumulating in pit.	0 to LLCF
Pigeon	Open Pit	Pumped or trucked to LLCF or Beartooth PCKA during operation. Currently accumulating in pit.	0 to LLCF or Beartooth PKCA
Sable	Open Pit	Pumped or trucked to TRSP.	42,000
Lynx	Open Pit	Pumped or trucked to KPSF.	0 to KPSF
	Misery Underground	Pumped to KPSF.	86,000
Misery	Misery Pit	Pumped to KPSF.	137,000
	KPSF	Pumped to Lynx Pit.	370,000

Cell C of the Long Lake Containment Facility, October 2024

All sewage wastewater from the site is treated in the sanitary sewage treatment plant located at the main camp. Sewage from washroom facilities outside of the main camp complex is trucked to the sewage treatment plant. Treated wastewater from the sewage treatment plant flows through a pipeline to the process plant, where it is mixed with Fine Processed Kimberlite (FPK) and then discharged to one of the processed kimberlite containment areas. In 2024 Burgundy discharged 73,000 m^3 of sewage effluent.

Point Lake Dewatering Program

Point Lake dewatering continued in 2024, with approximately 460,000 m^3 of fresh water pumped from Point Lake to KPSF in July and August. Wastewater from KPSF was then either pumped to Lynx Pit (approximately 370,000 m^3) or discharged to Cujo Lake. Burgundy initially planned to complete the Point Lake dewatering in 2022, but only completed the initial phase of dewatering to Lac du Sauvage. Dewatering continued through 2023. Burgundy reports that dewatering was completed in 2024.

Based on concerns about remaining capacity in KPSF and Lynx Pit in early 2024, the WLWB required Burgundy to provide a contingency plan for management of water from these facilities if discharge from KPSF was not authorized, for example due to water quality exceedances, in 2024. Burgundy identified its contingency plan in a May 1, 2024 letter, proposing that if KPSF and Lynx Pit reached capacity, Burgundy would cease dewatering of Point Lake.

KPSF Discharge

In October 2024, Burgundy notified the Inspector that it exceeded its EQC during discharge from the KPSF in July 2024. The concentration of total aluminum in the effluent exceeded the maximum average concentration allowable for three of five samples collected during the discharge period between June 24, 2024 and July 21, 2024. As a result, the average concentration of total aluminum exceeded the maximum average concentration for the most recent four samples two times during the discharge.

Burgundy did not receive the lab results that identified the first exceedance until July 31, 2024 because it does not receive analytical results until two to three weeks after sampling. As a result, Burgundy did not identify the exceedance until ten days after it had already stopped discharging. Burgundy argues that the delay in receiving lab results means that there was no immediate action that could be taken because the discharge had already stopped. As a follow-up action, Burgundy proposes that the Aquatic Effects Monitoring Program is designed to identify any adverse effects.

In its report to the Inspector, Burgundy states that the exceedance of the EQC for aluminum was a result of elevated concentrations of Total Suspended Solids (TSS). While the

concentrations of TSS (1.9 to 5.6 mg/L) were well below the EQC (15 mg/L Maximum Average, 25 mg/L Maximum Grab), the data provided with the report indicate that there may be a correlation between TSS and total aluminum.

The Agency believes that exceedance of EQC should lead to identification of methods to reduce risks of future exceedances, which are a non-compliance with the Water Licence. This is particularly important for facilities like KPSF where discharge is expected to continue as the Point Lake Development progresses. The Aquatic Effects Monitoring Program is intended as a tool to identify unexpected effects arising from ongoing compliant mining activities, it is not intended to address non-compliance issues.

Burgundy should identify additional measures aimed at preventing exceedance of EQC, including maximum average concentrations, in future discharges. The 2024 exceedance at the KPSF indicates that several changes should be considered, including:

- Using rapid lab turnaround for compliance related samples during discharge periods.
- Being proactive about water quality results when considering maximum average concentrations. For example, the first two samples collected during the discharge period were below the maximum grab concentration, but well above the maximum average concentration for aluminum. Proactive responses to reduce concentrations early in the discharge may have reduced the average concentrations in a timely way.
- If TSS is correlated with total aluminum, TSS may be a useful parameter for managing discharge almost in real time. On site analysis for TSS is straightforward and the Agency understands that it is available at the Ekati mine.

The WLWB public registry does not include any response from the Inspector about this non-compliant discharge. As a result, there is no evidence that the GNWT has defined any specific expectations for how Burgundy should address the non-compliance.

KPSF Operations and Maintenance

The Annual Geotechnical Inspection for the KPSF recommends that Burgundy should lower water levels in KPSF as low as practically possible prior to freeze up each year, to reduce the thermal load on the dam. Burgundy reports that the water level in KPSF was 445.60 m above sea level in October prior to freeze up, the highest level recorded during the year, and 0.5 m above the level reported at freeze up in 2023. Burgundy should revise its operational practices to ensure that water levels at KPSF and other facilities are managed in accordance with geotechnical recommendations. These requirements should be included in the Operations, Maintenance and Surveillance (OMS) Manuals, and requirements of the Manuals should be implemented.

Initial stripping of Point Lake, October 2024

Fine Processed Kimberlite and Process Plant Water Management

In 2024, approximately 80% of FPK and 79% of process plant liquids were placed in the Panda and Koala pits, with the LLCF receiving the remaining portions. Table 10 lists volumes of FPK and process plant water deposited in each storage facility in 2024. Substantially more FPK was placed in the LLCF in 2024 than in 2023 (117,000 m^3).

The LLCF remained as the sole source of water for the process plant, with approximately 5.4 million m^3 of water withdrawn from the LLCF in 2023 and only approximately 1.4 million m^3 of wastewater returned to the LLCF with FPK, creating a deficit of water in the LLCF. This approach, which has been taken since 2020, is fundamentally different from the ongoing recycle of process water that occurred prior to 2020 when FPK with the associated process water was all deposited in the LLCF.

The ongoing water deficit in the LLCF created by use of water in the Process Plant led Burgundy to request authorization to use fresh water from Upper Exeter Lake to meet water demands on site. In the 2023 Water Licence renewal, the WLWB authorized contingency use of fresh water from Upper Exeter Lake for meeting Process Plant demands. Burgundy can now pump fresh water from Upper Exeter Lake to the LLCF for use in the processing plant under certain conditions. Water use for this purpose is limited to 4 million m^3 per year. In any year that Burgundy wants to transfer Upper Exeter Lake fresh water to the LLCF, it can only do so after providing a report to the Inspector that describes how much fresh water is needed and the criteria and conditions that led to the need for fresh water. Burgundy did not use any fresh water from Upper Exeter Lake in 2024. It also did not report any transfer of water from Beartooth Pit to the LLCF to make up any deficit in 2024.

As in previous years, the Agency remains concerned about the implications of using fresh water from Upper Exeter Lake to supply the Process Plant. The reliance on fresh water instead of recycled water will lead to increased accumulation of wastewater on site, primarily in the Panda and Koala pits. This wastewater will require active management as part of closure and reclamation. As a result, the accumulation of wastewater has an associated accumulation of closure liability. In response to Agency comments about the Wastewater and Processed Kimberlite Management Plan, the WLWB has directed Burgundy to address this issue during development of the closure and reclamation plan.

TABLE 10 – FPK AND WATER VOLUMES DEPOSITED INTO PK CONTAINMENT FACILITIES IN 2024

Facility	Process Plant Solids – FPK (m^3)	Process Plant Liquids (m^3)
LLCF	331,000	1,386,000
Panda Pit	374,000	1,579,000
Koala Pit	946,000	3,617,000
Beartooth PKCA	0	0

Wastewater transferred by truck from the Point Lake seepage collection channel to King Pond

Management of Dams

In 2024, Burgundy made important progress in several aspects of the management of dams at the Ekati mine.

- July 2024: Dam Safety Review Reports provided for the Long Lake Outlet Dam and Panda Diversion Dam
- November 2024: Dam Classification Assessments Report
- December 2024: Updated OMS Manual for the Processed Kimberlite Containment Area
- December 2024: OMS Manual for Water-Retention Structures

These are all important steps in making Ekati's dam management practices consistent with current best-practice for management of mining dams, for example in accordance with guidance from the Canadian Dam Association (e.g., Dam Safety Guidelines and the Technical Bulletin: Application of the Dam Safety Guidelines to Mining Dams), the Mining Association of Canada (e.g., Towards Sustainable Mining Tailings Management Protocol) and the Global Industry Standard on Tailings Management. The Agency is pleased to see that Burgundy is making progress in this area. However, additional work is still required.

The Agency's review of the Dam Classification Assessment Report concluded that there was not enough information or analysis to support the risk classification for some dams. The WLWB directed Burgundy to provide a revised report with additional detail.

The Dam Safety Reviews concluded that the Long Lake Outlet Dam and Panda Diversion Dam are reasonably safe with no immediate signs of failure, but identified several deficiencies that need to be addressed. Some of these deficiencies are outstanding from previous annual geotechnical inspections and others were identified as part of the review. There are also outstanding deficiencies and recommendations for other facilities from previous annual geotechnical inspections. Unfortunately, some of the recommendations from annual geotechnical inspections lack clear guidance about priority, for example many recommendations propose implementation "when resources permit" or "when resources become available." At operating mines, these descriptions of priority are unlikely to lead to implementation. Burgundy provided a plan for addressing some of the deficiencies and recommendations identified in the Dam Safety Reviews, but in some cases the schedules and actions are not clear. Some recommendations for monitoring activities are not addressed in the new OMS Manuals.

