INDEPENDENT ENVIRONMENTAL MONITORING AGENCY

A public watchdog for environmental management at EKATI DIAMOND MINE

2020-2021

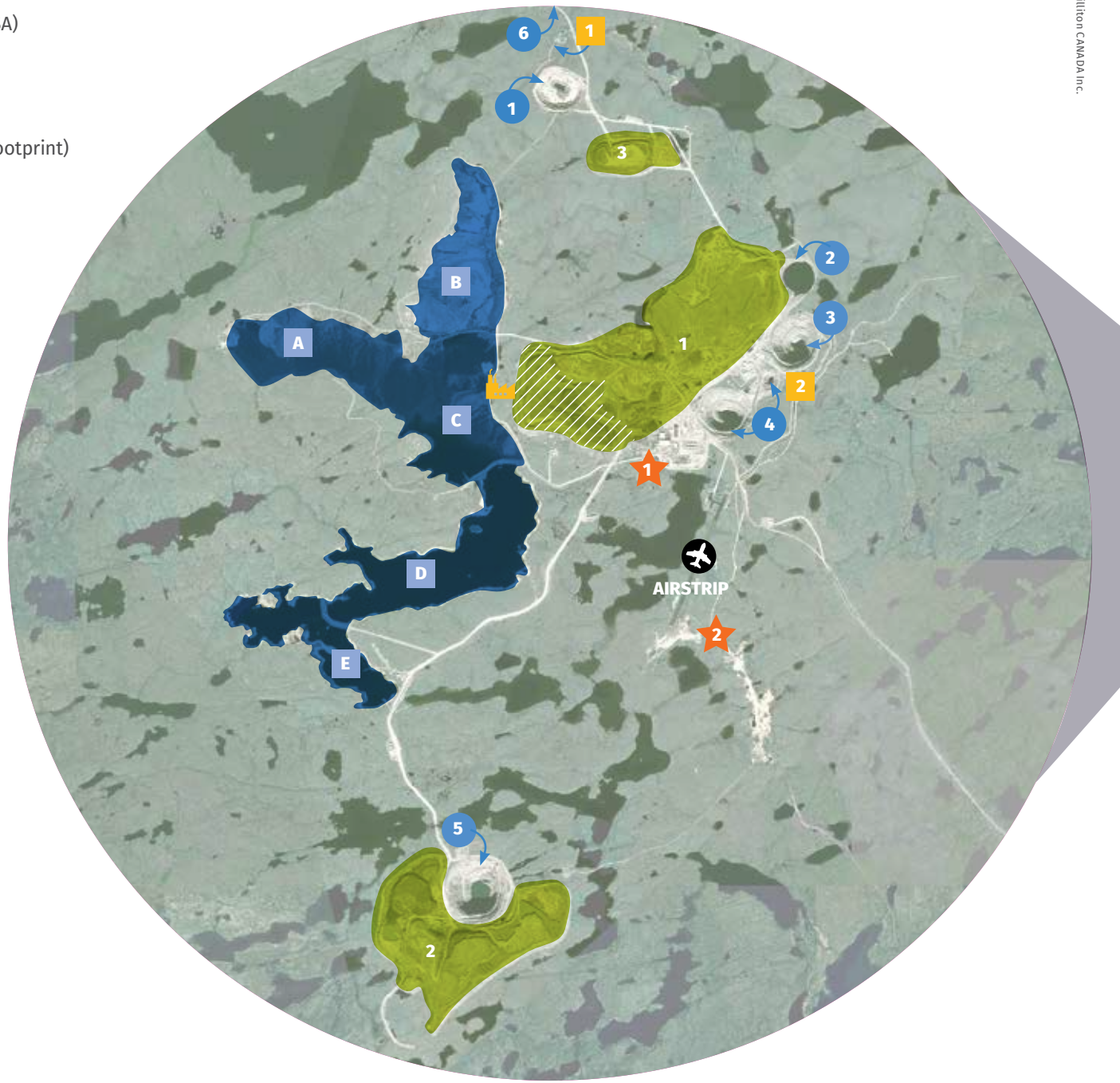
ANNUAL REPORT

TECHNICAL LANGUAGE

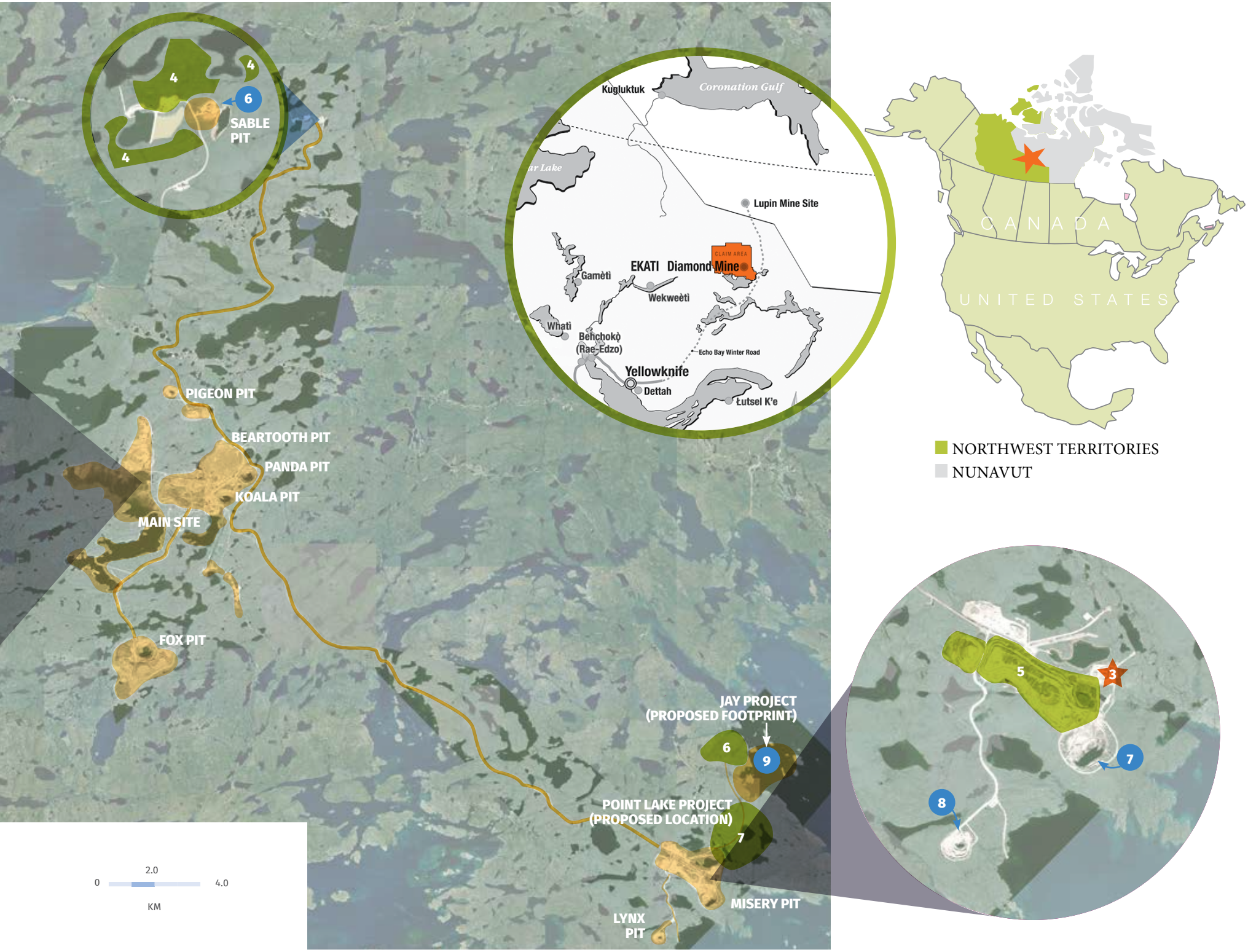
EKATI DIAMOND MINE

LEGEND

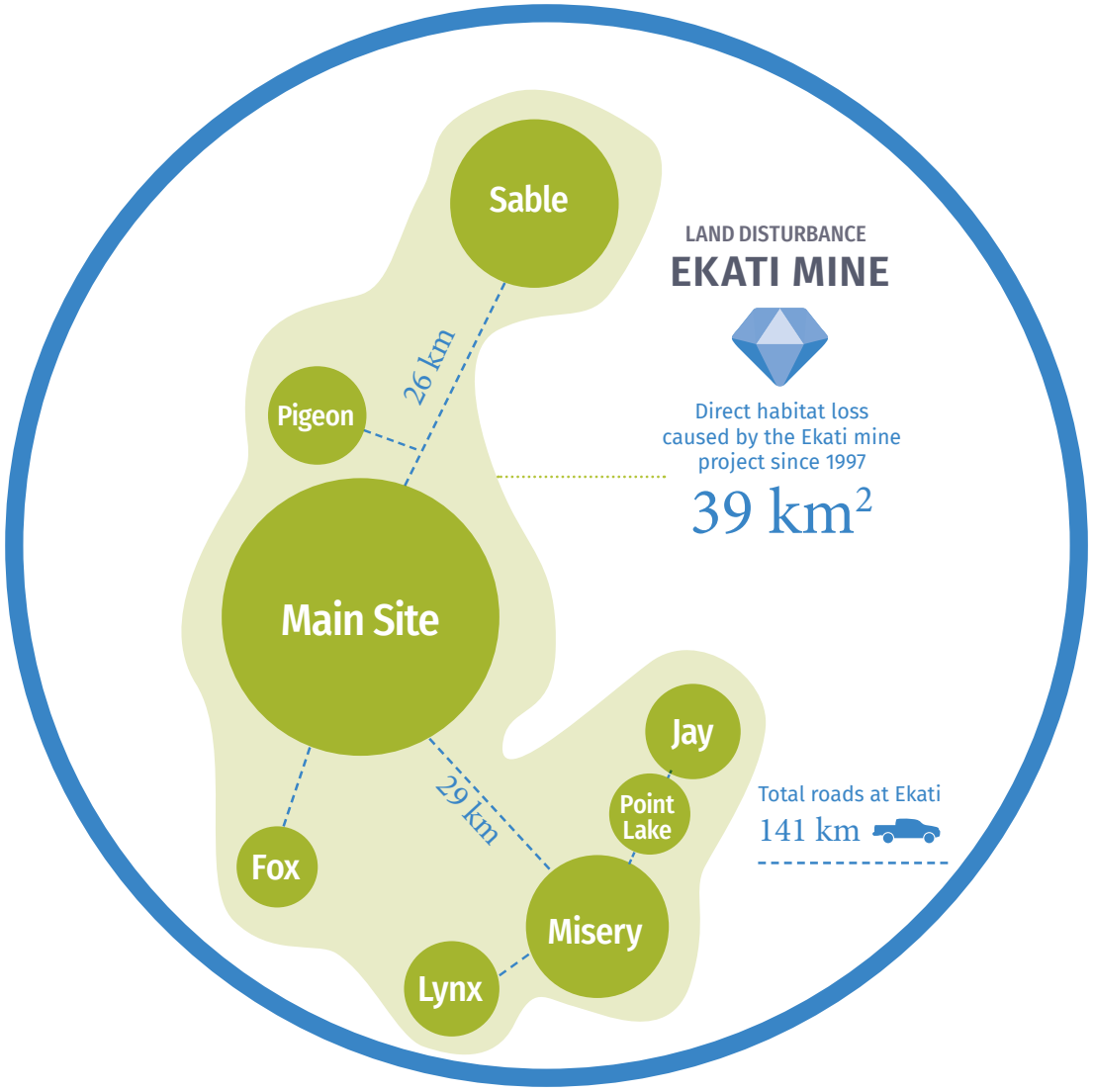
- Waste Rock Pile (Panda-Koala-Beartooth WRSA)
- Waste Rock Pile (Fox WRSA)
- Waste Rock Pile (Pigeon WRSA)
- Waste Rock Pile (Sable WRSA - full extent of footprint)
- Waste Rock Pile (Misery and Lynx WRSA)
- Waste Rock Pile (proposed Jay WRSA)
- Point Lake Project (proposed)
- Coarse Kimberlite rejects storage area
- Proposed Footprint
- Pigeon Pit
- Beartooth Pit
- Panda Pit
- Koala and Koala North Pit
- Fox Pit
- Sable Pit
- Misery Pit
- Lynx Pit
- Jay Project (proposed)
- Long Lake Containment Facility (Cells A–E)
- Incinerators
- Pigeon Stream Diversion
- Panda Diversion Channel
- Main Site
- Old Camp
- Misery Camp
- Airstrip



Satellite image 2010/BHP Billiton CANADA Inc.


4
4
4
6
SABLE PIT
Kugluktuk
Coronation Gulf
Lupin Mine Site
CLAIM AREA
EKATI Diamond Mine
Gamèti
Wekweètì
Whati
Behchokǫ̀ (Rae-Edzo)
Echo Bay Winter Road
Yellowknife
Dettah
Łutsel K'e
CANADA
UNITED STATES
NORTHWEST TERRITORIES
NUNAVUT
PIGEON PIT
BEARTOOTH PIT
PANDA PIT
KOALA PIT
MAIN SITE
FOX PIT
JAY PROJECT (PROPOSED FOOTPRINT)
6
9
POINT LAKE PROJECT (PROPOSED LOCATION)
7
MISERY PIT
LYNX PIT
5
3
7
8
2.0
0
4.0
KM

LAND DISTURBANCE AND ROAD LENGTH



LAND DISTURBANCE

EKATI MINE

Direct habitat loss caused by the Ekati mine project since 1997

39 km²

Total roads at Ekati

141 km

LAND DISTURBANCE

YELLOWKNIFE

City of Yellowknife estimated footprint (area shaded brown)

30 km²

LAND DISTURBANCE

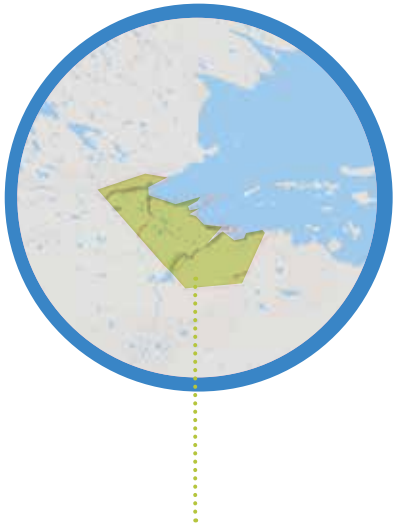
BEHCHOKǪ̀

Behchokǫ̀ estimated footprint (area shaded brown)

2.4 km²

LAND DISTURBANCE

KUGLUKTUK



Town of Kugluktuk estimated footprint (area shaded brown)

2.5 km²

	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
WHATI	0.8 km²	x 47
GAMETI	0.8 km²	x 47
WEKWEÈTÌ	0.5 km²	x 76

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MESSAGE FROM THE CHAIR

I am pleased to present the 2020-21 Annual Report of the Independent Environmental Monitoring Agency. The report summarizes our activities over the past year and offers recommendations to the company and regulators on how they may improve their environmental management of the Ekati Diamond Mine. The report is available in technical and plain language versions.

This past year has been a difficult and challenging one for all of us, and the mine. The COVID-19 global pandemic brought about many changes in how we do business, from working from home and cancellation of in-person meetings and consultations, to the temporary suspension of operations at the mine for worker health and safety. As you are reading this, I hope that you and your family are well.

Beginning in mid-March 2020 the company suspended operations at the Ekati Diamond Mine in response to COVID-19. A care and maintenance crew stayed on-site to maintain mine infrastructure. During the temporary suspension, the company was still responsible for all regulatory compliance and subject to inspections. The only exception was where the regulator provided an exemption from the requirements due to unforeseen circumstances and important health and safety requirements that made compliance monitoring difficult. The company resumed mining operations in February 2021.

In April 2020 Dominion Diamond Mines ULC (Dominion) filed for insolvency protection under the *Companies' Creditors Arrangement Act*. A part of this process was searching for a new buyer for the mine. In February 2021 Dominion sold the Ekati mine. The new operator is Arctic Canadian Diamond Company Ltd.

This past year the Agency continued to monitor the company's activities at Ekati and continued to review and provide recommendations on their environmental management and monitoring activities. The Agency also communicated with the company on a weekly basis for any updates. We all learned to use Zoom for important "in person" meetings such as our Annual General Meeting. The Agency had plans to conduct a community meeting in Wekweètì in May, but COVID-19 restrictions prevented this meeting from occurring. We hope to be able to visit soon.

In 2021 there was a change in Agency staff. Our Communications and Administrative Specialist, Shannon Moore left to take up another challenge. We thank her for contributions and welcome Jamie Mistry to the Agency.

I am looking forward to a new year where we can meet again face to face with the company and communities to discuss the important issues at Ekati. On behalf of all Agency Directors I would encourage you to contact the Agency at any time with your comments and concerns, or if you wish for us to visit your community.

Marsi, mahsi, quiannamik, quana, merci, thank you.

Jaida Ohokannoak
www.monitoringagency.net

SUMMARY OF SHUT DOWN AND SALE OF EKATI MINE

On March 20, 2020, Dominion Diamond Mines ULC (Dominion) announced an immediate, temporary suspension of operations due to the COVID-19 pandemic. The suspension resulted in the majority of Ekati's employees being furloughed, leaving a crew of approximately 60 workers for each shift rotation (120 in total). These workers remained on site to keep Ekati operational under care and maintenance so that the mine would be ready to continue operations when possible. Most of the environmental monitoring continued during this time.

On April 20, 2020, Dominion announced it was filing for credit protection, under the Companies' Creditors Arrangement Act (CCAA), citing the halt in global diamond sales due to COVID-19 pandemic and its financial situation. The CCAA process resulted in court-ordered direction which limited Ekati's ability to spend money and triggered a need to reorganize its debts and look for potential sale of the Ekati Mine and its assets.

In September 2020, a 'stalking horse bid' or an initial reserve bid to purchase the mine was made by an entity of Washington Group. The bid was accepted by the courts, but ultimately did not go ahead when issuers of Surety Bonds and the purchaser could not agree to terms.

December 7, 2020 an agreement was reached for the sale of the Ekati mine. The purchasers were DDJ Capital Management, LLC and Brigade Capital Management, LP, both companies were main creditors in the CCAA process. The name of the new company that owns and manages Ekati is Arctic Canadian Diamond Company Ltd.

By the end of January 2021, Ekati had ramped up to full operations and processing of ore.

The sale of the Ekati Mine to Arctic Canadian Diamond Company Ltd. was finalized on February 3, 2021.

RECOMMENDATIONS

HIGHLIGHTS

- Each year the Agency provides recommendations to Arctic Canadian Diamond Company Ltd., the Wek'èezhìi Land and Water Board, and applicable federal and territorial government departments based on the review of information and comments from the past 12 months.

- This section includes Agency recommendations from the past year and the responses we received to those recommendations.

RECOMMENDATIONS TO ARCTIC DIAMOND

PUBLIC EDUCATION NEWSLETTER

RECOMMENDATION 1

The Agency recommends that Arctic Canadian Diamond Company re-activate preparation and distribution of a clear language periodic newsletter designed to inform the public of major developments and activities taking place at the Ekati mine.

ARCTIC DIAMOND RESPONSE:

Arctic acknowledges that newsletters have not been distributed since the Spring/Summer 2019 edition. Both 2019 and 2020 were challenging years for the Ekati Diamond Mine, and production and distribution of the newsletter were not feasible.

Arctic recently took ownership of the Ekati Diamond Mine in February 2021. Arctic is in the process of rebranding and reviewing all publications and communications strategies. While Arctic can not commit to restarting the newsletter at this time, the Company acknowledges that the newsletters were largely well-received and could be a useful communications strategy for the Ekati Diamond Mine in the future.

TRADITIONAL KNOWLEDGE FRAMEWORK

RECOMMENDATION 2

The Agency recommends that Arctic Canadian Diamond Company update the current Traditional Knowledge Management Framework (2017) so that it is applicable for the entire Ekati mine site and the TK obtained is in correspondence with guiding principles and protocols from whom the knowledge is gathered. It is recommended that the framework be developed in collaboration with and approved by Indigenous Governments and Organizations.

ARCTIC DIAMOND RESPONSE:

The Traditional Knowledge Management Framework (2017) was initially developed by the Traditional Knowledge Elders Group (TKEG) with the understanding that the group's involvement would be required for any revisions or updates to the Framework. Arctic is currently in the process of restarting the TKEG after suspending the group due to the Companies' Creditors Arrangement Act (CCAA) process and subsequent suspension of operations at the Ekati Diamond Mine in 2020. Once the TKEG has been re- established, Arctic will continue to work with the group and IGO's to ensure the Framework is meeting their expectations.

As per Measure 7-1 of Jay Project Report of Environmental Assessment, Arctic is to "consult with each Aboriginal group affected by the Jay Project, in a culturally appropriate manner, while developing the protocols". While Arctic acknowledges IEMA's opinion on the matter, it is the business of Arctic and the affected communities to maintain the contents of the Framework and to update the document as required. Under new ownership, Ekati Diamond Mine personnel are committed to maintaining regular contact with Northern Indigenous partners and ensuring they are engaged on how Traditional Knowledge is collected, stored, managed and used.

CURRENT CONDITIONS AND EXPLORATIONS

HIGHLIGHTS

- No exploration activity occurred on the main Ekati claim block or at Glowworm Lake and Lac de Gras/Harry Winston projects in 2019-20. Exploration is expected to resume in 2021.

- Arctic Diamond announced their intention to mine three kimberlite pipes at Point Lake, as a bridging project for potential longer term mining operations.

Misery pit including waste rock pile. Photo courtesy of Arctic Canadian Diamond Company Ltd.

LIFE OF MINE PLAN

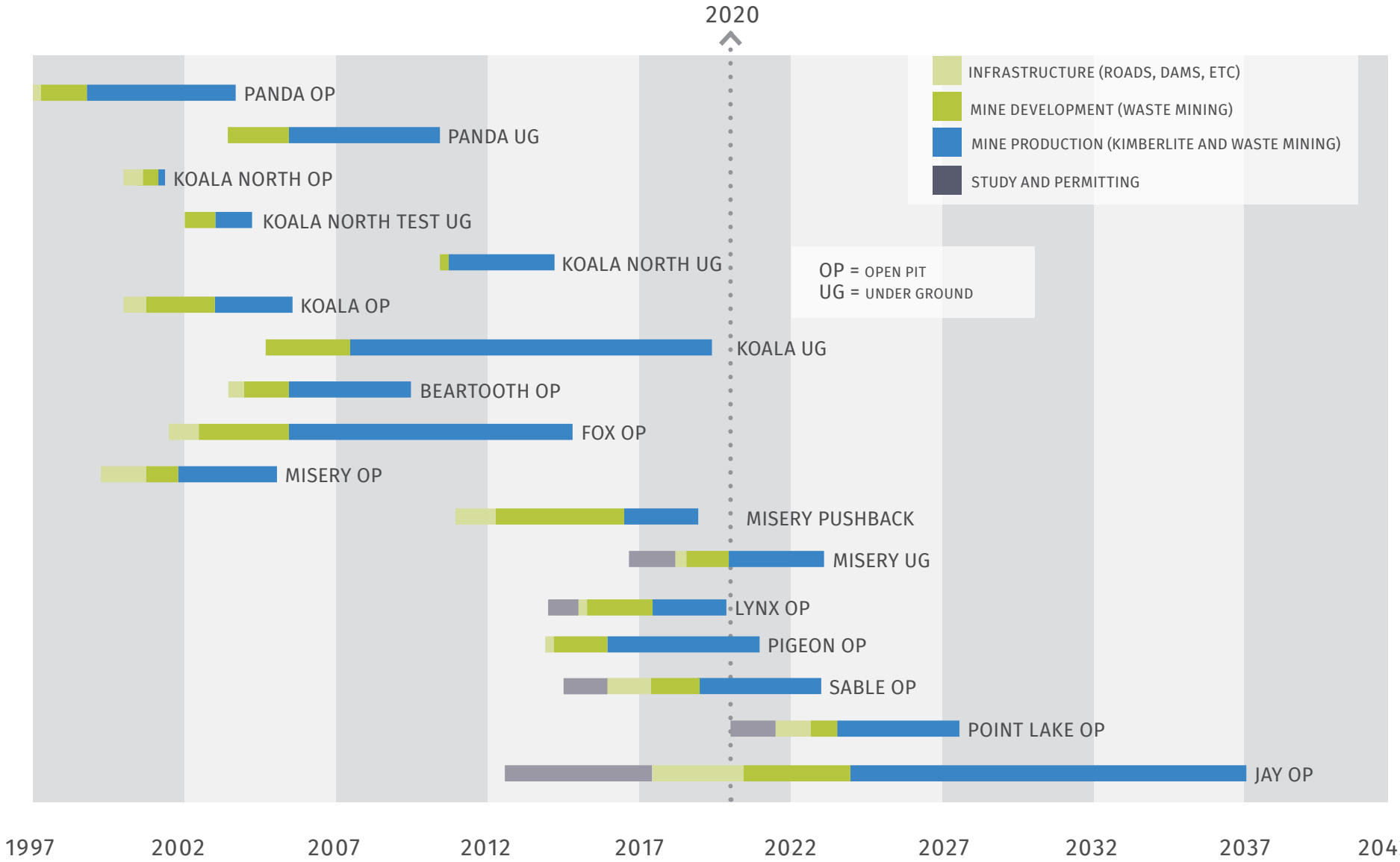


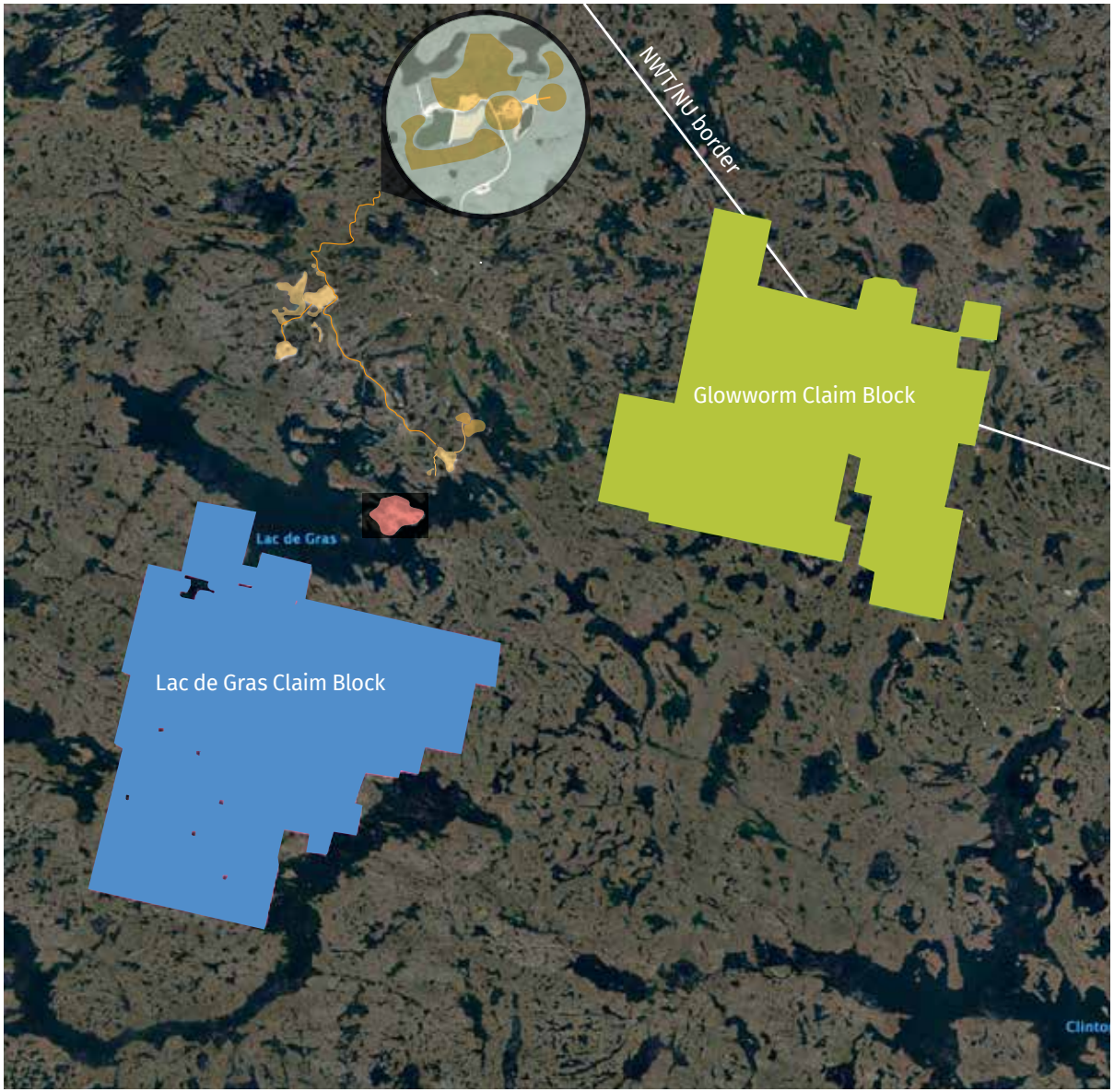
Figure 1: The Ekati Diamond Mine: Life of Mine Plan

EXPLORATION SUMMARY

Ongoing Ekati exploration involves widespread drilling in many parts of the main Ekati claim block, particularly between Misery and Jay pipes and north of the current mine site, as well as locations east (Glowworm Lake) and south of Lac de Gras (near MacKay Lake).

Exploration permits under Land Use Permit (LUP) MVC0030 and MV20190031 (extended to 2026, in 2019-20) allowed for continued drilling on the main Ekati claim blocks, and significantly expanded drilling at the Lac de Gras and Glowworm Lake projects. Resupply of fuel occurred during the winter road season in March 2020 at Lac de Gras and Glowworm Lake before Ekati mine operations were temporarily suspended, however the volume of fuel delivered did not approach newly permitted amounts. Updated information has not been provided on exploration plans for 2021.

EKATI MINE SITE AND EXPLORATION CLAIM BLOCKS



LEGEND

- Ekati mine footprint
- Diavik mine footprint

POINT LAKE DEVELOPMENT

Arctic Diamond indicated in early 2020 their intent to seek approvals for the development of a single pit to mine three pipes at Point Lake, located between the existing Misery development and the approved Jay project. The project would last 4 to 5 years and act as a bridging project for potential future mining operations.

The Agency believes that future development of kimberlite pipes in new areas of exploration represents a significant geographical expansion of mine operations.

AGENCY ASSESSMENT

Preliminary information on the Point Lake infrastructure (locations of pit, waste rock piles, roads, etc.) suggests that narrowing of the wildlife travel corridor through the Lac du Sauvage – Lac de Gras area may significantly increase the impact on movement of caribou and other wildlife, due to Point Lake's proximity to the Misery complex and planned Jay Project. The Agency will continue to monitor exploration activities in order to track potential future developments.

Jay Road leading to Lac du Sauvage. Photo courtesy of Arctic Canadian Diamond Company Ltd.

AGENCY ACTIVITIES

HIGHLIGHTS

- Due to restrictions caused by the COVID-19 pandemic the Agency's normal communications with Communities were limited to quarterly updates and informal meetings.

- The Agency had a scale model of the Ekati site constructed which can be brought to community visits and meetings to improve understanding of the site and add context to the discussions.

ACTIVITIES 2020-21

Meetings

The Agency held three Board meetings in Yellowknife during the 2020-21 fiscal year and our Annual General Meeting (AGM) in November of 2020.

Annual Ekati Site Visit

The Agency was unable to participate in any on-site visits in 2020-21 due to the temporary suspension of mining activities caused by COVID-19 preventative measures and insolvency protection actions under the *Companies' Creditors Arrangement Act*. The Agency looks forward to resuming its site visits when it is safe to do so.

Agency Workshop and Quarterly Meetings

The COVID-19 pandemic restrictions on travel and gathering indoors did not allow the Agency to host any workshops or conduct community visits.

The Agency has considered ways to improve communications with our Indigenous Society Members and communities without adding to their already heavy work load. The result has been to send out quarterly updates to communities and, if there is a topic of interest, then to host an informal meeting to discuss the topic. The first meeting on March 15, 2021 was held to discuss the Interim Closure and Reclamation Plan (ICRP) prior to the ICRP Objectives Workshop held by Canadian Arctic Diamond Company Ltd. (Arctic Diamond) from March 24-26, 2021. The meeting/conference call allowed Agency Directors and Indigenous Society members to consider workshop information provided by Arctic Diamond, address questions and share opinions. The feedback from participants was positive and the Agency feels it helped to facilitate more detailed and thoughtful discussions at the subsequent ICRP Workshop. The Agency intends to continue these communication initiatives in the future.

Other initiatives undertaken by the Agency in 2020-21 included:

- CONDUCTING an external audit of the Agency performance
- DEVELOPMENT of a site-wide scale model of the Ekati Mine site
- COMPLETING a detailed analysis of the Caribou collar data for the Bathurst and Beverly Ahiak herds
- INITIATED work documenting the contents of the Agency's Resource room.

External Review: The external review found that, while the Agency continues to be a productive organization that generally works well with external parties, the Indigenous Society Members and the regulatory bodies, there are some areas for improvement. The Agency is looking forward to continuing our work and improving on areas noted in the report. The external review report is available on our website.

Ekati Site Model: The Agency worked with the Selkirk Technology Access Centre to construct a physical model of the entire Ekati minesite to scale. A computer generated image is projected on a 4 foot by 8 foot terrain model to show changing conditions at the mine (new pits, waste storage areas, roads, etc), as well as data on wildlife movement across the property. The model is designed to be taken into communities and meetings to help provide context to the discussion.

Caribou Collar Data Analysis: The Agency conducted an analysis of the caribou collar data around the Ekati mine, made available by the GNWT, and the preliminary findings were presented at the Diamond Mine Wildlife Meeting held in February 2021. A report on this analysis has been finalized and is currently available to download on the website.

Digitizing the Agency Resource Library: The resource library located in the Agency's office contains valuable information and documents dating back to the original Ekati mine regulatory applications and approvals in the mid-1990s. This important information is in the process of being inventoried and ultimately will be converted to digital format and made available online.

Discussion during the second day of the Agency's February 2020 Wildlife and Closure Workshop.

TECHNICAL REVIEW AND INPUT

The Agency participated in 10 document reviews through the Wek'eezhii Land Water Board review system over the last fiscal year. In addition, the Agency commented on wildlife reports, changes to environmental monitoring programs due to COVID-19 restrictions and actively followed the Creditor Protection Process and eventual sale of the Mine.

Some significant reviews the Agency took part in are:

Wildlife Effects Monitoring Program (WEMP) – For the last few years the Agency's comments on the WEMP report have been very similar but there has been little to no progress on them.