The OMS Manual for the Processed Kimberlite Containment Area clearly identifies the Engineer of Record for the tailings facilities, indirectly addressing the requirements of the Water Licence related to identification of the Engineer of Record and the engineer's acknowledgement of the role, and also addressing an outstanding Agency concern. For other water retention structures, the OMS Manual does not specify the Engineer of Record, only identifying the consulting company.

The Agency is hopeful that the progress on dam management at the Ekati mine will continue and looks forward to reviewing a revised version of the Dam Classification Report, as well as the plans and actions aimed at addressing deficiencies and recommendations from the Dam Safety Review and Annual Inspections.

Independent Tailings Review Panels are now best-practice for tailings management facilities like the LLCF and provide a mechanism for independent oversight about the design, operation and closure of tailings facilities. The Water Licence provides for possible establishment of a Tailings Review Panel, but the WLWB decided that it would wait until submission of the first Annual Geotechnical Inspection Report before making a final decision about the need for an Independent Tailings Review Panel. In its decision about the Dam Classification Review Report, the WLWB concluded that it needs additional information to support a decision about the need for a Tailings Review Panel, and directed Burgundy to address whether a panel is needed as part of the revised Report.

AGENCY RECOMMENDATION

The Agency believes that best-practice for tailings facilities requires the establishment of an Independent Tailings Review Panel and therefore the Agency recommends that WLWB require the establishment of the Panel and that Burgundy establish an Independent Tailings Review Panel regardless of regulatory requirements.

Thermosiphons at the compliance point of discharge for the Long Lake Containment Facility, October 2023

Fog drifting from Pigeon Pit

Closure and Reclamation

Highlights

- The 2024 Annual Closure and Reclamation Plan Progress Report (Burgundy, January 2025) does not describe any substantive progress on closure planning in 2024. Burgundy failed to meet a December 2024 deadline to identify mine components where mining activities are complete.
  It also requested extensions of deadlines to submit FCRPs for the Pigeon Pit and Pigeon WRSA where mining activities were completed in 2022.
- The absence of security to cover the costs of the winter road during closure means that there is a substantial liability currently held by public government if it is required to carry out closure and reclamation activities.
- CIRNAC and GNWT initiated a public review related to proposed updates of the RECLAIM model, the cost estimating model used to estimate the liability for closure and reclamation at mine sites.

Definitions

Progressive Reclamation: Reclamation activities undertaken before the end of commercial mining activities, generally used for areas and site components where mining activities are complete. .

Surety Bond: A financial guarantee from a bonding company to cover closure and reclamation costs if the mine operator defaults on its obligations to complete closure and reclamation. Surety bonds typically require governments to draw from the bond to recover costs incurred in meeting a mining company's obligations. Surety bonds do not directly affect a mining company's capital borrowing capacity.

Irrevocable Letter of Credit (ILOC): A financial guarantee, typically from a bank, to cover closure and reclamation costs if the mine operator defaults on its obligations to complete closure and reclamation. ILOCs are typically an unconditional obligation to pay upon an operator's default. ILOCs directly affect a mining company's capital and borrowing capacity.

Closure Planning Progress and Status

When mining is complete at the Ekati mine, effective implementation of closure and reclamation activities will require a well-developed, comprehensive Closure and Reclamation Plan (CRP). As mining progresses, the importance of having a comprehensive, executable plan for closure and reclamation of the site increases. Burgundy expects that the currently approved mining activities will provide ore for the process plant through to approximately the end of 2029[1]. The Water Licence requires Burgundy to submit a Final CRP (FCRP) no later than 24 months before planned completion of commercial operations – i.e., by the end of 2027. Despite the approaching completion of approved mining activities, Burgundy made little progress on closure planning in 2024.

In February 2020, the WLWB conditionally approved the August 2018 Interim Closure and Reclamation Plan (ICRP) v3.0 and set out requirements and timing for Burgundy to develop and submit ICRP v3.1. The WLWB directed Burgundy to provide additional detail, especially with respect to closure objectives and criteria, and to submit the revised plan no later than March 2021. After several delays, Burgundy submitted ICRP v3.1 in December 2022, 21 months after the initial deadline.

Misery Pit with low grade kimberlite (dark rock) and WRSA in the background

In accordance with a further July 2022 WLWB decision, ICRP v.3.1 was intended to provide additional detail to demonstrate progress on development of an executable CRP. The WLWB requirements focused on refining and finalizing closure criteria, and developing detailed plans for closure and reclamation of mine components that are no longer in use.

In April 2023 the WLWB confirmed that ICRP v3.1 did not conform with their pervious direction to advance the level of detail. Burgundy proposed that these issues could be deferred to a FCRP in 2027. For example, Burgundy proposed there was no need to identify all closure criteria until the FCRP. The WLWB concluded that ICRP v3.1 did not meet the WLWB's expectations for a CRP at this stage of the mine's life. The WLWB conducted a narrowly focused public review of ICRP v.3.1, specifically to consider timing for submission of ICRP v.4.0 and Burgundy's plans for addressing reclamation research and closure criteria. The WLWB released its final decision on ICRP v3.1 in April 2024. It did not approve ICRP v3.1 and required Burgundy to submit ICRP v4.0 no later than April 2026. ICRP v4.0 is to include all proposed closure criteria and a report on all reclamation research that has been completed. The 2024 Annual Closure and Reclamation Plan Progress Report (Burgundy, January 2025) does not describe any substantive progress on closure planning in 2024.

As part of its initial April 2023 decision on ICRP v3.1, the WLWB set December 2024 deadlines for developing final closure criteria and completing reclamation research required for any mine component associated with an area of the mine where mining has ended or will be completed by December 2024 (e.g., completed pits and WRSAs). By the deadline, Burgundy had not identified the mine components where mining related activities were complete, and therefore had not completed the development of closure criteria, or reclamation research.

[1] Arctic Canadian Diamond Company Ltd. May 2025. Ekati Diamond Mine Environmental Agreement and Water Licence Annual Report 2024.

Lynx Pit, October 2024

In its April 2024 final decision, the WLWB specifically set schedules for Burgundy to submit FCRPs for the Pigeon Pit (December 2024) and Pigeon WRSA (April 2025) where mining was completed in early 2022. In part, these deadlines were established because of the urgency of closure measures for Pigeon facilities: "There is a relatively high percentage of metasediments in the Pigeon Pit wall (i.e., 50% metasediment), which if exposed to the atmosphere for an extended period, represents a risk to water quality" (WLWB Reasons for Decision, Closure and Reclamation Plan Version 3.1. April 12, 2024).

In November 2024, Burgundy requested removal of these deadlines because it was "currently conducting drilling activities and various feasibility studies to support a new life-of-mine plan" (Letter from Burgundy to WLWB, Request to defer Pigeon Open Pit and WRSA FCRP Submissions. November 12, 2024). Burgundy proposed that FCRPs for these mine components would be submitted "two years prior to the planned closure activities." In an updated request in December 2024 Burgundy stated that it needed an updated progressive reclamation plan for Pigeon mine components that considers the context of the "significant capital investment decisions and timelines to be optimized while executing the LOM extension work" that includes "Sable Underground Expansion, Fox Low Grade Ore Processing, Fox Underground Expansion, Misery Underground Expansion, Point Lake Open Pit Optimization and extension, and a new Jay Project" (Letter from Burgundy to WLWB, Supplement Submission on Request to Defer Pigeon Open Pit and WRSA FCRP Submissions. December 30, 2024). Despite Pigeon not being identified in the scope of extension projects under consideration, Burgundy requested that the deadline for submission of FCRPs be extended to early 2027. In an April 2025 decision, the WLWB granted an extension to April 2026 (the same as the deadline for submission of ICRP v4.0) unless Burgundy can demonstrate that the Pigeon mine will be used as part of future operations.

The April 2024 WLWB decision of ICRP v3.1 also required that Burgundy provide annual updates on progress for development of closure criteria and progressive

reclamation. The 2024 Annual Closure and Reclamation Plan Progress Report describes two workshops with communities about closure and reclamation for the Pigeon Pit and Waste Rock Storage Area. However, the Progress Report does not provide any details about progress on development of closure criteria. The report also does not describe any progressive reclamation carried out in 2024 and states that no progressive reclamation is planned for 2025, continuing the trend from 2023, with no progressive reclamation activities undertaken since Burgundy began operating the mine.

The February 2024 submission of a FCRP for the Panda, Koala and Koala North Underground is the only evidence of progress on closure planning, with Burgundy proposing to complete installation of vent raise caps in 2024. "After additional conformity correspondence" (Online Review System Item Description, FCRP v1.0 – Panda, Koala, and Koala North Underground. February 2025), the WLWB did not circulate the FCRP for review until February 2025 and approval was not granted until July 2025. The vent raise caps have not yet been constructed.

The Agency is disappointed in the lack of progress on closure planning and progressive reclamation, and delays in preparation of FCRPs for mine components that are complete and no longer part of the mine plan. The submission of ICRP v4.0 by early 2026 as required by the WLWB decision on ICRP v3.1, including requirements for proposed closure criteria and results of reclamation research, is critical to advancing closure planning in a way that is consistent with the WLWB and Mackenzie Valley Land and Water Board (MVLWB) closure guidelines. There is a lot of work to be completed before that fast-approaching deadline. This includes the development of closure criteria, including numerical water quality criteria. The WLWB's April 2024 decision on ICRP v3.1 and April 2025 decision on extension of the deadlines for Pigeon FCRP's both require workshops aimed at progressing the work on closure criteria. The Agency is concerned about the pace of critical closure planning related engagement and research that must be completed before submission of ICRP v4.0 in early 2026.