The main concerns raised by the Agency include:

- There continues to be a lack of clarity around how monitoring data collected are used to trigger management actions. There does not appear to be a linkage between specific thresholds that trigger actions and subsequent follow-up to see if the mitigation was effective.
- Caribou road surveys are conducted almost daily, however no daily observation data, such as numbers and locations, are provided in the WEMP. This information would be useful to better understanding caribou distribution within the mine site, and could be linked to where enhanced mitigation was implemented and where further monitoring and mitigation may be needed.
- Arctic Diamond should demonstrate how collar data are used to trigger intensified monitoring and mitigation, as well as using the caribou collar pathways (individual trajectories) to assess and evaluate the efficiency of mitigation methods.
- Arctic Diamond needs to provide the long-promised summary wildlife camera report.

Aquatic Effects Monitoring Program Annual Report 2019 – The Agency is concerned with the increasing levels of selenium present in fish tissues in lakes downstream of the Long Lake Containment and the King Pond Settling facilities. It appears selenium is getting into the fish tissues from the sediments and possibly the benthic organisms that live there, which are then eaten by larger fish. The Agency is asking Arctic Diamond to investigate how selenium is getting into the fish tissues and to set thresholds to limit the increase of selenium in the aquatic system.

Studies and Reports – The Agency provided comments on numerous other reports and proposed plans at the Ekati mine in the 2020-21 fiscal year, including:

- Waste Rock Management Plan 6.0 (May 11, 2020)
- 2019 Air Quality Monitoring Program Report (July 20, 2020)
- 2019 Water Licence and Environmental Assessment Annual Report (August 17, 2020)
- Monitoring and Compliance Update for Ekati mine (September 2, 2020)
- Water Licence Renewal Application (Jan 12, 2021) and draft Water Licence (March 29, 2021)
- Sable Pit- Two-Rock Pond Outfall Design Report (February 5, 2021)
- Closure and Reclamation Progress Report (February 17, 2021)
- Open Water Exceedance Notice- Potassium (March 16, 2021)

AGENCY COMMUNICATIONS

Apart from this Annual Report, the Agency communicates with our Society Members and the public using our website, social media, and our biannual newsletter, the *Ekati Monitor.*

The Agency website is a great source of 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 accessed on our website home page. The Agency is always looking for ways to make the website as accessible and up to date as possible, ensuring transparency in the work we do.

Agency presence on social media includes a Facebook page and a Twitter account (@IEMA_NWT). Our followers on both platforms are slowly but steadily increasing as we improve our online presence.

The Agency published two issues of our newsletter, the *Ekati Monitor*, this fiscal year. Issue #20 was published in the spring of 2020 and Issue #21 in the fall. Printed copies were distributed to our subscriber list, which ranges from schools to community offices across the NWT and Nunavut. Over the last year, the digital version of the *Ekati Monitor* was successfully formatted, and both issues were e-mailed out to all who have subscribed to the newsletter on our website.

COMMUNICATIONS BY SUBJECT 2020-2021

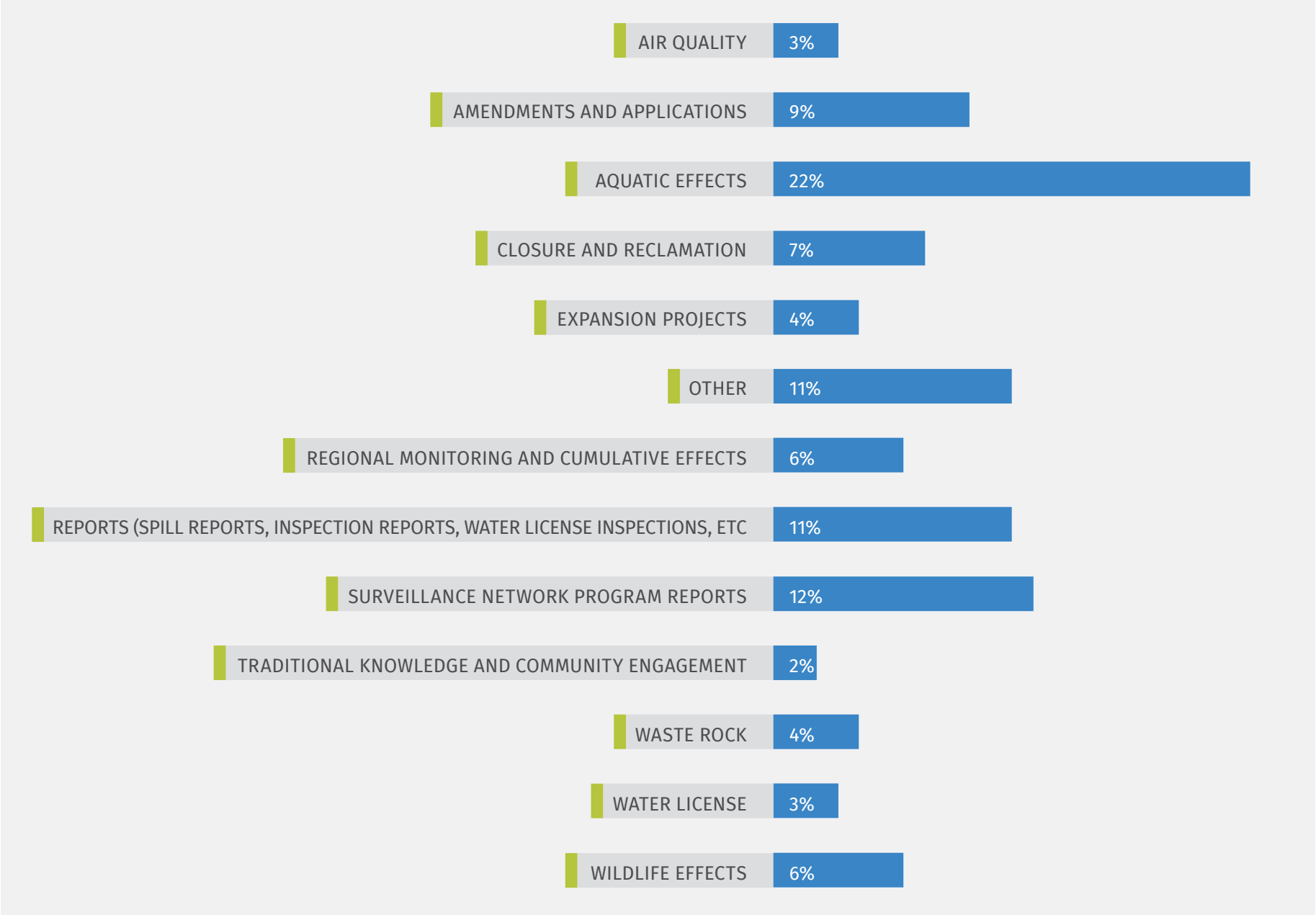


Figure 3: Communications by Subject 2020 - 2021

WILDLIFE EFFECTS

HIGHLIGHTS

- Caribou documented at the mine in 2020 included 5,604 incidental observations, 4,850 caribou during road surveys, and 740 caribou during Misery Road power line surveys, all mainly during winter periods.
- Reduced numbers of personnel on site beginning in late March resulted in lower than usual incidental observations and wildlife incidents.
- Delivery of a comprehensive summary report on the wildlife camera monitoring program has again been delayed.

Grizzly bear at the Ekati mine. Photo courtesy of Arctic Canadian Diamond Company Ltd.

ACTIVITIES 2020-2021

Arctic Canadian Diamond Company Ltd.'s (Arctic Diamond) Wildlife Effects Monitoring Program (WEMP) documents wildlife presence and wildlife management responses at the Ekati mine. The 2020 WEMP is the 23nd annual program and report for the Ekati diamond mine. This annual report focuses on wildlife habitat and caribou, grizzly bears, wolves, wolverines, foxes, raptors and breeding birds, detailing compilations of various surveys, incidental observations, incident reports and management actions. Surveys documented in 2020 included systematic road, power line and Long Lake Containment Facility (LLCF) surveys, 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 Ekati Mine Footprint

Habitat loss in 2020 was restricted to a small increase in the Sable Waste Rock Storage Area. The amount of direct habitat loss caused by the project footprint since development began in 1997 and as measured at the end of 2019 was 3,898 ha (39 km^2). As of 2018, 141 km of roads have been constructed. No update on habitat loss due to mining or roads was provided during the current reporting period.

Waste Management

Arctic Diamond continues its efforts to improve waste management practices and reduce food-related attractants at landfills, to reduce wildlife incidents, and to deter wildlife from areas of danger (e.g., airstrip, high traffic areas, active pits). Despite being in temporary Care and Maintenance and the implications of Covid-19, the number of surveys at the Ekati mine landfill was generally similar to the annual average since 2011. The quantity of misdirected wastes and attractants detected in 2020 was the lowest since the surveys were initiated, likely due to the reduced workforce and mining activities for much of the year. Over 220,000 kg of solid waste and nearly 30,000 L of liquid waste were shipped off site.

Wildlife Management and Incidents

Wildlife incidents which involve direct interaction between wildlife and humans or infrastructure were greatly reduced in 2020 compared to 2019 and similar to levels reported in 2011, 2013 and 2014. There were 6 wildlife incidents reported at the Ekati mine during 2020 including 5 involving grizzly bears, all which required use of deterrents. The number of bear incidents was a steep reduction from the 35 recorded in 2019. Blasting in pit will not occur if wildlife, including nesting raptors, are within 1 km of the area; no pit blast cancellations or postponements occurred in 2020 although Arctic Diamond did not report how much blasting took place. No caribou mortalities as a result of mine activities have occurred since 2010, but a wolf was killed on the Misery Road in January 2020 likely as a result of a vehicle strike, the first such incident since 2002.

Photo courtesy of Arctic Canadian Diamond Company Ltd.

Caribou Monitoring

Caribou monitoring activities for 2020 included distribution from satellite collared cows monitored by Government of the Northwest Territories – Environment and Natural Resources (GNWT-ENR), incidental caribou observations, behaviour surveys, LLCF monitoring, dedicated road and Misery Road power line surveys, and wildlife camera monitoring.

Road train and haul truck traffic volumes were greatly reduced in 2020 for Misery (approx. 500 round trips in total) and Sable roads (approx. 2,500 round trips), mainly for January–March. The maximum monthly traffic occurred on the Sable Road in January, averaging a road train or haul truck passage every 18.6 minutes. No trend data over time, data for light vehicles (mainly pickup trucks) or trucks related to the Tibbitt–Contwoyto winter road haulage were presented.

In 2020, 5,604 caribou were recorded during 141 incidental observations on 80 separate days. Most sightings (83%) were recorded during the two winter periods, with the bulk of the remaining caribou observed during the two migration periods. About 1,500 caribou (from the Bathurst herd based on collar maps) were observed in early November. Collar data from GNWT-ENR indicated that caribou from both the Bathurst and to a lesser extent the Beverly/Ahiak herds were present at Ekati during the 2019-20 and 2020-21 winter periods. Caribou were seen distributed throughout the mine site with larger groups (>100 individuals) observed at several places along the Misery Road and near the Pigeon Pit. Surveys of the LLCF were conducted in 41 days, with only 4 individuals observed.

Over 4,850 caribou in 138 observations were counted over 86 days during road surveys with about two-thirds (and the largest group of approx. 550 caribou) occurring on the Sable Road. These observations are in addition to the 740 caribou in 50 observations counted during Misery Road power line surveys and the 5,604 'incidental observations'. Through these observations, the WEMP concludes that *"Observations of caribou near and crossing all roads suggest that the roads do not impede caribou movement"*.

Six behavioural focal surveys (to quantify the types of behaviours used by individuals) and 21 scan surveys (essentially behaviour at the group level) were conducted within 500 m of mine infrastructure in 2020 to obtain information on the proportion of time an animal or group is engaged in different behaviour (e.g., bedding, feeding, running). Alert behaviour occurred in 5 of 6 cases with stressor events (vehicles) and lasted for an average of 41 seconds. The WEMP concluded that the results *"may suggest some tolerance [by caribou] for areas in close proximity to the mine (< 1 km from infrastructure)"*.

The Wildlife Camera Monitoring Study initiated at Ekati in 2011 uses motion-triggered cameras to better understand how caribou respond to mine infrastructure and in particular to roads. One of the objectives for this component of the WEMP is to *"determine caribou (and other wildlife) responses to roads and the Misery power distribution line (i.e., crossing or deflecting) and identify those factors that contribute to the permeability of site roads"*. Eighty-nine infrared motion-triggered cameras were deployed in 2020 along Misery, Sable and Jay roads, as well as at the Lac du Sauvage Narrows and the esker near the Jay Road. The camera section in the WEMP report summarized key results from a 2020 comprehensive report that was not available at the time of writing despite multiple requests from the Agency and responses that indicated it would be forthcoming.

Grizzly Bear Monitoring

Grizzly bears were monitored at Ekati through incidental observations. There were 91 individuals sighted on 68 occasions, including 14 observations of family groups (any group of two or more bears). As with all incidental sightings many observations were likely the same individual(s) recorded on multiple occasions. These are the lowest number of sightings since records began in 2015, likely reflecting the reduced number of personnel present. Observations occurred across the mine site except for low sightings along the northern ~12 km of the Sable Road.

Other Wildlife

In 2020, 37 wolves were sighted on 23 occasions, the lowest number recorded since the start of record-keeping in 2001. Wolf observations were distributed relatively evenly throughout the mine site. Incidental sightings of 13 wolverines, 82 foxes and 10 moose occurred in 2020. Successful raptor nesting was confirmed in two active pits in 2020; the bird deterrent program was not required due to the absence of open pit mining activity. The North American Breeding Bird Survey was not conducted in 2020, the first time this program has not occurred in 18 years.

Caribou grazing at the Ekati mine. Photo courtesy of Arctic Canadian Diamond Company Ltd.

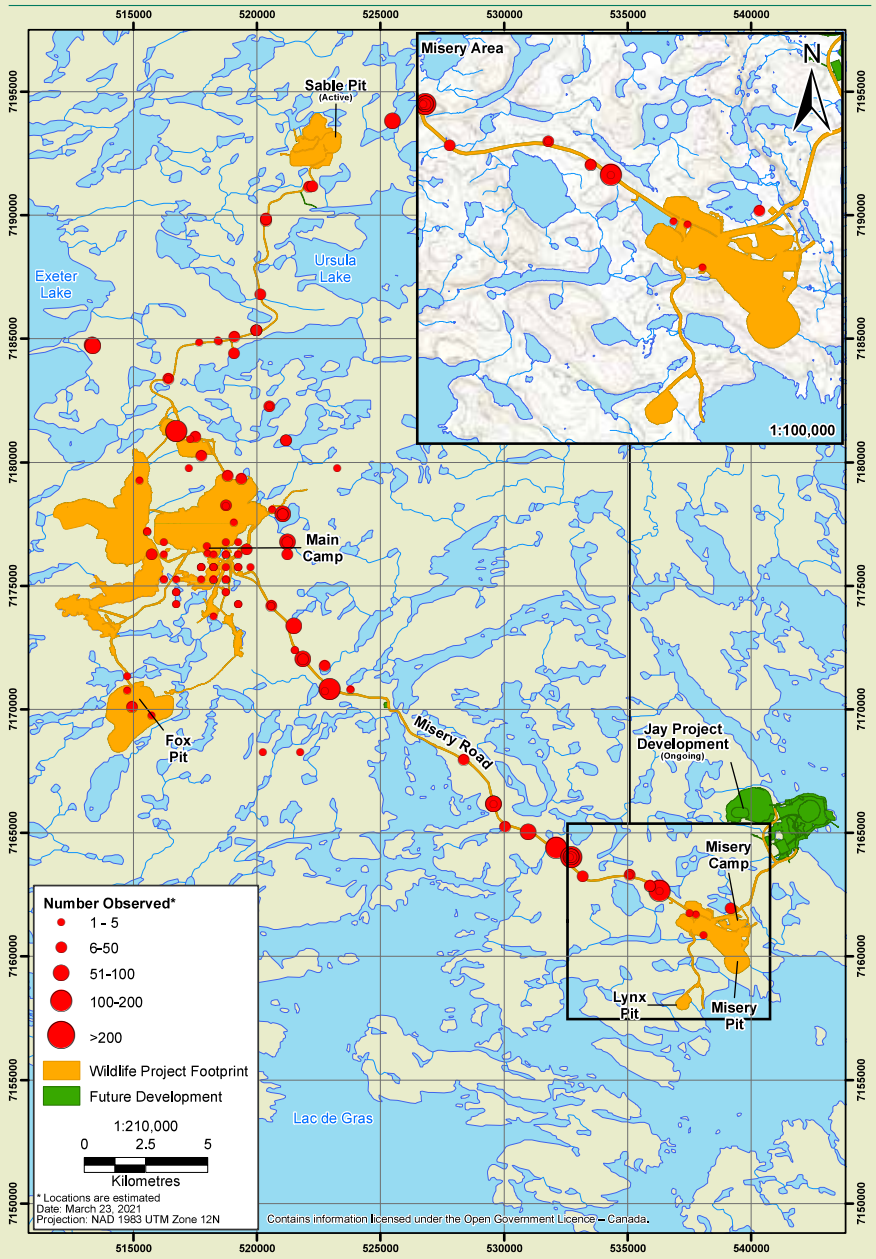


Figure 4. Incidental caribou observations at the Ekati Diamond Mine, 2020

AGENCY ASSESSMENT

The 2020 WEMP provides detailed reporting on incidental sightings, monitoring programs, waste management, and wildlife incidents and management actions. The reduced number of personnel on site and the cessation of mining due to suspension of operations beginning in late March 2020 resulted in fewer incidental observations and incidents in 2020. Arctic Diamond did, however, conduct the majority of monitoring programs regularly reported on in the WEMP report. Mapping of caribou observations from systematic road surveys was a welcome addition to the WEMP.