> **"...with no progressive reclamation activities undertaken since Burgundy began operating the mine."**

Progressive Reclamation – Old Camp

In 2024, Burgundy continued to monitor the success of progressive reclamation completed at Old Camp between 2014 and 2018. Water quality sampling showed one exceedance for Dissolved Aluminum (similar to 2019, 2020, 2021, 2022 and 2023) but no exceedance for Total Arsenic which has occurred in some past years (2018, 2019 and 2022). Based on the continued occasional exceedances, Burgundy indicates that it will continue to study the area to understand the sources of water quality exceedances. It also proposes that this information will support future decisions about the need for further reclamation work on the North Pond. The previously completed reclamation work for the North Pond was not consistent with the CRP for the site. Given this inconsistency, Burgundy should decide whether it intends to proceed with the approved plan or it should seek approval of a revised Old Camp Closure and Reclamation Plan if it does not intend to reclaim the North Pond in accordance with the existing approved plan. A revised plan must demonstrate that the approved closure objectives and criteria will be achieved, including an evaluation of potential effects of leaving processed kimberlite in place in the North Pond.

The Annual Geotechnical Inspection at Old Camp identified minor erosion and instability issues. The Inspection Report indicated that these are not immediate concerns but monitoring should continue. While minor erosion and instability issues that require ongoing monitoring may be acceptable while there is an ongoing site presence, they indicate that objectives for long-term closure likely have not been met. In its response to recommendations in the Agency's 2023 Annual Report, Burgundy proposed that it will evaluate the need for maintenance at the end of the 2025 monitoring period. The Agency looks forward to considering proposed maintenance approaches in the next year.

Financial Security

To manage public liability and risk, at any point in time the GNWT needs to hold financial security equal to the total anticipated cost of closure and reclamation of the Ekati mine at that time. Based on a review of security held under Ekati's licences and permits, the total reclamation security held by the GNWT as of December 31, 2024 was approximately $326.8 million, held predominantly under the Water Licence as indicated in Table 11 . The total security at the end of 2024 represents an increase of approximately $13.6 million from the end of 2023. The increase was to address the liability increase as a result of development at Point Lake.

TABLE 11 – EKATI MINE RECLAMATION SECURITY HELD (DECEMBER 31, 2024)

Security Item	Amount Held
Water Licence Security W2022L2-0001	$303,036,189
Ekati Environmental Agreement	$19,991,424
Misery Underground Land Use Permit W2017D0004	$1,453,799
Point Lake Early Works Land Use Permit W2021X0004	$57,677
Point Lake Land Use Permit W2021D0005	$2,294,667
Total:	**$326,833,756**

GNWT continues to hold most of the security in the form of surety bonds ($225.1 million), with the remainder held as irrevocable letters of credit ($9.5 million) and cash ($68.4 million). As part of the sale agreement between Arctic Canadian Diamond Company and Burgundy, Burgundy agreed to a process and schedule to convert the surety bonds to cash, with all bonds to be converted to cash by March 2024. Being unable to meet this schedule, in March 2024[2], Burgundy reached a further agreement-in-principle with the surety bond providers to extend the schedule to late 2027[3]. The GNWT has updated its policies related to decision-making about forms of security and hopes to reduce reliance on surety bonds especially in later phases of mine life. The Agency supports conversion of security into cash or cash equivalent forms.

Winter Road

The costs for constructing and maintaining the winter road that provides access to the Ekati mine remains a substantial gap in the estimate of liability for closure and reclamation, and in the current financial security held by GNWT. Winter road access will be required for transporting equipment and supplies to and from the site during closure and reclamation. In the absence of security to cover these costs, there is a substantial liability currently held by public government if it is required to carry out closure and reclamation activities.

In accordance with the WLWB's April 2024 decision on ICRP v3.1 Burgundy provided estimates of winter road costs in the 2024 Annual Closure and Reclamation Plan Progress Report. Addressing an information request from the WLWB, the GNWT also provided estimates of costs for winter road construction in a February 2024 letter. Burgundy's estimates of the winter road construction costs are just over a quarter of those of the GNWT. The Agency has identified a number of concerns related to Burgundy's estimate, including that Burgundy proposes that its liability is less because Gahcho Kué mine is expecting to close in a similar time frame to the Ekati mine.

The Agency continues to support the inclusion of winter road construction costs as part of the estimate of closure liability for the Ekati mine. The estimate of liability for winter road construction should be consistent with WLWB policies for liability estimates, and be intended to establish security bonding that will avoid public liability arising from this component of closure plan implementation.

RECLAIM Update

In early 2025, the GNWT in collaboration with Crown-Indigenous Relations and Northern Affairs Canada initiated a public review related to proposed updates of the RECLAIM model and its associated User Manual. RECLAIM is the cost estimating model used to estimate the liability for closure and reclamation at mine sites. The governments are updating RECLAIM to incorporate a process to account for inflation and to reflect the current standards and costs of remediation projects in the North. The GNWT provided opportunities for written input and convened a multi-party workshop in May 2025, with additional review periods and workshops planned. The Agency agrees that it is important to update the RECLAIM model to be consistent with current costs of closure and reclamation, and we look forward to the continuing engagement on the updates.

[2] Burgundy Diamond Mines Limited, May 24, 2023. Notice of Extraordinary Meeting, Explanatory Memorandum. https://burgundydiamonds.com/wp-content/uploads/2023/08/2023-05-24-Notice-of-Extraordinary-General-Meeting.pdf

[3] Burgundy Diamond Mines Limited. March 27, 2024. 2023 Annual Report for the Period Ended 31 December 2023. https://burgundydiamonds.com/financial-reports/

Wild berries at the Ekati mine

Traditional Knowledge and Community Engagement

Highlights

- Community engagement resulted in constructive advice on final closure objectives for the Pigeon development and specific reclamation actions to achieve objectives.
- TK use in the 2024 fish monitoring was reduced from previous fish monitoring years.
- There is no evidence that the Traditional Knowledge Elders Group, inactive since 2018, has been reconvened.

ACRONYMS

FCRP: Final Closure and Reclamation Plan

IQ (Kitikmeot Inuit Qaujimajatuqangit): The traditional, current and evolving body of Inuit values, beliefs, experience, perceptions and knowledge regarding the environment, including land, water, wildlife and people, to the extent that people are part of the environment.

TKEG: Traditional Knowledge Elders Group

LKDFN: Łutsel Ké Dene First Nation

NSMA: North Slave Métis Alliance

YKDFN: Yellowknives Dene First Nation

In last year's Annual Report, the Agency reported: "*In 2023, Arctic Canadian committed to work collaboratively with interested parties to determine the future of the TKEG and discuss how the TKEG can contribute to operational and closure activities at the Ekati mine*." The Agency was unable to determine whether that commitment has been acted on and whether the TKEG has been temporarily or permanently disbanded. In Burgundy Diamond Mine's (Burgundy) 2024 Annual Report there is no mention of the TKEG except for TKEG's development of the TK Management Framework, back in 2018, which mandates how TK and IQ from affected communities is to be used by the company.

Burgundy's Environmental Agreement & Water Licence Annual Report erroneously states that Section 3.10 provides a complete list of all Traditional Knowledge Projects and TK Preservation Programs that were conducted in 2024. Only the Summary Report contains a list of programs that used TK and IQ but provides no details on:

- Community Fish Monitoring Program
- Wildlife Effects Monitoring Plan for Point Lake – Post-Dewatering Monitoring Engagement
- Road Modification Plan Engagement (site wide)
- Closure Engagement 2024 for: Pigeon Pit and Waste Rock Storage Areas, and Wildlife Safety.

Reports from the above programs yielded the following specifics:

Traditional Knowledge in Fish Monitoring

Clause 11.3 in the Environmental Agreement mandates that the TK of affected communities be incorporated into all environmental monitoring plans such as the AEMP, giving it full consideration on a par with scientific knowledge. The Water Licence Article B.12 states that TK should be collected, stored, managed, and used, and Schedule 8 Part J.1(o) mandates this specifically for the Aquatic Effects Monitoring Program.

In the three previous years of monitoring harvestable fish species (in 2007, 2012, and 2018) TK-holders and other community members contributed to assessments of fish health and palatability during sample collection of fish. TK data in the 2024 AEMP report are sparse compared to the previous fish monitoring years, with 60 TK-based comments and observations reported in 2018 compared to just 11 in 2024. One example of the paucity of TK information is that the DELT (tabulating deformities, fin erosions, lesions and tumours) field program provides no observations of internal organ condition, as it did in 2018; all the observations are of external anatomy only. Previous reports of monitoring of fish health used Indigenous criteria for fish health like spots on liver and fat around stomach.

Caribou crossing sign, photo courtesy of Ekati Diamond Mine

Wildlife Effects Monitoring Plan for Point Lake

In April 2024, Burgundy distributed for review its report *Point Lake Project 2023 Stage Two Dewatering Pipeline Wildlife Effects Monitoring* on monitoring of caribou at crossing ramps over water pipelines during the 2023 draining of Point Lake preparatory to mining. Following an engagement workshop in February 2022, caribou crossing ramps were installed over the pipeline or buried in at interior angles of pipelines.

Road Modification Plan Engagement

Burgundy conducted two engagement sessions, the first in the summer of 2024 with YKDFN, LKDFN, NSMA, Tłı̨chǫ and Kugluktuk representatives and a second in September 2024 with the Tłı̨chǫ communities. The focus of these sessions was the topic of road modifications that could improve their caribou-friendly aspects. This builds on TK work in previous years detailing where and how the caribou crossing ramps should be built to make them usable by caribou wanting to cross a road.

The report of this plan says that Indigenous input has been used in refining the Caribou Road Mitigation Program (CRMP) including for an "*adaptive trigger for mitigation based on caribou behaviour*". This seems to the Agency to be a productive use of community input for managing the haul roads, but we are not clear as to what exactly an "adaptive trigger" based on caribou behaviour refers. The company should elaborate on what this adaptive trigger is.