The 2020 WEMP is, however, a missed opportunity to assess the impact of road traffic on caribou. Arctic Diamond maintained the level of wildlife monitoring during the approximately 9 months of reduced mine activity, which would enable comparison of caribou movements through the site with and without road train and haul truck traffic. For example, a simple comparison of caribou observations from systematic road surveys from 2019 and 2020 indicates that a higher percentage of caribou were observed within 500 m or on the roads in 2020 compared to 2019 (Table 1), suggesting that large truck traffic may reduce permeability of the site. However, this comparison would be strengthened by quantifying road survey observations during operational and Care and Maintenance periods and considering daily traffic levels.

Table 1 - Comparison of caribou sightings 2019 and 2020.

Semi-Permeable Barrier Effects	2019[1]	2020
No. of caribou recorded as travelling through the area	2,554	3,163
Percent of caribou that were within 500 m of a road	76%	87%
Percent of caribou that were travelling across the road or standing on a road	14%	23%

1 From the 2019 WEMP report.

Our assessment of the 2020 WEMP largely mirror comments made on previous WEMP reports in recent years. The use of information from caribou collars continues to be limited. Currently the ENR collar data is only used for broad seasonal characterizations. The CRMP uses collared caribou as an Action Level (trigger) to initiate intensified levels of monitoring and mitigation, but how often and when these collars have been used as triggers has never been provided. Ekati mine owners provided financial support in the past to purchase 50 geo-fenced collars (collars that increase fix rate within 30 km of mine infrastructure and roads) *"to provide information on caribou movement specific to the Ekati Diamond Mine"*. There is no evidence that the data has been used by Arctic Diamond to assess and evaluate the efficiency of mitigation methods; in addition, individual trajectories of movements are not provided and there is no assessment of how the geo-fenced collars improve the resolution of movement thresholds and link into monitoring and mitigation. For example, individual collar trajectory could be used to assess crossing success of the Misery Road/power line complex to quantifiably assess whether indeed the *"power line does not impede caribou movement"* and whether *"Observations of caribou near and crossing all roads suggest that the roads do not impede caribou movement"*. Individual movement metrics have been examined in relation to service and haul roads at mining projects in the Kivalliq, Nunavut, and at the Ekati mine (by the Agency) suggesting that current mitigation may not be effective at facilitating caribou movement through the area.

The WEMP summarizes distribution of collared cows but does not incorporate data from collared male caribou because *"male caribou were not historically*

included in monitoring of the Bathurst herd, and as they use different ranges than females at some periods within the year". Given the number of males collared since 2015 and the fact that a caribou is a caribou regardless of its sex from a disturbance stand-point, there is no ecological reason not to incorporate data collars on males

The 2020 WEMP provides a short background and summary of results from camera monitoring in 2020, and *"key results"* from a more comprehensive summary report (dated 2020) covering camera data collected from 2011 to 2019. Despite citation in the WEMP, Arctic Diamond did not provide this latter report, thus the Agency was unable to critically evaluate the results provided. The lack of timely distribution/provision of this information and repeated failure to deliver the summary report as promised is an important issue to the Agency.

As noted in previous years, specific data on triggers for work stoppage or road closures and mitigation outcome are not provided. Adaptive management is mentioned but remains incompletely described and reported. There is limited reporting on the effectiveness of wildlife mitigation; the WEMP does not link specific thresholds from the CRMP (e.g., 0.25% of total cows in the Bathurst herd are within 200 m of roads during any season, or one or more caribou crossing or attempting to cross the road during any season) to trigger a management activity and, more importantly, subsequent monitoring to determine effectiveness. As a result, there are numerous unsupported claims such as *"roads do not impede caribou movement".* Other than anecdotal observation, no robust data are presented that support these claims.

Road surveys were conducted frequently, but daily observation data were not presented (either in table or figure). Since survey sampling effort is distributed evenly among major roads on site, the surveys would provide an excellent opportunity to demonstrate caribou distribution linked to where enhanced mitigation was implemented, and where monitoring and mitigation could be enhanced. As it is, the Agency has no ability to evaluate the efficacy of monitoring method to trigger enhanced mitigation, and the efficacy of the applied mitigation, limiting our ability to evaluate adaptive management. There is also still no apparent integration of datasets from incidental observations, road survey, Misery power line survey data, or LLCF monitoring surveys, integration of which would lead to a more comprehensive picture of caribou distribution at the mine site and possibly make monitoring more efficient. For example, a detailed comparison of the Misery Road surveys and the power line surveys could examine whether the latter are still needed and contribute to mitigation efficacy.

The Agency would be pleased to discuss with Arctic Diamond methods to increase the effectiveness and efficiency of monitoring and of reporting. The Agency notes that Arctic Diamond, in response to comments on the 2019 WEMP, has agreed that changes could be helpful, such as adding a column in Table 4.3-4 to indicate the specific trigger that initiated a change in Action Level.

Caribou Crossing Sign. Photo courtesy of Arctic Canadian Diamond Company Ltd.

AQUATIC EFFECTS

HIGHLIGHTS

- With very little ore processed in 2020 due to the temporary mine suspension in March, water quality in lakes downstream of the LLCF and King Pond did not significantly change relative to previous years.
- Total mercury was added to the list of evaluated water quality metals as it had been measured in increasing levels in fish in the Koala watershed in 2018.
- Downstream of Sable Pit, there was no effluent discharge from Two-Rock Sedimentation Pond for the second consecutive year as Arctic Diamond's plan for compliance monitoring of Sable minewater sent to the receiving environment had not been approved by the Wek'èezhìi Land and Water Board (WLWB).
- Low action level exceedances for plankton have been reported for the first time.

BACKGROUND

Each year Arctic Diamond's monitoring programs and studies are conducted at Ekati to determine if changes in the aquatic environment downstream of mining operations are occurring as a result of mining activities. There are five watersheds which may be affected by the mining operations (Koala-Lac de Gras, King-Cujo, Desperation-Carrie Pond, Pigeon-Fay-Upper Exeter and Horseshoe). Lakes and streams in these systems, as well as background sites, are sampled each year under the Aquatic Effects Monitoring Program (AEMP), as required in Arctic Diamond's 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.

In September 2020, the WLWB approved Arctic Diamond's request to amend the AEMP for 2020 due to the COVID-19 restrictions for worker health and safety. This resulted in a number of AEMP surveys not being undertaken in 2020, including the snow survey, stream hydrology and benthos, and sediment quality programs. The sediment quality survey, which is undertaken every 3 years, will be conducted in 2021 instead of 2020.

MAJOR ACTIVITIES AFFECTING WATER QUALITY IN DOWNSTREAM LAKES 2020-21

There are three major wastewater management facilities at the Ekati mine: Long Lake Containment Facility, King Pond Settling Facility and Two-Rock Sedimentation Pond.

Throughout 2020, fine processed kimberlite (FPK) slurry, treated sewage and surface sump water continued to be discharged into the Long Lake Containment Facility (LLCF). Once the slurry has settled out and separated, water is pumped from the process plant to Cell C of the LLCF. During the January to March 2020 period, prior to the temporary mining suspension, 11,800 m^3 of FPK was sent to the LLCF from the process plant. This is under 5% of the total in each of the previous three operating years at Ekati. During the same time period, 186,000 m^3 of FPK was pumped into Koala pit. The process plant recycled almost 5.8 million m^3 of water from Cell D of the LLCF.

While the mine was under Care and Maintenance due to COVID-19, 16 million m^3 of water was discharged from the LLCF to Leslie Lake from June 29 to October 25, 2020.

The King Pond wastewater management facility stores wastewater from the Misery and Lynx sites before discharging it into the King-Cujo watershed. No wastewater from King Pond was pumped into Cujo Lake in 2019 or 2020. An improved system for pumping out Misery minewater was initiated in early 2020. The pump, called the "mud wizard", removes a large portion of suspended solids from the mine wastewater before it is sent to King Pond Settling Facility (KPSF).

The third major wastewater management facility is the Two-Rock Sedimentation Pond (TRSP), located adjacent to the Sable Pit. The purpose of TRSP is to enable sediment in minewater from Sable Pit to settle out before water is discharged overland to Horseshoe Lake. No discharge from TRSP occurred in 2019 or 2020 as regulatory approval has yet to be obtained.

Example of zooplankton. Photo Credit: The Canadian Encyclopedia.

AQUATIC EFFECTS MONITORING PROGRAM

Water Quality

Every year the Agency reviews the annual AEMP data for any changes to water quality. The results are summarized in Table 2.

3-Year AEMP Re-Evaluation

Every three years Arctic Diamond re-evaluates the AEMP and submits changes it would like to see implemented to the WLWB. The latest re-evaluation and redesign of the AEMP was submitted for approval in December 2019, followed by a stakeholder review and workshop in February 2020. The resulting 2020-2022 AEMP Design Plan was approved by the WLWB in March 2021.

The only change to the 2020 AEMP report was the addition of total mercury to the list of evaluated water quality variables. This addition was not due to any increasing trend for total mercury concentrations in lake water downstream of mine activities but because of the increasing trend of mercury measured in fish tissue in lakes of the Koala watershed.

Aquatic Response Framework

The Aquatic Response Framework uses predetermined quantitative benchmarks and a hierarchy of responsive levels of action to provide an early warning to Arctic Diamond and regulators about changes in the downstream aquatic environment that may be of concern. The action levels are set below thresholds that could have a negative impact on the downstream environment.

There are three tiers of action levels, each with associated tiers for water quality variables other than dissolved oxygen:

Low Action Level
(LAL - when the variable exceeds 50% of a benchmark);

Medium Action Level
(MAL - variable exceeds 70% of a benchmark); and

High Action Level
(HAL – exceeds 100% of a benchmark).

Four water quality variables exceeded an action level in 2020:

- In Koala watershed (Leslie Lake only) - Chloride (LAL), continued from the 2019 under-ice exceedance in Leslie Lake, and Potassium (LAL), continued from the previous two under-ice years but extended into the open water season for the first time;
- In King-Cujo watershed (Cujo Lake) – Dissolved Oxygen (LAL – under-ice) and Phosphorus (MAL – open water), a continuation of the exceedances seen in previous years even though the usual main source of elevated variables in Cujo Lake, mine water from King Pond, was not sent to Cujo in the past two years.

Response Plans

Brief summaries of the Response Plans addressing chloride and potassium action level exceedances can be found in the Agency's 2019-2020 Annual Report. An updated version of the Phosphorus Response Plan was delivered to the WLWB for approval in November 2020. Since phosphorus is a key nutrient and has a direct influence on plankton production, the response plan focuses on plankton communities (Aquatic Response Plan for Plankton and Benthos Community Composition).

Biological benchmarks, based on normal ranges of baseline and reference lake metrics, were finalized in 2019 and included in the Aquatic Response Framework. The first reported exceedances of an action level for plankton were noted in the 2020 report. Arctic Diamond suggests that historical effects from nutrient enrichment, not toxic compounds in the water, are driving these population metric exceedances for plankton, and that no mitigative actions are warranted.

- In Leslie and Moose lakes, the LAL for community composition of both phytoplankton and zooplankton were exceeded.
- In Cujo Lake, the LAL for phytoplankton biomass and density as well as zooplankton composition were exceeded.
- In Fay Bay, phytoplankton biomass exceeded the LAL.

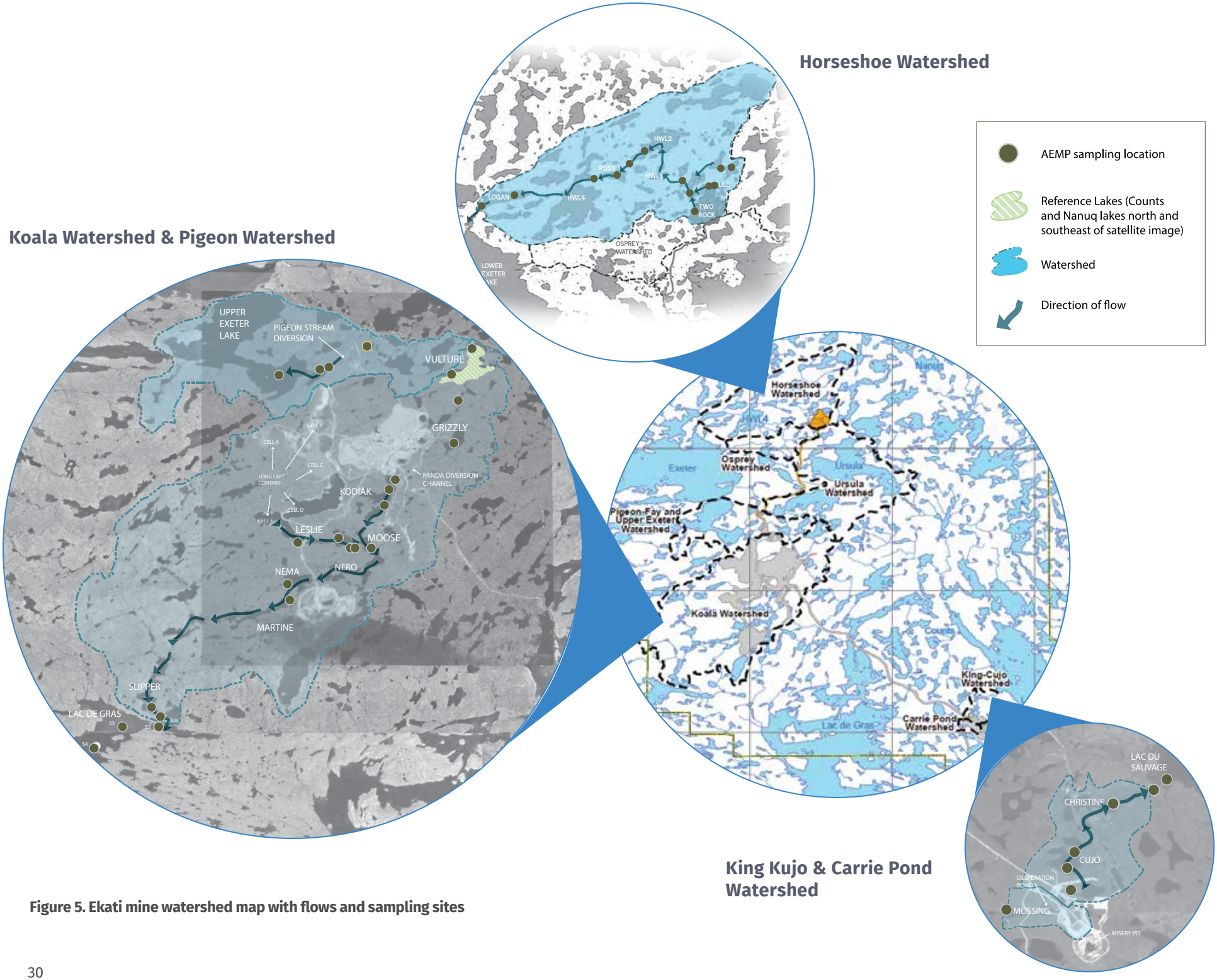


Figure 5. Ekati mine watershed map with flows and sampling sites

CUJO LAKE DISSOLVED OXYGEN

Almost every year, Cujo Lake experiences under-ice oxygen levels that fall below that necessary for fish respiration (anoxic conditions). The LAL for whole-lake averaged oxygen levels was again exceeded in Cujo Lake in April 2020. As in previous years, efforts to mitigate low under-ice dissolved oxygen concentrations through the installation of an aerator were undertaken. However, the aerator malfunctioned throughout the under-ice season. Aeration efforts are expected to continue during the winter of 2021-22.

Anoxic conditions through the entire depth of the water column of Cujo Lake, including the top meter below the under-ice surface, began at the end of March 2020 and continued through early May. Similar conditions occurred in one of the two reference lakes (Alexia Lake) but began a month later at the end of April.

Arctic Diamond's 2020 *Cujo Lake Aeration Strategy Follow-up* report states that deeper sections of unimpacted shallow sub-Arctic lakes have under-ice oxygen concentrations that are sometimes below the Canadian Council of Minister of the Environment (CCME) guideline (6.5 mg/L). This is due to microbial decomposition using up oxygen which, due to ice cover, cannot be replaced by the atmosphere or by light penetration activating oxygen-producing photosynthesis by phytoplankton. Based on morphometrics (depth, area, and volume) Cujo Lake is more similar to White Lake (one reference lake for the study) than another shallower reference lake, Alexia Lake. However, dissolved oxygen concentrations in Cujo Lake in 2020 were more similar to Alexia Lake. This suggests that either additional morphological characteristics are at play, such as location and shape of the lake basin, or mining in the Misery area is affecting Cujo Lake oxygen levels. The company has no definitive conclusions on this.

Sable road leading to Two Rock Sedimentation pond. Photo courtesy of Arctic Canadian Diamond Company Ltd.

TWO-ROCK OUTFALL REPORT

The Two-Rock Sedimentation Pond (TRSP) receives wastewater collected from the Sable pit where solids settle out and the clean water is eventually discharged into the first downstream lake, Horseshoe Lake. In 2020, Arctic Diamond proposed discharging water from the TRSP into a rock-strewn streambed upstream of Horseshoe Lake instead of directly into Horseshoe Lake through an end-of-pipe diffuser (similar to Diavik's) as originally proposed. Arctic Diamond believed that use of a diffuser would allow it to apply Effluent Quality Criteria (EQC) rather than Water Quality Objectives at the edge of the mixing zone. The Board stated that was incorrect and that it *"is concerned by this misinterpretation of the Licence conditions."*, reminding the company that the EQCs are to be met at point of discharge into Horseshoe Lake (i.e. SNP 008-Sa3). The WLWB did not approve the proposal and requested an updated effluent plume delineation study be undertaken. As a finalized Two-Rock Outfall Report is required one full year prior to discharge of wastewater from the TRSP to Horseshoe Lake, there was no discharge in 2020.

An outstanding question with respect to the TRSP is the fate of the grayling habitat in a stream west of Two Rock-Horseshoe stream. The Agency is concerned that this habitat could be affected if the Two Rock outflow, which will now not be contained within a pipe, unexpectedly flows west. While Arctic Diamond suggests this is not possible given the low discharge volumes, the WLWB directed Arctic Diamond to include an analysis of the potential for wastewater to impact the grayling-bearing stream in its updated Two Rock Outfall Report.

→ Flow from effluent source to ultimate receiving lake in watershed

● Increased over time in comparison to reference lake/stream or different from a constant

○ Elevated but not changing through time

◆ Upper bound of 95% exceeded the SSWQO, water quality benchmark, or CCME guideline during ice-covered or open water season

★ Indicates observed mean exceeded the SSWQO, water quality benchmark or CCME guideline during ice-covered or open water season

Parameters Monitored	Variables elevated in Koala watershed: Long Lake Containment Facility → Lac de Gras									Variables elevated in King-Cujo watershed: King Pond → Lac du Sauvage			
	Leslie	Leslie-Moose	Moose	Moose-Nero	Nema	Nema-Martine	Slipper	Slipper-Lac de Gras	Lac de Gras (S2)	Cujo	Cujo Outflow	Christine-Lac du Savage	Lac du Sauvage
pH	○	○	○	○	○		★ 1		★	○	○	○	★
Alkalinity	○	○	○	○	○	○	○	○	○	○	○	○	●
Hardness		○	○	○	○	○	○	○	○	○	○	○	
Total Dissolved Solids	○	○	○	○	○	○	○	○	○	○	○	○	
Chloride	○	○	○	○	○	○	○	○	○	○	○	○	●
Sulphate	○	○	○	○	○	○	○	○	○	○	○	○	●
Potassium	●	○	○	○	○	○	○	○	○	○	○	○	○
Total Ammonia	●	○	●	●	●					●	○	○	○
Nitrite	○	○	○	○	○								
Nitrate	○	○	○	○	○	○							
Total Phosphate-P		●								○	●	○	○
Total Organic Carbon	○	○	○	○	○	○	●	○	○	●	○	○	○
Antimony	○	○	○	○	○	○	○						
Arsenic	○	○	○	○	○	○				●	●	●	●
Barium	○	○	○	○	○	○	○	○	○	○	○	○	
Boron	●	○	○	○	○	○				○	●	●	○
Molybdenum	○	○	○	○	○	○	○	○	○	○	○	○	●
Nickel	●	●	○	●	●	●	●	●		●	●	●	●
Selenium	○	○	○	○						○	○		
Strontium	●	○	○	○	○	○	○	○	○	○	○	○	●
Uranium	○	○	○	○	○	○	●	●	●	○	○		

1 pH also below benchmark in reference lakes

Table 2 - Mining effects on water quality flowing through the Koala and King-Cujo Watersheds.

JAY AEMP DESIGN PLAN

Arctic Diamond's Jay AEMP Design Plan 1.1 was submitted in October 2019. Most of the design for the Jay AEMP was consistent with the site-wide AEMP in the areas of field sampling and data analysis. The Plan, however, was not approved by the WLWB as it stated in the Board's July 2020 Reasons for Decision that the Design Plan must include:

- Description of the spatial variability of key water quality variables in Lac du Sauvage;
- Core sampling for sediment quality of lake bottoms to derive a finer resolution of sediments deposited most recently, especially in lakes where mine impacts are most likely to occur;
- More triggers in slimy sculpin metrics that would necessitate adding the monitoring of harvestable fish species;
- Taking over the monitoring of one of Diavik Diamond Mine Inc's far-field sampling sites in eastern Lac de Gras once Diavik's AEMP ceases at its scheduled closure; and
- Setting water quality monitoring methods that are synchronized with Diavik's to provide comparable data that addresses cumulative impacts of both mines on Lac de Gras.

AGENCY ASSESSMENT

The Agency is pleased with the WLWB's decisions on Two-Rock outflow into Horseshoe Lake as well as the changes required for the Jay AEMP Design Plan. We believe these decisions by the Board strengthen protections of the aquatic environments downstream of the Sable and Jay mining operations.

The Agency is also pleased that the company has chosen to include mercury in the list of statistically evaluated water quality variables, beginning with the 2020 AEMP. This is a welcome addition to the body of evidence for changes to the aquatic environment warranted by the 2018 finding of unexpectedly elevated mercury in tissue of lake trout in Kodiak Lake.

The Agency is concerned about possible long-term impacts on aquatic life in the Koala watershed from prolonged exceedances of Aquatic Response Plan action levels for potassium over the past 5 years. The Agency suggests that if these exceedances persist the company will need to consider whether excessive potassium loading in the watershed could create future chronic toxicity into the most sensitive aquatic life such as clams and crustaceans.

Water sampling at Long Lake Containment Facility.

TRADITIONAL KNOWLEDGE AND ENGAGEMENT

HIGHLIGHTS

- COVID-19 Restrictions did not allow for in-person engagement with communities.
- Minimal Traditional Knowledge (TK) projects and TK preservation programs occurred throughout 2020-2021.

Meeting with the Kugluktuk Municipal Council in 2017.

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ACTIVITIES 2020-21

Community Engagement

Due to the COVID-19 pandemic and the creditor protection proceedings under the Companies' Creditors Arrangement Act (CCAA), Arctic Diamond was unable to engage with communities during 2020 to the same extent as in previous years. The company continued however, to provide regular updates to communities regarding the CCAA process and the temporary suspension of the mine operations.

USE OF TRADITIONAL KNOWLEDGE IN OPERATIONS

Traditional Knowledge Elders Group (TKEG)

For the second consecutive year, the TKEG did not hold any meetings in 2020. The Ekati TKEG was originally established to provide Traditional knowledge (TK) input for the design of the mine, mine operations and closure plans of the Jay Project. The scope of the TKEG was subsequently expanded and the TK collected applied to the entire mine site.

Environmental Monitors

Prior to the temporary suspension of mine operations, community members had the opportunity to regularly participate in several environmental monitoring programs at the Ekati mine. Similar opportunities were limited in 2020. In March 2020, the company and community members carried out a monitoring program for cliff-nesting raptors (birds of prey) that were attempting to establish their nests within the Misery, Lynx, Pigeon and Sable pits.

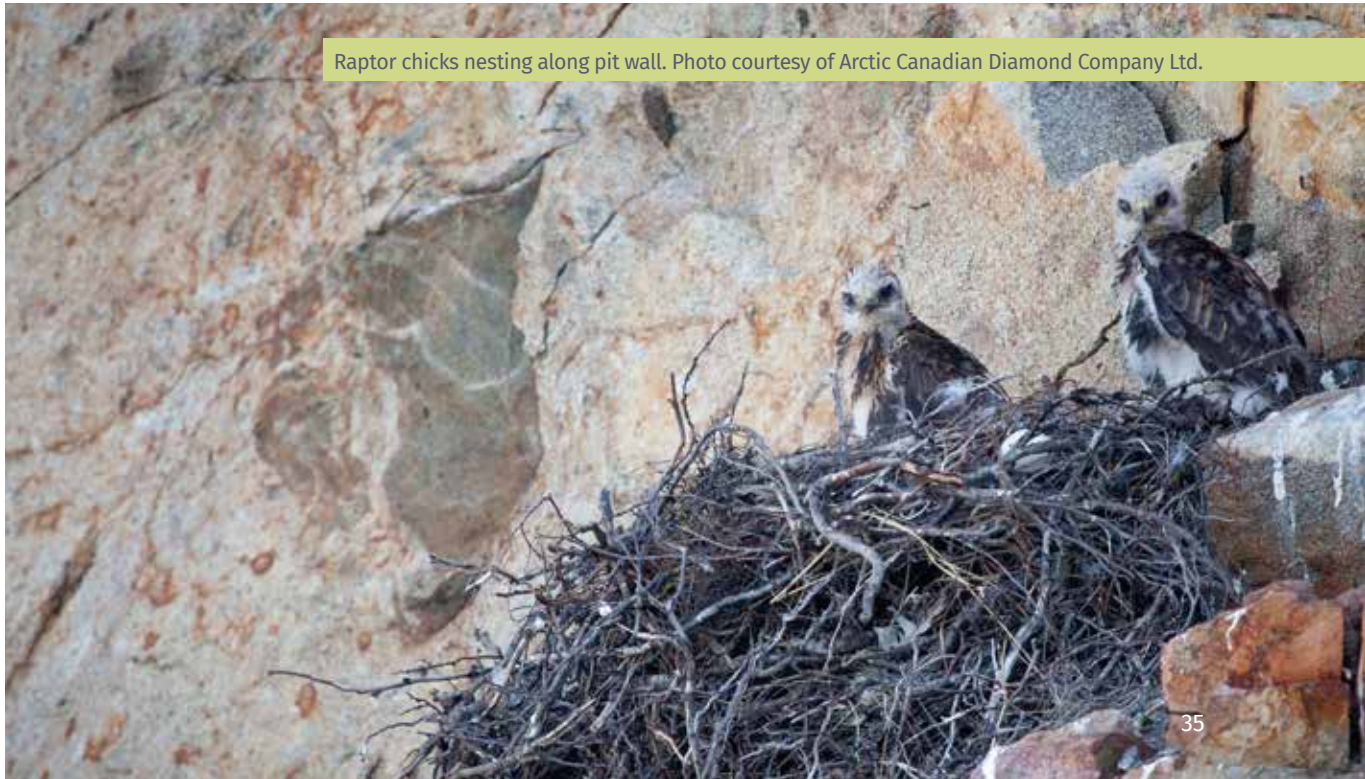
Overall, there were reduced opportunities for Indigenous community members to interact with the company and therefore, were less able to become familiar with changes occurring at the Ekati mine.

Community-Based Traditional Knowledge Projects

Normally the company supports various community-based traditional knowledge projects and community outreach programs that are Indigenous driven and implemented by the communities themselves. This year, however, the company did not contribute to the same number of programs as they had in previous years.

AGENCY ASSESSMENT

Many important recommendations related to TK emerged during the 2020 Wildlife and Mine Closure Workshop hosted by the Agency in February 2020. Community participants felt there was a need to review the way in which TK is collected and how it is used at the mine site. It was recommended that the TKEG meet more regularly, with both the youth and Indigenous government staff in attendance. The workshops and meetings are an opportunity for the company to explain to TKEG members the purpose and value of the TK they are collecting for a project, how it will be used and where they plan to implement the information. In addition, a comprehensive plan for use of TK should be incorporated with the project planning. TK should not be used solely as observational data for environmental monitoring, but should be incorporated into the interpretation and analysis of the monitoring results.



Raptor chicks nesting along pit wall. Photo courtesy of Arctic Canadian Diamond Company Ltd.

It was also suggested that a verification process be put in place, similar to a peer-review process, through which the draft report produced by the company would be verified by knowledge holders to confirm the accuracy of the TK information included. The Agency recognizes that in cross-cultural information sharing, there is the potential for TK to be misinterpreted from the initial meetings and when it is transcribed within a report. Therefore a verification process is important to ensure all TK information from all Aboriginal Society members is accurately depicted.

A notable example of an opportunity for improvement involves the proposed Point Lake project. While the TK gathered at the time was applicable for the Jay project, there is a need for current TK to be collected specific to the Point Lake area. This information should be gathered during the pre-permitting stages of the project to provide input for the proposed design and development of the mine components. Although travel restrictions due to COVID-19 has caused limitations to gathering such TK, the company should prioritize this essential step once restrictions ease.

The Agency notes that Part B, Condition 16 of Water Licence W2012L2-0001 specifies; *"In each* [AEMP-related] *submission required by the Licence or a directive from the Board, the Licensee is to identify all recommendations based on Traditional Knowledge received, describe how the recommendations were incorporated into the submission and provide justification for any recommendation not adopted".*

The Agency looks forward to seeing more TK input and community member participation in more programs including the assessment and monitoring of aquatic and wildlife impacts and closure planning.

Directors at Ekati, during a site visit.

AIR QUALITY

HIGHLIGHTS

- Air quality remains good with no exceedances of ambient air quality standards and guidelines reported.
- The three-year Air Quality Monitoring Program report is expected in 2022.

Haul truck carrying ore from Pigeon pit, 2018.

ACTIVITIES 2020-21

Air Quality monitoring is required under the Environmental Agreement (Article VII). The Air Quality Monitoring Program (AQMP) at Ekati is comprised of the following components:

- Daily meteorological monitoring
- Annual air contaminant and greenhouse gas (GHG) calculations
- Monitoring for total suspended particulate matter (TSP) and fine particulate matter with a diameter less than 2.5 µm ($PM_{2.5}$) as part of the Partisol station sampling (every 6 days)
- Continuous ambient air quality monitoring of sulphur dioxide (SO_2), nitrogen dioxide (NO_2), nitric oxide (NO), and nitrogen oxides (NO_X)
- Monitoring for dust deposition (dustfall) in summer including total dustfall, acid deposition, and metal deposition
- Snow chemistry sampling (every three years)
- Lichen tissue monitoring (every three years)

The AQMP was initiated in 1998 and is reported on every three years in concert with an extended sampling program that includes snow chemistry and lichen sampling. The snow chemistry and lichen tissue monitoring component of the AQMP were scheduled to be conducted in 2020 but were delayed to 2021 due to Covid-19 restrictions and the temporary suspension of mining operations at the Ekati mine site.

In 2020, although the mine site was in temporary care and maintenance, ambient air quality monitoring continued in accordance with the approved AQMP. Arctic Diamond provided an executive summary of the 2020 AQMP results in their 2020 Annual Environmental Agreement and Water License Report.

Air Quality Monitoring Results 2020

Overall, there were no reported exceedances of the Canadian Council of Minister of the Environment (CCME) and the Government of Northwest Territories (GNWT) air quality standards at the mine site in 2020.

Meteorological Monitoring

Meteorological data at the Ekati mine are collected daily from the airport when personnel are on duty, the Koala meteorological station year-round, and the Polar Lake station during the open water season. In 2020, the Polar Lake meteorological station did not operate due to limited resources at the mine site.

Green House Gas Emissions

Greenhouse gas (GHG) emissions were estimated to be 104.2 $ktCO_2e$ (kilotonnes of CO_2 equivalent) in 2020 which was 37% lower than during the 2019 reporting period.

Ambient Air Quality Monitoring

Total Suspended Particulate

Concentrations of TSP and $PM_{2.5}$ measured at the Partisol station and the continuous air monitoring building (CAMB) were below applicable CCME and GNWT standards.

Nitrogen Dioxide and Sulphur Dioxide

The hourly, daily, and annual concentrations concentrations of NO_2 and SO_2 measured at the CAMB in 2020 were below applicable CCME standards. The lowest concentrations were recorded from April to June, due to the suspension of mining activities.

Dustfall Monitoring

No EnviroKleen™ dust suppressant was applied to the Ekati roads in 2020. Dustfall monitoring was conducted at only 10 monitoring locations compared to the 31 locations in 2019, and included five along the Misery Road, three at the airstrip, and at two control sites. All dustfall concentrations at 300 m from all haul roads were below the GNWT interim dustfall objective of 1.53 $mg/dm^2/d$. The greatest concentrations were next to the Misery haul road.

AGENCY ASSESSMENT

With the expansion to the mine being proposed (Point Lake Project) in the southern half of the Ekati claim block, the Agency is concerned with the potential increase in ambient air quality parameters, in particular the generation of dust from blasting, deposition of rock for roads and pads and increased use of haul roads. The Agency is recommending that Arctic Diamond prepare an update to the Air Quality Monitoring and Management Plan (AQMMP) to address any proposed projects. Updates to the AQMMP should be done prior to these activities commencing to ensure that monitoring of these new dust sources are considered and managed as part of site-wide programs.

Since the proposed Point Lake expansion is near the proposed Jay Project, this may also be an opportunity for the company to implement the Air Quality and Emissions Monitoring and Management Plan (AQEMMP) developed for the Jay Project in 2016. This could include the installation of the passive air samplers and a continuous air monitoring station committed to during the assessment of the Jay Project. Additionally, the thresholds and triggers for NO_2, $PM_{2.5}$ and TSP developed as part of an adaptive management framework outlining when a particular action is required could also be adopted.

WASTE ROCK MANAGEMENT

HIGHLIGHTS

- Significant questions persist over methods used to evaluate the ability of waste rock to neutralize acidic conditions.
- Submission of a Seepage Management Framework and broad site-wide study into waste rock Effective Neutralization Potential have been delayed.

Sable WRSA. Photo courtesy of Arctic Canadian Diamond Company Ltd.

WASTE ROCK STORAGE AREAS

Waste rock is non or low-diamond containing overburden and rock that is excavated during mining to access kimberlite ore. This rock is transported from the open pits and underground by truck and deposited in large areas referred to as Waste Rock Storage Areas (WRSA). These WRSAs will be permanent landscape structures that remain in place following completion of mining. They are designed to be physically stable both during mine operations and in the long term, to promote the establishment of permanently frozen cores, and to achieve a reasonable balance between footprint area and pile height.

There are currently five WRSAs at the Ekati mine located adjacent to the Panda/Koala/Beartooth, Fox, Sable, Pigeon and Misery/Lynx pits. A sixth WRSA is approved for construction as part of the future Jay Project. Another large pile of waste rock is the Coarse Kimberlite Reject Storage Area (CKRSA) which is comprised of low-diamond kimberlite ore that has been rejected from the process plant and is located adjacent to the Panda/Koala/Beartooth WRSA. A description of each WRSA and the CKRSA is provided in Table 4.