Final Closure and Reclamation Planning (FCRP)

Burgundy conducted two community engagement sessions in 2024 related to the Pigeon FCRP which included a visit to the mine and a workshop in Yellowknife (the same sessions as for the Road Modification Plan mentioned above). Reporting on this in the 2024 Closure Progress Report contains the most substantive community input in 2024-25 of any report the Agency has seen. Objectives discussed for the Pigeon open pit and waste rock pile included:

- facilitating the establishment of self-sustaining aquatic ecosystems, including for fish,
- ensuring physical stability of pit lake outflows,
- providing safe exits from pit lakes for wildlife and humans,
- ensuring safe seepage water quality from rock piles for ecosystems and people,
- maintaining the physical stability of waste rock and its cover material, and
- ensuring the safety and stability of rock piles for wildlife and people.

Important feedback in these sessions included:

- clarification about the use of TK/IQ,
- durations for monitoring reclaimed pit and rock pile,
- till from Pigeon Pond should be used as substrate for fish littoral zones,
- contouring the pit lake shoreline to better resemble the original lake,
- inflow and outflow steam should be part of the pit lake,
- boulder barriers placed around pit perimeter for wildlife safety during pit filling; fill pit to highest level possible to prevent wildlife falling over steep edges along the lakeshore during low-water years,
- till from Pigeon Pond should be used as cover on rock piles to enable revegetation,
- the rock pile should visually blend into or mimic the surrounding environment.

Community members also expressed frustration that due to mine safety rules, they could not roam freely over the mine components to make observations during site tours.

The Final Closure and Reclamation Plan for the Panda, Koala and Pigeon Underground report highlights the role communities believe climate change plays for reclamation in the areas of lower water levels in lakes, and changes in vegetation and caribou movements. The report also states: "*The importance of TK is recognized and reflected in the...Traditional Knowledge Elders Group...*" The Agency has long advocated for reconvening the TKEG, especially to finalize closure plans where Elder input will be invaluable for returning the land and water bodies to an environmentally sustainable state that Indigenous land users will be comfortable with.

Burgundy has committed to all necessary engagements with regulators and communities to continue though 2025 and 2026 in support of its FCRP planning for the whole mine site.

Directors walking along an esker near Point Lake, October 2022

Assessment of the Regulators

Our Mandate

As the public watchdog for environmental management at the Ekati mine, the Agency monitors and reports on the performance of the mine operator as well as the agencies that regulate the mine.

Northwest Territories Department of Environment and Climate Change

North Slave Regional Office

Frequency of Inspections

Based on an Agency recommendation in 2023-24, the GNWT agreed to increase the number of inspections to pre-Covid levels of approximately 12 per year or once a month. The number of inspections in 2024 was not as high as pre-Covid years (approximately 12-14 inspections) but it does appear to be increasing, with inspections being conducted monthly over summer and fall seasons. The following are the GNWT Inspections from April 2024 to March 31 2025:

- A total of seven Water Licence inspections were conducted (June, August, September, October, November, January, March).
- A total of three Land Use Permit inspections were conducted (March/April, and February). The February Inspection looked at both the Misery Underground and Point Lake.

Regulatory and Permitting Division

Water Regulatory Section of the Regulatory and Permitting Division (RPS) effectively participated in all major reviews. Staff participation and the use of technical consultants, in particular with the Sable Underground Water Licence Amendment process, provided great value during the various technical sessions, workshops and comment submissions.

In January 2025, RPS and Crown-Indigenous Relations and Northern Affairs Canada initiated a review and update of the RECLAIM model that is used to determine security for the Ekati mine and other large operations. While the review is ongoing, the Agency is pleased that they are taking the initiative and engaging with all stakeholders to update this important regulatory tool. The Agency will continue to participate and provide input into the review of RECLAIM 8.0.

Environmental Impact Assessment Section

The Environmental Impact Assessment Section (EIAS) is responsible for administering Ekati's Environmental Agreement. There were not that many reviews that would require EIAS's involvement, however they did effectively organize the review of the Environmental Agreement and Water Licence Annual Report.

Wildlife Management Division

The Wildlife Management Division (WMD) has the responsibility to protect and manage wildlife. In recent years, WMD had been actively involved in the regulatory process for the Ekati mine, by providing detailed comments on the Wildlife Camera Monitoring Report and were active participants in Caribou Telemetry study discussions. Unfortunately, there has not been a lot of movement on key wildlife reports for the Ekati mine, primarily the Wildlife Management and Monitoring Plan (WMMP). The WMMP has been in the process of renewal since June 2022 during the Point Lake process, then was delayed awaiting results from the mines' telemetry study. Now that all information is available, the Agency is disappointed that there has not been more progress on updating and finalizing of the Ekati WMMP. The Agency continues to hope for timely progress on this important document.

Fisheries and Oceans Canada

Fisheries and Oceans Canada (DFO) continues to have little input in the review and monitoring of fish and fish habitat-related activities at the mine site. In the past DFO regularly provided comments and offered their expertise to reviews and the regulatory process in general. The Aquatic Effects Monitoring Program (AEMP) annual report is an important document that summarizes the results of the year's aquatic monitoring, including water quality, sediment, zooplankton and phytoplankton, and large and small bodied fish. The 2024 AEMP is significant because it included large-bodied fish analysis which only happens every 6 years. Despite the importance and concerning fish tissue results, DFO did not have any meaningful comments on the 2024 AEMP.

The fact that there are serious fish issues raised in the 2024 AEMP and no Federal authority has provided comment is disturbing. The regulatory system would benefit from DFO's expertise and input on fish and fish health.

Environment and Climate Change Canada

Environment and Climate Change Canada's (ECCC) involvement in regulatory processes continues to be helpful. In particular, their participation in the Sable Underground Water Licence amendment process was well informed and helpful.

Wèk'eezhìı Land and Water Board

The Wèk'eezhìı Land and Water Board (WLWB) continues to do an excellent job ensuring timely reviews of the many reports and monitoring programs required under the Water Licence and Land Use Permits. In particular, the Sable Underground Water Licence Amendment application was well run and organized. In the past year the WLWB has had to deal with difficult situations arising from Burgundy's numerous delays and extension requests to deadlines and directives from the WLWB. Board staff seem to be working with Burgundy by allowing some delays but also ensuring some of the requested submissions are submitted within a more reasonable timeframe. For more information on the extension requests please refer to the Assessment of Burgundy chapter. Despite the increased number of exceedances of their Water Licence over the last few years, to our knowledge there has been no formal response or concern from the WLWB or the GNWT Inspectors.

Assessment of Burgundy Diamond Mines

Communications

Communicating with Burgundy has been progressively more difficult over the last year, with emails routinely going unanswered or responses delayed. This coincides with dismissal or departures of key environmental and regulatory staff, as part of a company-wide restructuring plan. It is our understanding several of these positions remain vacant since we have not been notified otherwise. The Agency expects improved communication in future.

Site Visit

The Agency went to site from October 7 to 9, 2024. These site visits are critically important in the Agency's role as the oversight body since it allows Directors and staff to see first-hand what site conditions are and not have to rely solely on reports and photos.

The Agency was glad that this year's site visit occurred over 2 days as the additional time on-site allowed Directors and staff to see more of the site and to have discussions with Burgundy staff in an informal setting. As in previous visits, Burgundy's staff were very helpful and the Agency would like to thank them for answering our questions and making sure we were able to see all the areas we wanted to.

Compliance with the Water Licence and Land Use Permits

In general, the Ekati mine continues to operate in compliance with its Water Licence and Land Use Permits. However, similar to 2023 the Agency noted a number of non-compliant events in 2024.

Monthly Average Concentration Exceedance of Aluminum in discharge to Cujo Lake

On August 1, 2024 Burgundy informed the Wèk'eezhìı Land and Water Board (WLWB) that the allowable four-week average concentration of aluminum into Cujo Lake was exceeded in July. As required, Burgundy was sampling water weekly while discharging effluent from the King Pond Settling Facility into Cujo Lake (receiving environment). After completing the pumping, results indicated that the average concentration of aluminum over 4 weeks was 0.21mg/L, over the Water Licence criterion of 0.17mg/L. During this event 465,684 m^3 of effluent was discharged to Cujo Lake. For more detail regarding this compliance issue please refer to the Wastewater and Processed Kimberlite chapter.

Spring Seepage Survey Exceedances 2024

Seeps are water that runs off from Waste Rock Storage Areas (WRSA) or laydown pads. The seeps can run off the waste rock piles and into the receiving environment. This is the first year that the WLWB directed Burgundy to notify the Board and the Inspector if any WRSA seepage samples exceed the Water Licence effluent quality criteria.

In 2024 there were multiple seepage exceedances, including:

- Lynx Crusher Pad seepage showed exceedances of copper, aluminum, and cadmium. This is one of the more concerning seepage locations due to its consistently poor seepage quality and its proximity and connection to the receiving environment (Cujo Lake).
- Point Lake Seepage Sump had exceedances of copper, aluminum and iron.
- Fox-associated seeps showed exceedances of sulphate and TSS.

For the complete list of Seepage Survey exceedances please refer to the Waste Rock Management chapter.

Aquatic Effects Monitoring Plan – Action Level Exceedances

Burgundy's Water Licence requires it to notify the WLWB and the Inspector when an aquatic effects action level has been exceeded.

The Aquatic Effects Monitoring Program (AEMP) monitors and measures both water quality and also aquatic life.

The following AEMP High Action Levels were exceeded: (for a complete list of all the action levels exceeded please refer to the Aquatic Effects chapter)

- Lake Trout in Kodiak, Leslie, Moose and Cujo lakes for mercury levels in their muscle tissue.
- Round Whitefish in Leslie and Moose lakes for mercury in muscle tissue.

The following Medium Action Levels were exceeded:

- Lake Trout and Round whitefish in Leslie Lake for selenium in muscle tissue.
- Round whitefish in Kodiak and Cujo lakes for mercury in muscle tissue.
- Phytoplankton biomass in Cujo Lake

Extension Requests and Report Delays

Pigeon Pit and WRSA Final Closure Plans

For several important reports and submissions Burgundy has requested very long extensions. The delays of submissions are a worrying trend, in particular for documents that are required to proceed with closure and reclamation of the Ekati mine. On December 30, 2024, Burgundy reiterated its request to defer the submission of the Pigeon Open Pit and Waste Rock Storage Area Final Closure and Reclamation Plans. Burgundy said they need to submit them after the updated life of mine plan is finalized. The WLWB response highlighted the importance of moving forward with closing Pigeon Pit due to environmental concerns related to potential acid rock drainage impacting long term water quality if closure actions continue to be delayed. Burgundy is required to provide a detailed submission regarding the future plans for the Pigeon Pit to the WLWB by August 2025. If there are no future plans to continue operations at Pigeon Pit (to date Pigeon has not been on any future life of mine plans), then Burgundy needs to submit a Final Closure and Reclamation plan for Pigeon Pit and WRSA by April 1, 2026. The Agency is very concerned and disappointed that Burgundy continues to delay submissions that are critical to moving forward with Closure and Reclamation activities.

Thermister cable access near Cujo Lake, October 2024

Directors walking along Dike B of the Long Lake Containment Facility, October 2023

Seepage Response Framework

The Seepage Response Framework is a document that is meant to outline a process that Burgundy will follow to address WRSA seeps that are a concern due to the seeps' water quality. An updated version of its initial Seepage Response Framework was supposed to be submitted January 10, 2025. Two days before the due date Burgundy requested (was granted) an extension until December 31, 2025 to submit this important document.

Sable Water Licence and Land use Permit Amendment Process

On April 16, 2024 Burgundy submitted its Sable Underground mine application. The WLWB moved ahead with the regulatory processes of initial comments, technical session, interventions, and Public Hearing presentations. A lot of work had been done by stakeholders, regulators and the company leading up to the scheduled public hearing in Behchokǫ̀ in September 2024. Burgundy cancelled the public hearing the day prior to the scheduled date and withdrew its application. This came as a real shock to everyone who had brought Board members, Directors, staff and consultants in to participate. Behchokǫ̀ had arranged translation, food and services for the event. The Agency was disturbed by the lack of consideration and respect for the regulatory process, the community of Behchokǫ̀ and all the time and effort that had already gone into the process. There was no clear communication around the reason for the cancellation.

Agency Directors and Staff (from left to right) Anne Wilson, Jayko Palongayak, Bill Slater, Ronald Allen, Tim Byers, Kim Poole, Marc Casas , and Jamie Mistry

Agency Activities

Meetings

Each year the Agency conducts Board Meetings with all Directors. This year, there were three Board meetings in Yellowknife that Directors attended in person or online. During these meetings, Directors discussed issues and documents currently in review, recent events and workshops, and shared their interactions with Society Members. We also received presentations from Burgundy Diamond Mines (Burgundy), and GNWT Closure Security specialists, and held discussions with GNWT wildlife experts.

The Agency's Annual General Meeting was held on December 4, 2024. Similar to previous years, this was a hybrid meeting with participants joining us both in person and online. The Agency was pleased to see that this year's AGM was well attended. We were joined in person by representatives from the Kitikmeot Inuit Association, North Slave Métis Alliance, the Government of the NWT, Burgundy and members of the public including students from Aurora College.

Ekati Site Visit

The Agency visited the Ekati mine over two days on October 7 to 9, 2024. Overall the site visit was very helpful, and we appreciated Burgundy's willingness to engage with Directors and staff, listen to our input and provide responses to our questions.

The Agency visited the following locations during the site visit:

- The Sable site, including Sable pit, laydowns, crusher facility, waste rock pile, Two Rock Settling Facility, discharge location, Horseshoe and Ulu Lakes;
- Dustfall collectors on Sable haul road; the Sable road culvert
- Pigeon Pit
- The landfill, including burn bin
- The Point Lake site including the pit undergoing stripping and dewatering; the Waste Rock pile including the seepage collection channel and containment sump;
- King Pond including dam and thermistors, and Cujo Lake
- The Misery pit with underground adit;
- The Misery waste rock pile, including low grade waste kimberlite storage;
- Lynx Pit, including water input
- Misery haul road;
- Long Lake Containment Facility – Cell B vegetation, Dyke C, Cell C, Cell D
- Camp incinerator and composting facility

Over the last couple of site visits we noticed an increase in the amount of litter around the site. We raised the issue of site cleanliness with Burgundy during the 2023 site visit, the 2024 visit did not show any improvement in the cleanliness of the site with bits of garbage and insulation for old piping being blown around the site.

Community Communications

Although the Agency always looks for opportunities to visit communities, we were unable to organize a visit or community workshop due to staffing changes and/or prior community commitments. The Agency is hopeful that community visits and workshops can resume in 2025-26. The Agency was however, able to go to Behchokǫ̀ for the Community feast that was planned as part of the aborted Sable Underground Public Hearing. It was a great opportunity for us to go and speak to community members about the Ekati mine. We were also able to set up our site model which helped participants visualize the overall mine site and surrounding area and generate discussion. We would like to thank the community of Behchokǫ̀ for welcoming us and showing us their new facility, it is a really great space with the huge map of the Tłı̨chǫ lands.

Other initiatives

Development of the Agency's Resource Room

The Agency continues to develop its Resource Room to provide public access to historical information about the Ekati mine. The documents stored in the Agency office are currently being scanned and saved on a computer with the intention of developing a searchable online resource tool. This work continues into 2025, and is very close to completion. We hope to begin to organize the files and make them available to the public in 2025.

Workshops

The Agency had the opportunity to participate in various workshops this past year:

- Sable Underground Amendment Technical sessions
- Geoscience forum
- Point Lake Waste Rock Storage Area Design Plan and Seepage Report Meeting
- Fisheries and Oceans Canada National Fisheries Act workshop
- Fisheries and Oceans Canada Point Lake Fish out discussion

Technical Review and Input

Seepage Response Framework

The Agency supports the idea of a response framework specific to waste rock seepage. Unfortunately, the current version was not good enough as it was vague and incomplete, meaning it would not be able to meet the intended goal of an early warning system for waste rock seepage issues. The WLWB and other reviewers agreed with us and Burgundy will have to submit an updated and improved Seepage Response Framework by the end of 2025. For more detail about our specific concerns with this review please refer to the Waste Rock Management chapter .

Sable Underground Amendment

The current water licence is for development of an open pit at the sable site. Burgundy applied for a water licence amendment to expand the Sable development to include underground mining. The Agency participated in the review process including initial review, technical sessions, interventions and was prepared to present at the Public Hearing. Unfortunately, Burgundy withdrew its application the day before the Public Hearing, resulting in wasted time and effort since most of the preparation and travel had been booked in anticipation of the event.

RECLAIM 8.0 Review

RECLAIM is a tool used to estimate the cost to close the mine according to the current closure and reclamation plan. RECLAIM has not been updated for a while. GNWT Regulatory and Permitting Division and CIRNAC initiated a review and update of the RECLAIM model. The Agency has provided its initial comments and participated in the initial workshop, and will continue to be involved in this important update.

In Addition

The Agency participated in six other document reviews over the past year, including:

- 2023 Environmental Agreement and Water Licence Annual Report
- 2023 Aquatic Effects Monitoring Program Annual Report
- 2023 Wildlife Effects Monitoring Program Annual Report
- Dam Classification Assessment Report
- Response Plan for Plankton and Benthos and updated Response Plan
- Barren-ground caribou movement and habitat selection analyses from telemetry data Report

Agency Communications

The Agency communicates with our Society Members and the public using various methods including this Annual Report, our website, and social media.

The Agency website is a resource that houses information for all things related to environmental management at the Ekati mine. Resources are added as they become available, and our latest news is easily accessible on our website homepage. The Agency is always looking for ways to make the website more accessible and up-to-date ensuring transparency in the work we do.

The Agency presence on social media includes a Facebook page and a Twitter account. Our followers on both platforms are slowly growing as we strive to increase our online presence.

Directors pause for a photo during the October 2024 site visit. From left to right: Tim Byers, Bill Slater, Anne Wilson, Kim Poole, and Ron Allen

Appendix A
Responses to Recommendations

Burgundy Diamond Mine's Responses to Agency's Recommendations:

AEMP: Increasing Selenium Exposure

Agency Recommendation: To better characterize the potential for effects associated with increasing selenium exposure in Round Whitefish in lakes downstream of the LLCF, the Agency recommends that selenium concentrations be analysed in Round Whitefish eggs and ovarian tissue, and results compared to the Federal Environmental Quality Tissue Guideline (FEQG) of 14.7 ug/g dry weight for egg-ovary fish tissue. To identify the extent of reproductive effects in Round Whitefish, sampling should be done before the next scheduled harvestable fish sampling year of 2030. The Agency recommends that a targeted sampling of Koala watershed Round Whitefish egg/ovary tissue be carried out in 2026. Results should be reported in both wet weight and dry weight.