Less than 4 million wet metric tonnes (wmt) of waste rock and coarse kimberlite reject material was deposited at four locations in 2020 due to the temporary suspension of mining activities. This compares to more than 20 million mt deposited at the same locations in 2019. Details on the quantity and location of this waste are provided in Table 3.

Table 3 - Waste Rock and Coarse Kimberlite Reject Material Deposited in 2020 (wmt)

Location of Waste Production	Deposit Location	Quantity (wmt)
Sable Pit	Sable WRSA	2,882,319
Pigeon Pit	Pigeon WRSA	1,007,257
Pigeon Pit	CKRSA	88
Misery Underground	Misery/Lynx WRSA	21,865
Central Mill Processing Facility	CKRSA	258,190

DESIGN, MANAGEMENT AND STUDIES

Waste Rock and Coarse Kimberlite Reject Material Monitoring

Waste rock and course kimberlite reject material is routinely sampled and analyzed for acid base accounting (ABA) and major and trace elements, including metals. Eight samples were collected from two benches in the Pigeon Pit in 2020, one sample from Misery Underground and two samples of coarse kimberlite reject material. No samples of waste rock were collected from the Sable Pit. This compares to 83 samples collected in 2019, which reflects the reduced level of mining activity in 2020.

Arctic Diamond reports that no major changes in waste rock and coarse kimberlite reject material characteristics were noted from previous years. The 2020 results indicate the coarse kimberlite reject material, Misery Underground granite and Pigeon diabase samples are classified as non-Potential Acid Generating (PAG), while the Pigeon metasediment samples are classified as PAG or uncertain acid generating potential.

Caution must be exercised when comparing the 2020 results with 2019 and earlier as Acid Base Accounting, or the balance between the acid production and acid consumption properties of a material, because laboratory testing differed from previous years. In 2020, the modified static bulk neutralization potential (NP) Sobek testing procedure was used to determine the neutralization potential ratio (NP/MPA) followed by an aqua regia digestion and analysis for metals. This compares to the historical practice of using the standard static bulk NP Sobek testing procedure followed by four acid digestion and analysis for metals.

Waste Rock Neutralization Potential

A significant focus of the Agency over the past couple of years has been on Arctic Diamond's use of the standard Sobek method to determine the NP/MPA ratio. While the modified Sobek method used in 2020 is a less chemically aggressive analysis than the standard method used in previous years, caution must be used when comparing the 2020 results to those of previous years. The Agency is also concerned it may still not accurately reflect conditions typically found in the natural environment.

This issue continues to be unresolved despite the Wek'eezhii Land and Water Board (WLWB) agreeing with the Agency that uncertainty exists around the classification of waste rock using the standard Sobek method. To bring clarity and eventual closure to this subject, in 2019 Arctic Diamond began undertaking waste rock characterization, mineralogical analysis and kinetic humidity cell testing to determine the Effective NP of waste rock. Results of this broader site-wide study into Effective NP have been delayed and are now expected to be submitted to the WLWB in 2021.

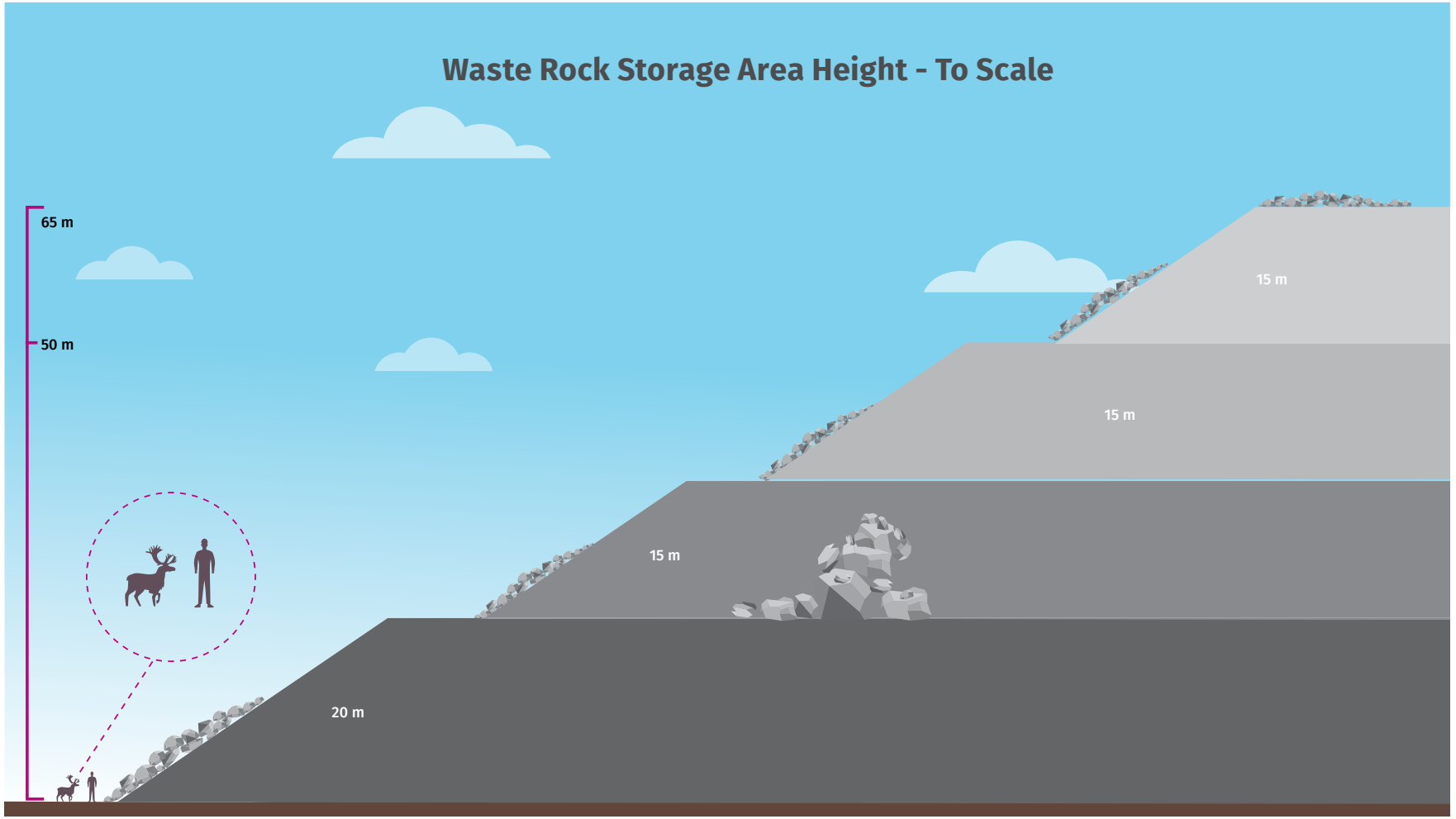


Diagram 1: Waste rock storage area illustration

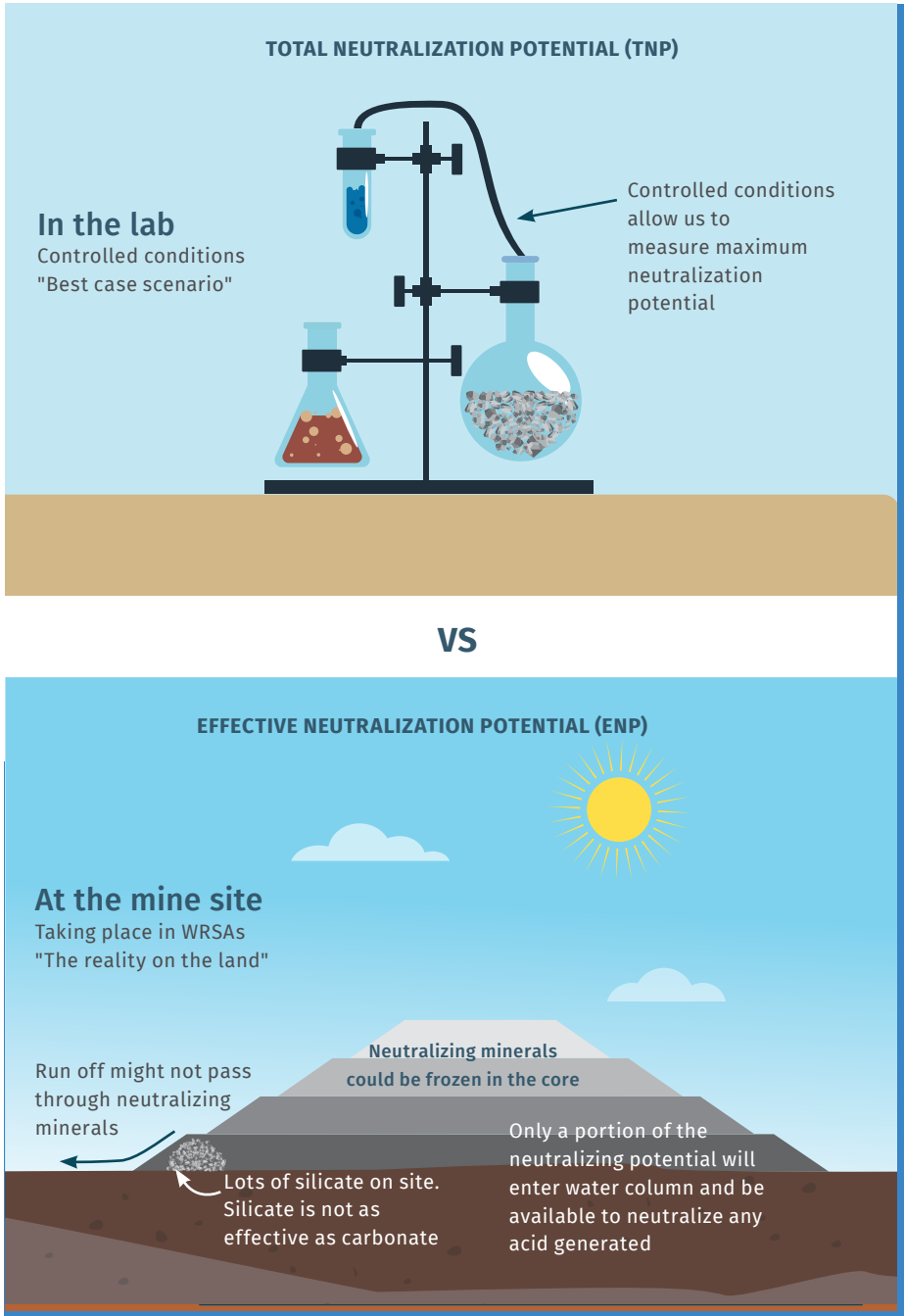


Diagram 2: Neutralization Potential

WHAT IS NEUTRALIZATION POTENTIAL AND WHY IS IT IMPORTANT?

The formation of mine acid drainage and the contaminants associated with it has been described by some as the largest long term environmental problem facing the mining industry. It is a difficult and costly problem as acid generated through oxidation of sulphides and other natural minerals in waste rock can cause metals such as copper and cadmium to leach from WRSAs into adjacent lakes and streams. Fortunately, if sufficient neutralizing minerals are also found in the rock, the acid can effectively be neutralized and the problems associated with acid mine drainage reduced or eliminated.

Carbonate, silicate, aluminium and iron hydroxides and oxides, and aluminosilicate are among the common minerals capable of contributing to the neutralization of acidic solutions, but their reactions and reaction rates vary widely. What specific minerals are present in the rock, their concentrations and the weathering mechanisms taking place under the site specific conditions determine the waste rock's potential to neutralize the cumulative rates of generated acid.

Waste rock at Ekati generally has low amounts of carbonate minerals and relies on silicates to neutralize acid. In general, silicate minerals react slower to acid conditions than carbonate minerals.

Total Neutralization Potential (TNP) is a measure of the total, or cumulative, acid a material is capable of neutralizing. The testing involves dissolving and quantifying all the neutralizing minerals in a rock sample including those that may not contribute similar acid neutralization properties under actual field conditions.

Effective Neutralization Potential (ENP) is a measure of the actual, or effective, neutralization potential residing in rock under the environmental conditions it resides in. Unfortunately, no single available testing method can accurately simulate all the factors that determine actual drainage chemistry under field conditions. This makes the testing difficult, time consuming and more costly.

Waste Rock Ground Temperature Monitoring

Temperatures within the WRSAs were again monitored in 2020 using ground temperature cables (GTC).

Arctic Diamond reports that ground temperatures within the WRSAs and toe berms in 2020 show similar trends to those observed in 2019. The measurements, although limited in some locations due to inoperable GTCs, indicate the Panda/Koala/ Beartooth WRSA and toe berm, Misery WRSA and Fox toe berm are, except for the active layer, in a permafrost condition while large portions of the Fox WRSA remain unfrozen. Although GTCs have historically been installed vertically, the first horizonal GTC was installed on the 529 m bench of the Pigeon WRSA by the University of Waterloo in 2019. No GTCs have been installed to date in the Sable WRSA. The ground temperature in the CKRSA is unknown as data are limited to readings prior to spring 2014.

Seepage Management

Arctic Diamond is required to monitor the quality of all identifiable seepage from WRSAs and the CKRSA and report the findings annually as a condition of their current Water Licence. Due to the temporary suspension of mining activities, a reduced program was undertaken in 2020 where only those seeps flowing overland and entering an adjacent lake or stream were sampled. Caution must be exercised therefore, when comparing the 2020 results and trends with previous years.

Fourteen seepage samples were collected in 2020 from 10 seeps originating from the Panda/Koala/ Beartooth, Fox, Pigeon and Misery WRSAs. Six samples were collected from various locations in June during freshet, seven in late August, and an opportunistic sample from the Fox WRSA during July following a significant rainfall event. No seepage reference stations were sampled in 2020 due to the reduced sampling program. This compares to 75 seepage samples collected in 2019.

Monitoring results indicate that seepage from WRSAs continue to be influenced in different ways by the adjacent waste rock. Some samples indicate the influence of sulphide oxidation (acid drainage), the weathering and leaching of metals from the waste rock as well as the flushing of explosive residues and fine rock. Other samples indicate these influences are minimal with seepage quality being like that of historical background surface water reference stations.

No conclusions can be made with respect to seepage coming from the CKRSA as no samples were collected in 2020.

The WLWB requires Arctic Diamond to report any seeps entering the receiving environment that exceed established seepage screening criteria along with any corrective action being taken. These seeps are referred to as ‘seeps of potential concern’. A total of five seeps of potential concern were reported in 2020 compared to four seeps in 2019.

- The dissolved aluminum criterion was exceeded at Seep-019 (between the northeast boundary of the Panda/Koala/Beartooth WRSA and Bearclaw Lake)
- The total and dissolved sodium criteria were exceeded at Seep-357 (between the north boundary of the Panda/Koala/Beartooth WRSA and Bearclaw Lake)
- The total suspended solids criteria were exceeded at Seep-362 (between the southwest boundary of the Fox WRSA and South Fox Lake)
- The criteria for total and dissolved aluminum, cadmium, iron and potassium along with total copper were exceeded at Seep-081 (between the Jay crusher pad and Cujo Lake)
- The total and dissolved cadmium criteria were exceeded at Seep-059 (between Misery camp and Lac de Gras)

Of these, Seeps-019 and 081 were identified as seeps of potential concern in 2019 while Seeps-059, 357 and 362 were new seeps of potential concern in 2020.

Four silt fences were installed between the Misery WRSA and Cujo Lake to reduce the level of suspended solids entering the lake from Seep-081. No other corrective actions were reported to have been taken for the remaining four seeps of potential concern.

AGENCY ASSESSMENT

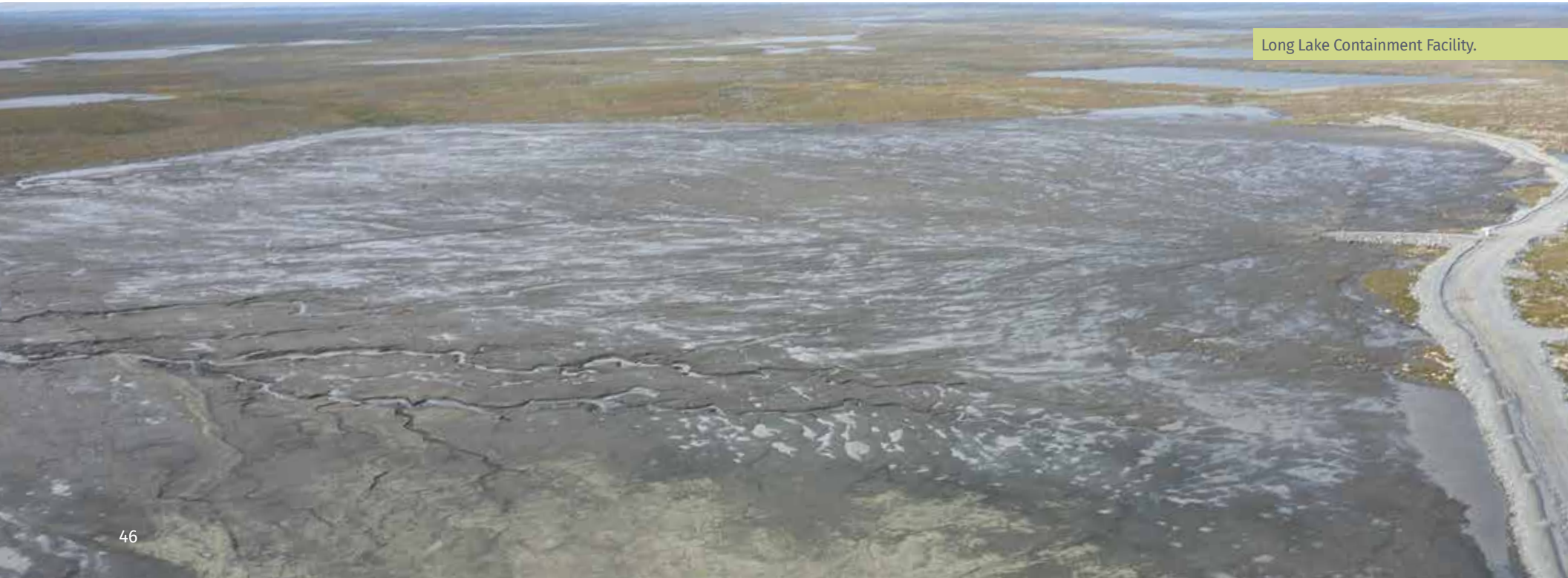
The potential for long-term acid drainage and metal leaching from waste rock requires specific WRSA design and management strategies to be implemented during mine operations as it has significant implications for closure planning.