Burgundy Response: The results of the 2024 AEMP indicated that Round Whitefish fecundity (measured as egg count) declined across reference lakes and Koala Watershed monitored lakes and temporal trends were not consistently different between reference lakes and monitored lakes (i.e., variability in egg count was similar between reference and monitored lakes). In addition, there was no significant relationship between egg count and influence of the LLCF or general distance to mine. This strongly implies a regional cause, unrelated to the mine, which may include climate change that could impact the timing of reproductive cycles. No mine-related effects were concluded for Round Whitefish egg count in Koala Watershed monitored lakes [Section 3.8.9 of the 2024 AEMP Annual Report].

Selenium is not known to consistently impact GSI in fish (Detering et al 2025). The mechanism of action for reproductive impairment in fish populations is maternal transfer, there is no relevance to examining male GSI. In 2024, female and male Round Whitefish GSI means were within the range of the GSI of fish in reference lakes, temporal trends were not consistently different between reference lakes and monitored lakes, and there was no significant relationship between female or male GSI and influence of the LLCF or general distance to mine [Section 3.8.10 of the 2024 AEMP Annual Report] and. No mine-related effects were concluded for female and male Round Whitefish GSI in Koala Watershed monitored lakes [Section 3.8.10 of the 2024 AEMP Annual Report].

CPUE for Slimy Sculpin was lower in 2024, however the mechanism of this mine-related effect is currently unknown, and the effect is not reflected in any of the biological health of small-bodied fish variables [Section 3.7.1 of the 2024 AEMP Annual Report] as would be expected if there was a toxicity-related impairment to reproduction. There is no evidence of reproductive impairment in Slimy Sculpin. CPUE is not applicable to the selenium guidelines given the chronic fish-tissue-based criterion elements are based on reproductive effects only and the Aquatic Response Plan for Fish, Version 4.0 suggests that the Slimy Sculpin CPUE trends are related to either predation and/or predation pressures.

A targeted egg/tissue sampling program should not be carried out in advance of the regularly scheduled fish sampling year of 2030 for the following reasons:

1) Although both the US EPA (2021) and ECCC (2022) have developed both egg/ovary tissue guidelines, they recognize that monitoring data for egg/ovary is limited and have developed criteria for muscle tissue and whole body. The chronic toxicity data used in the derivation of the US EPA whole-body and muscle criteria, was either directly measured or the egg-ovary threshold was converted to an estimated equivalent whole-body or muscle concentration (US EPA 2021). Therefore, the benchmarks developed by the US EPA (2021) are considered protective against chronic selenium reproductive effects. The 2024 mean Round Whitefish muscle selenium concentrations and all individual fish concentrations collected from Koala Watershed lakes were below the 11.3 mg/kg dwt US EPA recommended freshwater fish muscle selenium criterion for the protection of aquatic life [Section 3.8.15.4 of the 2024 AEMP Annual Report]. Therefore, no reproductive effects to Round Whitefish in Koala Watershed lakes are expected.

2) The source of selenium increases in fish tissue downstream of the LLCF is attributed to Discharge from the LLCF and the 2024 under-ice and open-water selenium concentrations in lakes downstream of the LLCF have decreased since the cessation of discharge in 2022 [Section 3.2.3 of the AEMP Annual Report]. The last sediment monitoring year (2023) did indicate mine-related effects for selenium in Leslie, Moose, and Nema lake sediments, related to the historical increases in selenium water concentrations. The primary route of exposure to selenium in fish is through dietary uptake, therefore the increasing fish tissue concentrations were as a result of the elevated water column and/or sediment concentrations. However, it is expected that the decreasing selenium concentrations in water will result in a decreasing trend in selenium tissue concentrations (a trend that may not be evident until 2030). Sampling in 2026 is unlikely to show significant evidence of declining selenium concentrations in fish as the residence time of selenium is expected to be longer than four years following cessation of Discharge from the LLCF. As discussed in Appendix B of the Response Plan for Fish, Version 3.0, it is expected that there will be a slow recovery of fish tissue concentrations as a result of the relatively slow rate of biogeochemical cycling of the existing pool of selenium in the lakes and the slow removal rates of selenium from lentic ecosystems. Elevated selenium concentrations are likely to be more persistent in biota of northern climates given comparatively short growing seasons and low primary productivity (Janz et al. 2014). Thus, it could be expected that concentrations of selenium in the tissues of fish downstream of the LLCF could remain relatively unchanged for several years, even at reduced levels of selenium loading.

Thus, a one-time egg/ovary tissue sampling program along with evidence to suggest that reproductive indices (i.e., egg count and GSI) have not declined is not expected to provide any evidence of reproductive effects in Round Whitefish that would be supported by peer-reviewed literature.

References can be provided upon request.

Air Quality: Data Recovery at CAMB Station

Agency Recommendation: Data recovery rates for $PM_{2.5}$ were below CCME data quality objectives in 2024 and for TSP were just above objectives, and the Agency recommends that steps be taken to improve data collection for these parameters. The Agency supports the review of changes to air monitoring equipment at the CAMB to improve data collection.

Burgundy Response: Burgundy is committed to continuous improvement in equipment to provide consistent and accurate data collection in all areas of operation including the equipment at the CAMB building. Burgundy will provide consistent maintenance and calibration of air quality equipment at the CAMB. Specific attention to the $PM_{2.5}$ and TSP monitoring instruments will yield higher data completeness for 2025.

Air Quality: Dustfall Monitoring

Agency Recommendation: Prior to active mining, a dustfall monitoring transect should be established between the intersection of the Point Lake Haul Road and the Lac du Sauvage Road, and the Misery site. The transect should be aligned with prevailing wind directions to effectively monitor fugitive dust from activities at the Point Lake Project.

Burgundy Response: Dustfall stations PL-U30, PL-D30, PL-D90, PL-D300 and PL-D1000 were strategically deployed on a transect along the Point Lake Haul Road, between the intersection of the Lac du Sauvage Road and the Misery Haul Road to effectively monitor fugitive dust from all Point Lake activities.

Wastewater and Processed Kimberlite Management: Independent Tailings Review Panel

Agency Recommendation: The Agency believes that best-practice for tailings facilities requires the establishment of an Independent Tailings Review Panel and therefore the Agency recommends that WLWB require the establishment of the Panel and that Burgundy establish an Independent Tailings Review Panel regardless of regulatory requirements.

Burgundy Response: Burgundy acknowledges the Agency's recommendation and agrees that Independent Tailings Review Boards are valuable for high-consequence facilities. At Ekati, the dams and processed kimberlite management facilities are classified as low consequence, with the exception of the Long Lake Outlet Dam. Three of the four LLCF structures (Intermediate Dikes B, C and D) have low consequences, and the Outlet Dam was downgraded from High to Significant in the most recent dam classification assessment. Independent oversight is already in place through the Engineer of Record, annual geotechnical inspections, and the 2024 independent Dam Safety Review of the of the Outlet Dam, which concluded the facility is "reasonably safe with no immediate signs of failure". These inspections and reviews provide regular third-party oversight consistent with the intent of independent review. Considering these factors, Burgundy is of the view that an Independent Tailings Review Panel is not warranted for the LLCF.

GNWT- Environment and Climate Change's Response to the Agency's Recommendation:

Wildlife and the Tibbitt to Contwoyto Winter Road

Agency Recommendation: A publicly reviewed WMMP for the JV TCWR should be finalized with an accompanying stakeholder meeting to be organized by GNWT-ECC. An approved WMMP should be in place in time for the 2026 winter road season. The Plan should meet the requirements of Section 95(1) of the *Wildlife Act*, specifically with respect to mitigating effects on caribou movement and population impacts associated with winter road truck traffic and increased hunting pressures from increased access arising from the winter road.

GNWT ECC Response: GNWT ECC has initiated a draft Wildlife Management and Monitoring Plan (WMMP) for the Joint Venture Tibbitt to Contwoyto Winter Road (JV TCWR). Our intent is to work with the JV TCWR to have an approved WMMP in place prior to the next winter road operating season (January 2026). As per the WMMP review process, the draft JV TCWR WMMP will be posted on the Online Review System (ORS) for public review prior to consideration for Ministerial approval. The focus of this WMMP will be to monitor and mitigate the direct and ancillary effects of the winter road on wildlife, with particular emphasis on barren-ground caribou. The concerns that your agency has raised regarding impacts to caribou from traffic and hunting pressure from the winter road was echoed by others in the Respected Harvesters meeting hosted by GNWT ECC on 6 August 2025.

Lynx Pit, October 2023

Appendix B
Acronyms and Glossary

Acronyms

FCRP: Final Closure and Reclamation Plan

IQ (Kitikmeot Inuit Qaujimajatuqangit): The traditional, current and evolving body of Inuit values, beliefs, experience, perceptions and knowledge regarding the environment, including land, water, wildlife and people, to the extent that people are part of the environment.

LKDFN: Łutselk'e Dene First Nation

NSMA: North Slave Métis Alliance

TK (Traditional Knowledge): The entire, interconnected knowledge system of a group of Indigenous people — their spirituality, values and beliefs, environmental knowledge, transmission of knowledge and codes of practice.

TKEG: Traditional Knowledge Elders Group

YKDFN: Yellowknives Dene First Nation

Definitions

Acid [rock] Drainage: outflow of water that has become acidic from contact with exposed rock surfaces in waste rock piles, pits and underground workings.

Acid Neutralizing Potential: the ability of rock waste to buffer against changes in acidity.

Action Level: the concentration of a substance specified in the Aquatic Response Framework which represents a level above which the company must take action to understand what drives the exceedance to reduce or remove the potential for harm.

Adaptive Management: a management system with continual monitoring. If a mitigating action does not work, additional actions are used to keep the impacts within accepted levels or below thresholds.

Ambient Air Quality: the quality of outdoor air in the surrounding environment.

Benchmark: a standard against which to compare or assess a monitored parameter.

Benthic Macroinvertebrate: all animal life forms without bones living on lake and stream bottoms (i.e. clams, snails, crustaceans, insect larvae and worms).

Concentration: the amount of a substance in a defined volume of air; usually expressed in units such as mg/m^3 or $\mu g/m^3$.

Cumulative Effects/Cumulative Impacts: the combined effects/impacts of human activities and natural processes on the environment over time and across a landscape.

Cumulative Effects Monitoring: collecting and analyzing repeated observations and measurements to characterize conditions and to evaluate change and impacts of change, all to ensure that the combined effects of various activities are considered in decision-making to avoid unexpected or unacceptable environmental damage.

Data Recovery Rate: the number of samples collected compared to the number of samples that could have been collected. The rate is expressed as a percentage.

Daylight/Daylighting: the emergence of seepage from a waste rock storage area to the surface of the adjacent ground.

Discharge: a direct or indirect deposit or release of any Water or Wastewater from mine infrastructure to Receiving Water.

Dry Weight: remove all the moisture from the tissue sample before weighing the tissue; Wet weight: includes the water content of the sample.

Dust Suppressant: products that prevent or reduce the amount of dust spreading into the air.

Effluent Quality Criteria (EQC): numerical or written limits on the quality or quantity of effluent authorized for deposit to a water body.

Epiphyton: algae that grows on submerged rocks and plant stems.

Fecundity: index of female fertility (average # of eggs; mean # eggs/ gm body wt).

Fine Processed Kimberlite (FPK): very small particles (sand, silt, clay) sized less than 0.5 mm in diameter, left over as waste from the process of removing diamonds from the kimberlite ore. FPK is the fine portion of Tailings.

Greenhouse Gases: gases in the atmosphere that trap heat. They allow sunlight to pass through and warm the earth but prevent the warmth from leaving. Most common greenhouse gases are water vapour, carbon dioxide, methane, ozone, nitrous oxide and chlorofluorocarbons.

Incidental Observations: records of observations (also termed sightings) of any wildlife by any person and in all areas at the mine.

Irrevocable Letter of Credit (ILOC): A financial guarantee, typically from a bank, to cover closure and reclamation costs if the mine operator defaults on its obligations to complete closure and reclamation. ILOCs are typically an unconditional obligation to pay upon an operator's default. ILOCs directly affect a mining company's capital and borrowing capacity.

Kinetic Geochemical Testing: a category of laboratory testing where measurements designed to predict the likelihood of acid drainage from rocks are made over a long period of time (e.g., one year).

Metasediment: a type of metamorphic rock; rock transformed by heat, pressure, other natural actions.

Meteorology: the science of weather and climate; the conditions of the atmosphere in an area.

Methylation of Mercury: turning the mercury that can be safely metabolized and passed out of the body into another form (methylmercury) that gets incorporated into fish tissue where it can cause harm to the fish or to other species that eat it.

Mitigation, Mitigating: an action that is intended to reduce the negative impacts of a condition or situation. To avoid or reduce harm; to make sure environmental impacts from activities associated with the mine are as minimal as possible.

Monitoring: collecting and analyzing repeated observations and measurements to illustrate conditions and to evaluate change and the impacts of change. Watching habitat and wildlife, and 'keeping an eye' on things all the time.

Neutralize: to make something neutral or harmless. In this case, to make an acidic or alkaline substance chemically neutral.

Overburden: rock or soil or lake bottom mud covering a mineral or diamond deposit.

Thinner Lake, October 2022

Waste disposal bin on site

Particulates/Particulate Matter: very tiny pieces of dust, smoke, and other materials in the air. Some are big enough to see with your eyes; others can only be seen with a microscope. Particulate matter is a mix of particulates and liquid droplets.

Phytoplankton: floating microscopic plants found in aquatic environments. They are an important food source for zooplankton.

Progressive Reclamation: Reclamation activities undertaken before the end of commercial mining activities, generally used for areas and site components where mining activities are complete.

Seepage: the slow escape of liquid through a porous material or small holes. In this case, water escaping from waste rock piles that may contain contaminants.

Seeps of Potential Concern: seeps where the concentration of a contaminant is greater than the regulated maximum concentration or is greater than 95% of all historical data of a waste rock pile (WRSA) more than once during a two-year sampling period.

Static Geochemical Testing: a category of laboratory testing where measurements designed to predict the likelihood of acid drainage from rocks are made over a short period of time (e.g., one day).

Surety Bond: A financial guarantee from a bonding company to cover closure and reclamation costs if the mine operator defaults on its obligations to complete closure and reclamation. Surety bonds typically require governments to draw from the bond to recover costs incurred in meeting a mining company's obligations. Surety bonds do not directly affect a mining company's capital borrowing capacity.

Systematic Surveys: surveys of wildlife species conducted by the Ekati Environment Department using specific methods and covering an established area, such as all main roads.

Tailings: by-products of mining, consisting of the processed rock or soil left over from the separation of the commodities of value (i.e., diamonds at Ekati) from the rock or soil within which they occur[1]. At Ekati, Burgundy refers to tailings as Processed Kimberlite.

TK (Traditional Knowledge): The entire, interconnected knowledge system of a group of Indigenous people — their spirituality, values and beliefs, environmental knowledge, transmission of knowledge and codes of practice.

Unauthorized Release: A release of any water or waste to the environment that is not authorized under the Water Licence or Land Use Permit.

Wastewater: water that is impacted by mining activities and facilities, either by contact with mine wastes (e.g., waste rock, processed kimberlite) or mine disturbances (e.g., roads), or through use in mine-related processes.

Metric Tonnes (mt): 1,000 kilograms of a material in its natural state, e.g. waste rock or coarse kimberlite.

Wildlife Incident: an interaction between wildlife and human(s) that may compromise the safety of the wildlife and/or human(s).

Wildlife Management and Monitoring Plan (WMMP): A WMMP is a plan required for development activities that could significantly affect wildlife or their habitat. It must outline how the project will minimize impacts, monitor wildlife and habitat, and address potential cumulative effects.

Zooplankton: small, mostly microscopic animals that live suspended in waterbodies. Zooplankton feed on phytoplankton and are an important food source for fish.

Misery underground infrastructure, October 2024

[1] International Council on Mining and Metals, United Nations Environment Program, Principles for Responsible Investment. August 2020. Global Industry Standard on Tailings Management.

Board of Directors

Anne Wilson | Chairperson

Appointed jointly by the Government of the NWT, the Government of Canada, and Burgundy Diamond Mines in 2024.

Anne retired in 2023 from Environment & Climate Change Canada, where she worked on aquatic ecosystems and water quality in the NWT and Nunavut for over 30 years. This work focused on environmental assessment of impacts associated with mining and municipal projects, including monitoring and mitigation measures, and her history with the Ekati mine dates back to the exploration stage. Anne currently lives in the country near Edmonton and is still very connected to the NWT through family ties as well as her love of the North. The role of the Agency is one that fits well with Anne's experience with mining and protection of Arctic ecosystems, and her respect for the interests, knowledge, and values of the people living in the North.

Ronald Allen | Vice-Chairperson

Appointed jointly by the Government of the NWT, the Government of Canada, and Burgundy Diamond Mines in 2017

Ron has been living and working in a variety of Arctic communities since the 1970's, and has worked with community groups and organizations on local cultural values, concerns and aspirations related to renewable resources. Ron moved to the NWT as a Renewable Resources Officer and transferred to Fisheries and Oceans Canada in the 1980's where he worked as a Fishery Officer and Habitat Inspector. Later he worked as Area Manager and Area Director, delivering and managing multiple-sector operational programs including Habitat Assessment, Fisheries Management, Conservation and Protection, Science, and Administrative Services.

Kim Poole | Secretary/Treasurer

Appointed by the Governments of Canada and NWT, and BHP Billiton in 2006, and was reappointed by the Tłı̨chǫ Government in 2015

Kim is an independent wildlife biologist with over 40 years of experience in the Northwest Territories, Nunavut and British Columbia in the areas of wildlife and wildlife habitat research, and assessment and mitigation of environmental impacts related to the mining, forestry, and tourism industries.

Tim Byers

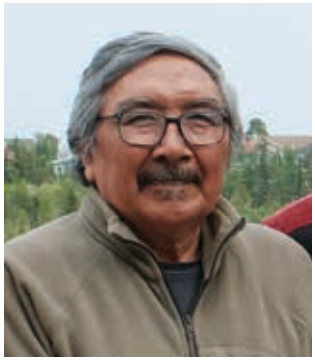
Appointed by Akaitcho Treaty 8 First Nations (YKDFN and LKDFN) in 2001

Tim is an independent consultant living in Manitoba. He has been working on projects in the Canadian Arctic since 1980. He specializes in studies of fish, Arctic seabirds and marine invertebrates and has assisted Aboriginal communities in documenting their indigenous environmental knowledge. He would like to see more Aboriginal youth engaged in environmental sciences and Traditional Knowledge used more effectively in environmental monitoring, research and impact assessments.

Bill Slater

Appointed by the North Slave Métis Alliance in 2018.

Bill is an independent environmental consultant with an engineering education. He is based in Whitehorse, where he has lived and worked for over 25 years. Most of his work is for First Nation governments, as a technical advisor on mining and mine closure projects. His technical focus areas include environmental effects assessment, mine closure, water quality and water management.