Little progress was made in 2020 towards resolving outstanding questions related to how best to analyze for, and determine, the neutralization potential of waste rock at Ekati. While it is possible modifications to the static, or single point in time, bulk NP Sobek and acid digestion procedures initiated by Arctic Diamond in 2020 are improvements, caution must be used when comparing these results to previous years and, despite the changes in analytical methods, it remains unclear how closely the resulting NP/MPA ratios reflect conditions found in the natural environment. In order to determine the actual, or effective, neutralization potential of rock, weathering conditions in the field must be known and considered.

Determining the effective NP of waste rock is admittedly a difficult and controversial subject whose scope extends beyond the Ekati mine. During a March 2021 workshop involving Arctic Diamond, the WLWB, the Agency, regulators and Indigenous governments and communities to discuss closure and reclamation planning at Ekati, participants agreed this is a subject that needs to be resolved. The Agency is optimistic that the special study being completed by Arctic Diamond involving geochemical characterization, mineralogical analysis and kinetic humidity cell testing of waste rock will contribute to these discussions and that this issue will eventually be resolved.

While five seeps of potential concern were reported in 2020 compared to four seeps in 2019, it is difficult to draw year-to-year conclusions because of the reduced sampling program.

Seepage from WRSAs represents a significant long-term risk to the environment that needs to be managed while the mine is operating and following closure. The Agency suggested in 2019 that the method of evaluating risk from seeps using the current screening criteria was not satisfactory because Water Licence Effluent Quality Criteria are developed for large points of controlled discharge (e.g., discharge of water from the Long Lake Containment Facility). Seepage fundamentally differs from these large point sources in flow volumes, receiving water bodies, point of entry configurations, mixing zones and dilution characteristics. In response, Arctic Diamond began developing a new Seepage



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Management Framework to replace the current method of evaluating risks. This Framework was expected to be submitted in 2020 and incorporate new ecologically-based thresholds, action levels and adaptive management strategies specifically designed for seepage sources. Submission of this Framework has been delayed and is now anticipated during the summer of 2021.

The environmental risk from seepage is dependent upon three major factors: the type and concentration of contaminants leaving the WRSAs; the volume of flow; and the sensitivity of the adjacent environment. The seepage monitoring program provides valuable information on the type and concentration of contaminants leaving WRSAs while the Aquatic Effects Monitoring Program assesses the state of the adjacent lakes and streams. However, information on the annual and seasonal volume of seepage flow remains limited. The Agency would like to see increased efforts to evaluate seepage flow patterns by installing real time surface and subsurface flow instrumentation at selective locations.

Although Arctic Diamond has stated permafrost conditions are not required to ensure the long-term physical and geochemical stability of WRSAs, the Agency suggests continued monitoring of ground temperatures is essential to understanding the processes taking place within the rock piles. Arctic Diamond is encouraged to install GTCs in the Pigeon and Sable WRSAs as operations permit. This is particularly important in the Pigeon WRSA because of the abundance of co-placed non-PAG granite and PAG metasediment waste rock.

Table 4 - Footprint and Capacity of Waste Rock and Coarse Kimberlite Reject Storage Areas

	Panda/Koala/ Beartooth	Fox	Sable	Pigeon	Misery/Lynx	Jay	Course Kimberlite Reject
Operational Status	Complete	Complete	Active	Active	Active	Future	Active
Rock Types	Granite, Diabase	Granite, Diabase, Waste Kimberlite	Granite, Diabase	Granite, Diabase, Metasediment, Till	Granite, Diabase, Metasediment	Granite, Diabase, Metasediment	Coarse Processed Kimberlite
Area Footprint (ha)	428*	383*	182**	66**	151***	227****	115***
Height Above Local Tundra (m)	40*	50*	65**	54 to 76**	65***	65****	50***
Quantity (mt)	169	214*	36.1	12.6	100	155 (planned)	39.7
Other Features	Waste Hydrocarbon Landfarm, Operations Landfill	Hydrocarbon Impacted Soils	None	None	Operations Landfill, Hydrocarbon Impacted Soils	None	None

*Areas are complete - final actual footprint and height
** Areas are active - final design footprint and height
*** Areas are active - current footprint and height
**** Area is planned – final design footprint and height

WASTEWATER AND PROCESSED KIMBERLITE MANAGEMENT

HIGHLIGHTS

- Volumes of Fine Processed Kimberlite (FPK) produced and stored were substantially lower in 2020 because the mine operated for less than three months during the year.

- Similar to years with full operations, Arctic Diamond continued to pump water throughout the year from Cell D of the LLCF to the process plant and then transferred the water to Koala Pit.

- High precipitation led to increased volumes of water in the Long Lake Containment Facility (LLCF). As a result, discharge volumes to Leslie Lake (over 16 million cubic metres) were substantially higher than those in the previous five years.

Misery pit and Misery WRSA. Photo courtesy of Arctic Canadian Diamond Company Ltd.

WASTEWATER AND FINE PROCESSED KIMBERLITE

The Wastewater and Processed Kimberlite Management Plan (WPKMP) describes site-wide wastewater management and fine processed kimberlite (FPK) management. Wastewater and FPK management are closely linked activities because the diamond recovery process produces large quantities of FPK that leaves the process plant as a slurry of fine ground up rock (sand/silt/clay sized particles) mixed with large amounts of water. Table 5 summarizes the types of wastewater and processed kimberlite (PK) at the Ekati mine site.

Table 5 – Ekati Mine Wastewater and Processed Kimberlite Types.

Category	Type	Description/Source
Minewater Runoff from facilities and water pumped from mines	Surface Minewater	Water that flows or is pumped from surface mine infrastructure, e.g., roads, waste storage areas, truck wash bays, collection sumps.
	Open Pit Minewater	Water that flows or is pumped from open pits.
	Underground Minewater	Water that flows or is pumped from underground workings.
Sewage Toilet waste and greywater	Sewage – Main Site	Sanitary sewage system at the main site.
	Sewage – Remote Sites	Sewage from remote work sites, e.g., Sable Camp, Misery Camp.
Processed Kimberlite Material rejected from the process plant	Coarse Processed Kimberlite	Coarse kimberlite (> 0.5 mm diameter particles) rejected from the process plant. Trucked to waste rock storage areas (See Waste Rock section of this report for more information).
	Fine Processed Kimberlite (FPK)	Fine kimberlite (< 0.5 mm diameter particles) discharged from the process plant in a slurry mixture of FPK and water.

WASTEWATER MANAGEMENT

Ekati mine discharges water from three water management facilities. Before discharge to adjacent lakes, Arctic Diamond collects and then analyzes water samples to confirm compliance with the Water Licence Effluent Quality Criteria (EQC).

- Two Rock Sedimentation Pond (TRSP) manages water from the Sable site, with discharge to Horseshoe Lake in the Horseshoe watershed.
- Long Lake Containment Facility (LLCF) manages water from the Main Camp, Panda/Koala/Beartooth area, Ammonium Nitrate Storage Facility, Polar Explosive Building, Fox site and Pigeon site, with discharge to Leslie Lake in the Koala watershed.
- King Pond Settling Facility (KPSF) at the Misery site manages water from the Misery and Lynx sites, with discharge to Cujo Lake in the King-Cujo watershed.

Some mined out pits also provide for containment and management of wastewater:

- The Beartooth Processed Kimberlite Containment Area (PKCA) and Panda/Koala PKCA provide temporary storage for waste water before transfer into the LLCF.
- Lynx Pit provides interim storage during mining of the Misery Underground for wastewater that does not meet EQC. Once mining is completed at Misery, the water will be transferred back to the Misery Underground and Pit.
- Fox Pit collects and stores local runoff including surface minewater from the Fox area.

In future, Arctic Diamond is permitted to use the Misery Pit to manage water from the Jay project, with discharge to Lac du Sauvage.

Arctic Diamond manages most surface minewater by temporary collection in sumps, followed by pumping or trucking to one of the three primary water management facilities. Surface minewater runoff from some roads, laydowns, and waste rock storage areas follows natural flow paths or is directed into the tundra. The Waste Rock and Ore Storage Management Plan dictates that roads and laydown areas can only be constructed using materials that are non-potentially acid-generating with low metal leaching potential.

The 2020 management of open pit and underground water is summarized in Table 6.

Table 6 – 2020 Open Pit and Underground Water Management

Mine Area	Source	Water Management Action	2020 Volumes (m^3)
Panda, Koala, Koala North	Underground	Discontinued in early 2019 when mining and underground reclamation completed.	0
Beartooth	Open Pit	Pumped to LLCF. Can be used for FPK storage and temporary storage of water from other sources.	0 to LLCF 0 No FPK or wastewater additions in 2020.
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.	107,678 to LLCF 0 to Beartooth PKCA
Lynx	Open Pit	Pumped or trucked to KPSF. Storage of non-compliant water from KPSF.	9,520 to KPSF 377,360 from KPSF
Sable	Open Pit	Pumped or trucked to TRSP.	150,970
Misery	Open Pit (Sumps)	Pumped to KPSF.	63,764
	Underground	Pumped to KPSF.	222,958
	KPSF and Open Pit (Sumps)	Pumped to Lynx Pit.	733,700[1]

Note 1: Arctic Diamond measures flow to KPSF from King Pond and Open Pit Sumps after the lines join. As a result, the total volume from the Open Pit Sumps is not known.

All sewage wastewater from the site is treated in the sanitary sewage treatment plant located at the main camp. Sewage from washroom facilities elsewhere on the site is trucked to the sewage treatment plant. Treated effluent from the sewage treatment plant flows through a pipeline to the process plant, where it is mixed with FPK and then discharged to one of the PKCAs. In 2020, Arctic Diamond discharged 45,236 m^3 of sewage effluent.

FINE PROCESSED KIMBERLITE MANAGEMENT

In March 2019 WLWB granted approval for Dominion to begin depositing FPK in Panda and Koala pits – the Panda-Koala PKCA. Due to the temporary mine suspension in 2020, the process plant only produced FPK from January to March 2020. During that time, Arctic Diamond deposited FPK in the LLCF and Koala Pit. The majority of FPK and process plant liquids was placed in Koala Pit with the LLCF receiving much smaller amounts than previous years. Despite the temporary suspension, Arctic Diamond continued to pump water throughout the year from Cell D of the LLCF to the process plant and then to Koala Pit. The 6 million m^3 of water withdrawn from the LLCF was similar to years with full operations. The approach transferred water from the LLCF to Koala Pit, reducing the volumes requiring discharge from the LLCF. Table 7 lists volumes of FPK and process plant water deposited in each storage facility in 2020.

The Beartooth PKCA continues to serve as a minewater retention pond when water quality conditions make it beneficial to divert certain minewater sources away from the LLCF. For example, water with elevated nitrate, chloride or potassium concentrations may be directed to Beartooth PKCA where it can mix with other water before discharge to the LLCF. Arctic diamond did not transfer any water to the Beartooth PKCA in 2020.

Diagram 4: Wastewater and processed kimberlite at the Ekati mine site

Table 7 – FPK and water volumes deposited into PK Containment Facilities in 2020

Facility	Process Plant Solids – FPK (m3)	Process Plant Liquids (m3)
LLCF	11,858	80,959
Panda Pit	0	0
Koala Pit	186,083	6,003,029
Beartooth PKCA	0	0

The LLCF has five cells (A through E) separated by Dikes B, C and D. Arctic Diamond monitors compliance with Water Licence EQC at the Outlet Dam for Cell E, with discharge to Leslie Lake requiring prior approval

by the water licence inspector. Arctic Diamond has only deposited PK in Cells A, B and C. Cell B has been filled to capacity while Cells A and C have remaining space for FPK storage.

Arctic Diamond received authorization from the Lands Inspector on June 16, 2020 to discharge water from LLCF Cell E to Leslie Lake, and began discharge at up to 2.55 m^3/s on June 29 after confirming that the water met the EQC. Discharge continued to the end of July, when the water licence requires reduction of the discharge rate to no more than 0.52 m^3/s, but water levels in LLCF Cells D and E remained well above recommended operational elevations. Arctic Diamond made three requests (August 5, September 1 and October 1) for the Inspector to provide direction allowing for extended periods of discharge at up 2.55 m^3/s. They argued that high precipitation and a late spring thaw (late June instead of late May) that delayed the start of discharge contributed to the need for extension of the high-volume discharge period. The Inspector granted each of these requests and Arctic Diamond continued to discharge water to Leslie Lake until October 25, 2020. The total volume of water discharged to Leslie Lake in 2020 was over 16 million m^3, substantially greater than the approximately 3 million m^3 discharged in 2019.

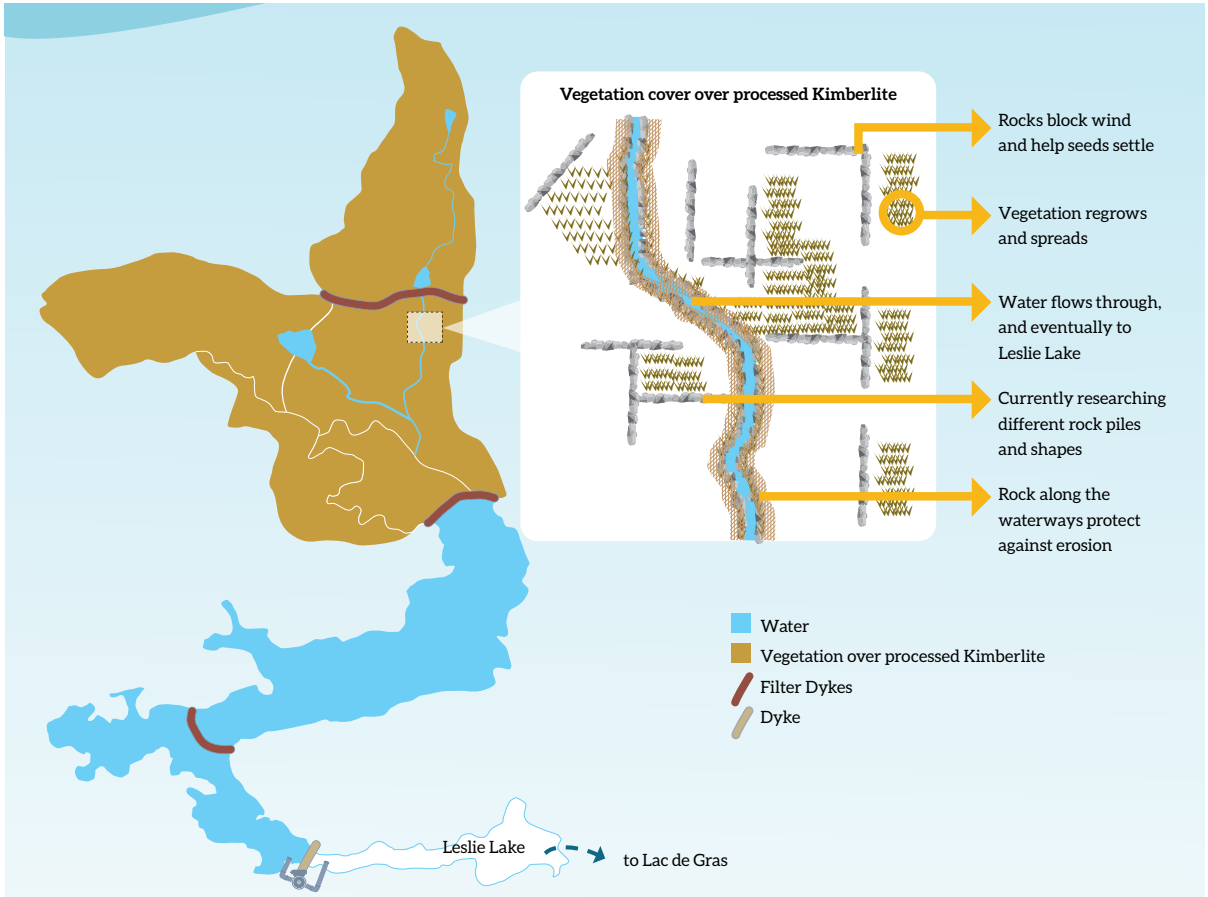

Diagram 5 : LLCF plan closure and reclamation

AGENCY ASSESSMENT

The 2020 temporary suspension of operations substantially reduced the amount of FPK storage in 2020 because ore processing ceased for most of the year. The suspension did not, however, reduce requirements for water management activities. High precipitation led to increased volumes of water in the LLCF. As a result, discharge volumes to Leslie Lake (over 16 million m^3) were substantially higher than those in the previous five years that ranged from 0 to 12.6 million m^3. Larger discharge volumes increase loading of contaminants to Leslie Lake. Arctic Diamond also transferred approximately 4.8 million m^3 of water from the LLCF to the Koala Pit via the process plant when the plant was not operating. While this transfer assisted in lowering water levels in the LLCF in 2020, it consumed storage space in the Koala Pit. Future water management actions may be required to address the stored water.