Jayko Palongayak

Appointed by the Kitikmeot Inuit Association in December 2023

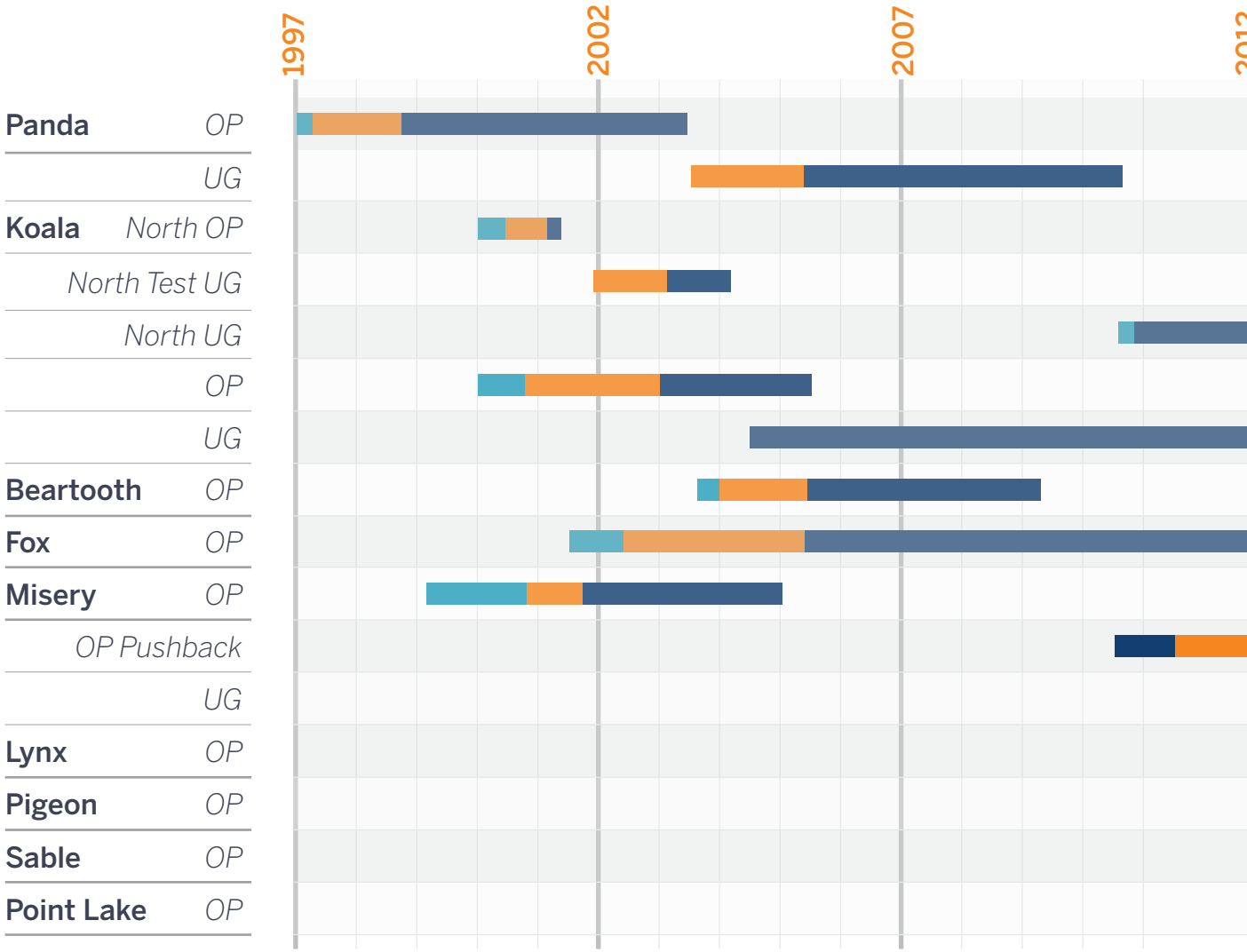
Shelagh Montgomery

Appointed jointly by the Government of the NWT, the Government of Canada, and Burgundy Diamond Mines in 2024

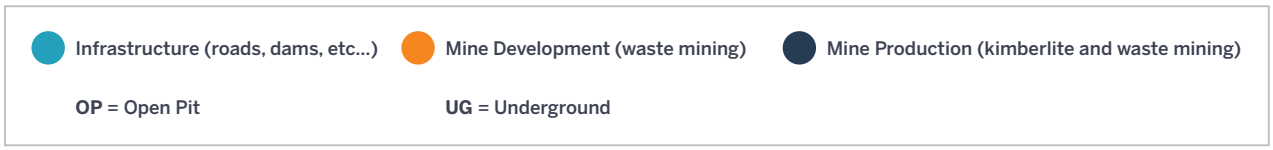
In March 2000, shortly after completing her PhD in environmental sciences, she moved to Dél̨ne where she worked for over two years as Science Advisor for the Dél̨ne Uranium Team on a project focused on the remediation of the former uranium mine, Port Radium. In June 2002, she relocated to Yellowknife to work on a cumulative effects project for the Canadian Arctic Resources Committee and then in March 2005 began work in environmental consulting with a private firm where remediation of legacy contaminated sites was the focus. From late 2017 until April 2023 Shelagh was the Executive Director of the Mackenzie Valley Land and Water Board, before leaving full time work. Shelagh lives and plays in Yellowknife.

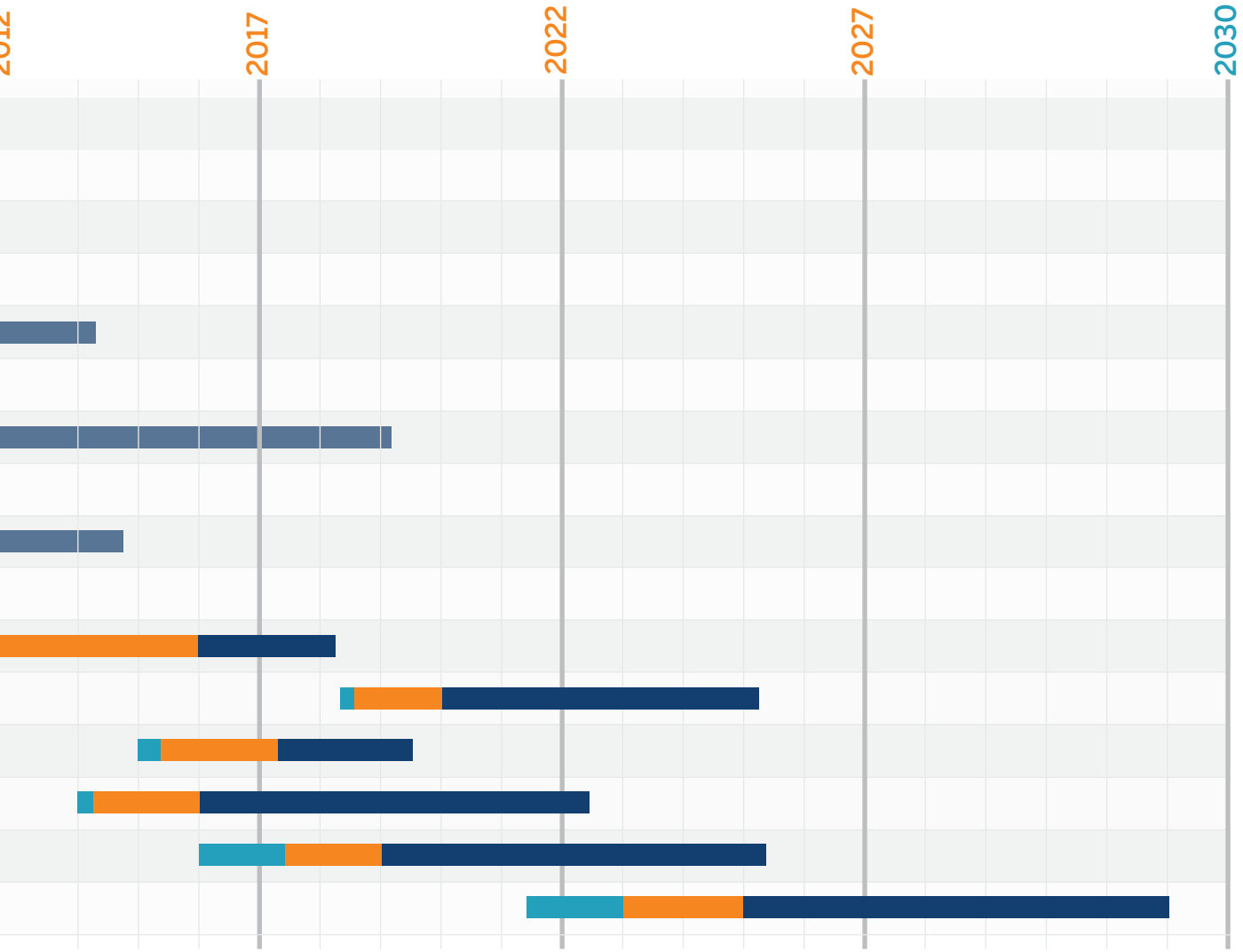
Life of Mine Plan

The following Life of Mine Plan was provided by Burgundy Diamond Mines (Burgundy) in it's 2024 Environmental Agreement and Water Licence Annual Report. Since the release of this report, Burgundy has temporarily paused mining operations at Point Lake with plans to recommence in mid-2026. In addition, an updated Life of Mine Plan released on July 31, 2025[1] states Burgundy predicts operations can be further extended to 2040 with a few key changes. This includes extending underground mining at Misery Underground until late 2027, processing low-grade ore from Fox Pit and developing Fox Underground in 2026 with ore production anticipated for mid-2029.



[1] https://burgundydiamonds.com/wp-content/uploads/2025/07/Life-of-Mine-Plan-Update.pdf


Infrastructure (roads, dams, etc...)
Mine Development (waste mining)
Mine Production (kimberlite and waste mining)
OP = Open Pit
UG = Underground


2017
2022
2027
2030

Notes

A PUBLIC WATCHDOG FOR ENVIRONMENTAL MANAGEMENT AT EKATI DIAMOND MINE