According to the WPKMP v9.0 the closure plan for pits containing FPK relies on freshwater caps to address potential long-term surface water quality concerns. Predictions about water quality for the freshwater caps and the depth of caps required to provide suitable water quality rely on water quality modelling. Current models predict long-term concentrations of some parameters that exceed operational water quality benchmarks in the proposed 30 m freshwater caps. However, the Agency has previously expressed concern that the models' assumptions and estimates of

source loading leave significant uncertainty about the long-term predictions of water quality in pit lakes, and may underestimate future loading and concentrations. There are limited or no data to support estimates of source loading for some contaminant sources, e.g., runoff from disturbed areas like roads and laydowns. The estimates of loading from WRSAs assume that current runoff and seepage conditions are representative of long-term conditions. As part of the Interim Closure and Reclamation Plan Version 3.0 (ICRP v3.0), Arctic Diamond proposed a research plan to evaluate the optimal depth for the freshwater caps to achieve acceptable post-closure conditions. In its February 2020 decision on ICRP v3.0, WLWB directed Arctic Diamond to revise the research plan in the updated ICRP v3.1 that is to be submitted in 2021, including revisions to describe how the plan will improve modelling assumptions and input terms.

The Agency considers timely and robust monitoring and research programs to support future modelling and predictions of pit lake water quality to be critical. This will support further analysis about the adequacy of the proposed freshwater cap depth. The revised version of the research plan that is a requirement for ICRP v3.1 will be an opportunity to address the information needs for future modelling.

CLOSURE AND RECLAMATION

HIGHLIGHTS

- Wek'èezhìı Land and Water Board (WLWB) and Arctic Diamond held a closure workshop in March 2021 to discuss closure objectives. Arctic Diamond must submit an updated Interim Closure and Reclamation Plan Version 3.1 (ICRP v3.1) by July 2021.

- The WLWB approved the return of security for Old Camp reclamation activities, with a holdback for outstanding risks and for future monitoring.

- The temporary suspension of operations at Ekati which began in March 2020 emphasizes the importance of advancing the level of detail in reclamation and closure plans, including through the incorporation of results from reclamation research.

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CLOSURE PLANNING STATUS

In February 2020, WLWB conditionally approved the ICRP v3.0 and set out requirements and timing for Arctic Diamond to develop and submit ICRP v3.1. Arctic Diamond submitted ICRP v3.0 in August 2018, the first comprehensive update of the ICRP since 2011. WLWB initiated the review process for ICRP v3.0 in late 2018. The Agency and other parties provided input during the January 2019 WLWB Technical Workshop and in written comments in March 2019. Arctic Diamond responded to comments in July 2019.

The February 2020 WLWB approval did not encompass some components of the ICRP, for example, closure objectives and some reclamation research plans. It also established requirements for additional information, revisions and further engagement about closure and reclamation. These included a requirement for Arctic Diamond and WLWB to jointly host a workshop to address 19 specific requirements. Most of the workshop requirements identified by the Board were directly related to closure objectives and criteria, but the implications of the waste rock effective neutralization potential (NP) issue were also identified (see the Waste Rock chapter of this report).

Initially, the workshop was to be held no later than November 2020, but due to the COVID-19 pandemic restrictions on travel and indoor gatherings, Arctic Diamond received approval to extend the date for workshop completion to March 2021. WLWB and Arctic Diamond held the workshop in March 2021. WLWB has required Arctic Diamond to submit ICRP v3.1 no later than July 2021 (four months after the workshop). ICRP v3.1 must address the outcomes of the workshop and incorporate revisions specified in the WLWB approval for ICRP v.3.0.

In December 2020, Arctic Diamond submitted its 2020 Closure and Reclamation Progress Report, including information about reclamation research program progress and results, and progressive reclamation activities.

MARCH 2021 CLOSURE WORKSHOP

In its February 2020 Reasons for Decision on ICRP v3.0, WLWB excluded the closure objectives from its approval, leaving the objectives from the 2011 ICRP v2.4 as the currently approved objectives. Since the closure criteria are linked to closure objectives, WLWB was also unable to consider the updated closure criteria for approval. Recognizing that agreement on objectives, and ideally criteria, is critical to moving the plan forward, the Reasons for Decision required a workshop to provide an opportunity for further discussion.

WLWB and Arctic Diamond convened the Ekati Closure Workshop on March 24-26, 2021, using a combined in-person and virtual format. The objectives of the workshop were to:

- Gain alignment on closure objectives,
- Develop a process for development of closure criteria, and
- Fulfill workshop requirements as outlined in the February 2020 WLWB Reasons for Decision.

The workshop agenda focused on closure objectives and the proposed path for developing closure criteria by systematically addressing closure objectives and criteria for each of the mine components. While the WLWB Reasons for Decision required discussion about the effective NP issue (see Waste Rock Management section of this report), the topic was not discussed at the workshop.

To support the workshop, WLWB required Arctic Diamond to provide two documents in advance: 1) a draft Criteria Work Plan, and, 2) a document providing details and rationale for proposed closure objectives. In preparing for the workshop, the Agency convened a meeting on March 5, 2021 with representatives of Indigenous society members to provide an opportunity for informal discussion about the workshop materials and closure objectives and criteria.

The WLWB workshop was an opportunity for constructive two-way discussions about the closure objectives. There was a clear expectation from workshop participants that closure objectives ought to be aspirational rather than procedural. The objectives need to describe the expected outcome of the closure plan, consistent with WLWB's Guidelines for Closure and Reclamation. Some of the key topics discussed at the workshop included:

- Future land use expectations, and re-vegetation
- Fish habitat in pits and connectivity for fish habitat
- Requirements for freezing of waste rock

A key outcome of the workshop was a commitment by Arctic Diamond to submit a revised list of proposed closure objectives for review and comment. The input received during this engagement will inform the closure objectives that will be included in ICRP v3.1, to be submitted in July 2021.

RECLAMATION RESEARCH

Arctic Diamond described nine reclamation research plans in ICRP v3.0. WLWB did not approve four of these plans:

- Research Plan No. 1 related to wildlife behaviour and use of the site.
- Research Plan No. 4 related to the Pigeon waste rock storage area (WRSA) cover.
- Research Plan No. 5 related to waste kimberlite seepage.
- Research Plan No. 6 related to Jay WRSA rock co-placement.

The WLWB decision requires revisions to these research plans, including engagement especially in relation to the scope of Research Plan No. 1. The Agency is not aware of any engagement specifically on Research Plan No. 1 taking place in 2020.

Arctic Diamond's 2020 Annual Closure and Reclamation Progress Report provides results of ongoing reclamation research at the Long Lake Containment Facility (LLCF). The LLCF reclamation research program has been on-going for many years, and the Progress Report describes some definitive findings and possible reclamation opportunities. However, the Progress Report does not make any recommendations about how the results should or will be used to inform planning and design of LLCF reclamation or other reclamation activities. For example, the research clearly demonstrates the benefits of adding organic matter, but the Progress Report does not address whether this has been or should be incorporated into the reclamation design, or if it is even practical. Also, there are several years of results related to cover crops and vegetation species, but no information about whether these will or should be part of the final plan, and if so, how. The focus and objectives of the research could be significantly improved if the future research plans were guided by the specific needs arising from advancement of design including incorporation of lessons learned from the reclamation research conducted thus far.

PROGRESSIVE CLOSURE AND RECLAMATION ACTIVITIES

The 2020 Annual Closure and Reclamation Progress Report does not describe any progressive reclamation activities undertaken in 2020, but does describe monitoring results for progressive reclamation completed in previous years at Old Camp. The Progress Report also includes the "Old Camp Pad and South Pond Reclamation Completion Report and Performance Assessment." The Progress Report identifies potential progressive reclamation activities for the coming years, all of which are related to Panda, Koala and Koala North pits and underground, and Pigeon Pit. The Report does not identify any upcoming progressive reclamation activities for other mine facilities that are no longer active, for example waste rock storage areas.

OLD CAMP

Arctic Diamond carried out reclamation activities at Old Camp between 2014 and 2018 after receiving approval for the Old Camp Closure and Reclamation Plan in early 2014.

In the Completion Report and Performance Assessment submitted as part of the 2020 Progress Report, Arctic Diamond asserts that reclamation at Old Camp is complete and that monitoring has demonstrated adequate performance to meet closure objectives. Reclamation work did not include excavation of processed kimberlite (PK) from the Phase 1 North Pond as originally planned. Arctic Diamond argues that this activity is no longer required to achieve the closure objectives, and has proposed a holdback on the financial security to address outstanding closure risk.

The 2020 water quality monitoring results showed exceedance of water licence effluent quality criteria for dissolved aluminum in one out of two samples, similar to results from 2019. Arsenic exceedances were observed in September 2018 and September 2019, but not in 2020. Arctic Diamond plans to continue monitoring the area for three years, but asserts that natural attenuation and dilution along the flow path will reduce concentrations before the water enters Larry Lake and that monitoring for longer periods is not warranted.

FINANCIAL SECURITY AND CLOSURE PLANNING

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. According to the 2020 Annual Closure and Reclamation Progress Report, the total reclamation security held by the GNWT as of December 31, 2020 was $282.5 million, held predominantly under the water licence as indicated in Table 8 . The total security at the end of 2020 represents a decrease of $13.3 million from December 2019.

Approximately $7.9 million of the security reduction in 2020 arose from the November 2019 WLWB approval of Arctic Diamond's request for a decrease in security for the Misery WRSA because it had placed cover material on most of the exposed metasediment.

WLWB approved further adjustments in May 2020, based on an April 2020 request from Arctic Diamond. The adjustments were based on an updated RECLAIM estimate that considered comments and input received during review of ICRP v3.0. Major reductions and increases are listed in Table 9. The final balance of adjustments resulted in a decrease of approximately $3.0 million in security. In approving the adjustments, WLWB established requirements for any upcoming requests for adjustment of security: Arctic Diamond must submit more detailed information and documentation about inputs and assumptions, and must address several areas where the WLWB is concerned that liability may be underestimated.

Table 8 - Ekati Mine Reclamation Security Held (December 31, 2020)

Security Item	Amount Held
Water Licence Security W2012L2-0001	$260,586,843
Ekati Environmental Agreement	$19,991,424
Jay Early Works Land Use Permit W2016F0007	$1,480,000
Pigeon Land Use Permit W2016D0005	$427,000
Total:	**$282,467,267**

Table 9 - February 2020 Reclamation Security Adjustments

Reductions	Rationale	Increases	Rationale
$18,348,713	Reduced cover thickness on Fox WRSA	$5,468,793	Updates costs for infrastructure decommissioning
$550,495	Reduced cover thickness on landfill	$750,000	Post-closure maintenance cost added
$4,869,995	Reduced pumping times for pit filling	$684,026	Increased surface area for re-vegetation
$1,952,106	Updated underground reclamation costs	$1,642,000	Increased duration of active closure monitoring
		$946,400	Increased site access costs for active closure monitoring
		$1,000,000	Helicopter costs for post-closure monitoring
		$11,670,040	Adjustment for inflation

Though the approval for security adjustment related to Misery WRSA occurred in 2019, the security adjustment did not occur until 2020, in part due to disagreement between WLWB and GNWT about whether security could be held exclusively under the water licence, or if it had to be split between the water licence and Land Use Permits.

As part of the water licence amendment processes for the Jay Project and Misery Underground (MUG) project, GNWT stated its preference to hold separate securities under the water licence and Land Use Permits. For both projects, WLWB determined that security should be combined and held under the water licence. In its February 2020 decision on ICRP v3.0, WLWB expressed concern about the potential complexities arising from the splitting of security. Specifically, WLWB is concerned that the split will make security adjustments more difficult, increasing the administrative burden and potential for error. Despite these concerns, WLWB agreed to split the security between the Land Use Permits and water licence because GNWT would not accept the land portion of security under the water licence.

In accordance with the process for splitting of water and land-related securities, the company's April 2020 application for security adjustment included a request to amend the Misery Land Use Permit to incorporate a requirement for land-related security. In May 2020, WLWB amended the Land Use Permit to require security of $1,397,982. Arctic Diamond posted this security in February 2021.

The 2020 Annual Closure and Reclamation Progress Report requested a reduction in security of $548,474 to account for completion of reclamation activities at Old Camp. Arctic Diamond proposed a holdback of $492,492 for residual risk associated with the North Pond that was not excavated as part of reclamation, and ongoing monitoring for a period of three years. WLWB accepted this reduction in an April 2021 decision.

AGENCY'S ASSESSMENT

The Agency believes that the February 2020 WLWB decision about ICRP v3.0 and the resulting March 2021 closure workshop on closure objectives provided a valuable opportunity for parties to discuss expected post-closure outcomes at the Ekati mine. Following the workshop, Arctic Diamond prepared an improved list of closure objectives that were generally more aspirational rather than procedural. The Agency hopes that, after considering input received during review of the revised draft objectives, Arctic Diamond will propose objectives in ICRP v3.1 that provide a strong basis for developing closure criteria and advancing closure planning and design. As stated in the 2019 Agency Annual Report, it is critical for Arctic Diamond to make substantial progress in the level of detail of its closure and reclamation plans, and we are hopeful that ICRP v3.1 due in July 2021 will be a step in this direction.

While the March 2021 workshop was successful with respect to discussion of closure objectives, it was less successful in accomplishing other purposes set out by the WLWB. There was no substantive discussion of how the effective NP issue may affect closure plans, and the information describing plans for developing closure criteria lacked detail. The Agency considers both of these topics important and recognizes the need for further discussion in these areas.

The temporary closure experienced in 2020 highlights the importance of having a well-developed Closure and Reclamation Plan in place. Arctic Diamond continues to conduct research related to reclamation, sometimes over many years. Some research has advanced to the point where it could inform design (e.g., LLCF Reclamation Research), but closure designs and plans have not been advanced to incorporate results. The ICRP should increase in level of detail as the mine moves towards closure, with each version providing increased certainty and understanding about the closure and reclamation. Ekati has now been operating for over 20 years and several mine components are complete. Reclamation research and closure designs should advance iteratively so that more detailed designs are available as research supports them. At the same time, this would provide an opportunity for designs to provide focus on important outstanding research questions.

Progressive reclamation activities at the site continue to be limited to activities that are directly associated with mining operations (e.g., Panda/Koala underground reclamation to support PK disposal in pits, Misery WRSA cover placement as part of mining operations), or small activities (e.g., Old Camp). There

may be additional opportunities for progressive reclamation at other mine facilities that are no longer in use. These should be identified in a progressive reclamation schedule, and a plan developed for their implementation. Monitoring at areas that have been reclaimed must continue until the results demonstrate that post-reclamation conditions consistently meet closure objectives and criteria, and are expected to continue doing so.

With respect to financial security and closure liabilities, the Agency continues to believe that closure liabilities should never be allowed to exceed the posted security. This requires efficient processes for adjusting security as mining and reclamation activities progress, respectively leading to potential increases and decreases in closure liabilities. The Agency agrees with WLWB's concerns about complexities arising from splitting of security between the water licence and land use permits, and notes that it was difficult to track and understand rationales for the security changes in licences and permits in 2020. Hopefully WLWB's February 2020 requirement for improved documentation of proposed changes will provide additional clarity for future adjustments.

For the second year in a row, WLWB had to consider the amount of security to hold back to address monitoring and future performance risks for areas that have been reclaimed. The Agency agrees with the concept of holding back financial security for these purposes as proposed and accepted for the Misery WRSA and Old Camp. However, the process for quantifying the hold-back remains ad-hoc. The Agency recommends that GNWT and WLWB cooperate on the development of policies, guidelines or directives to standardize the process for determining the amount of security to be held back for monitoring and future liabilities.

Long Lake Containment Facility Cell B, Aug 2019.

ASSESSMENT OF THE REGULATORS

HIGHLIGHTS

- In collaboration with the company, inspectors were still able to conduct important inspections at the Ekati mine site during the temporary suspension of operations due to COVID-19.

Long Lake Containment Facility discharge point in Cell E.

THE REGULATORS AND OUR MANDATE

As the public watchdog for environmental management at the Ekati mine, the Agency monitors the performance of the operator as well as agencies that regulate the mine. The following are our comments regarding the regulators' performance in 2020-21.

AGENCY'S OVERALL ASSESSMENT

As in previous years, the regulators as a whole remain effective in ensuring that the company operates the Ekati mine in an environmentally sound manner. Due to COVID-19 restrictions, the temporary suspension of mining operations and the Companies' Creditor Arrangement Act process over the past year, there have been fewer reports and submissions to review. Some of the key submissions reviewed included continuation of work on the Interim Closure and Reclamation Plan approval process, the Annual Closure and Reclamation Progress Report, the Wildlife Effect Monitoring Program and the Annual Aquatic Effects Monitoring Program.

Government of the Northwest Territories

Department of Lands: With COVID-19 restrictions and the mine temporary suspension, it was more difficult for land and water Inspectors to get to the minesite to conduct an inspection. The Inspectors were able to work with the company to find a way to conduct inspections. Five water licence and five Land Use Permit inspections were conducted from April 1, 2020 to March 30, 2021, a decrease from previous years (usually 10 to 12 water licence inspections) but reasonable considering the circumstances.

Department of Environment and Natural Resources (ENR):

Water Resources Division (WRD): The WRD continues to provide detailed comments and analysis including technical consultant reviews.

Conservation, Assessment and Monitoring Division: The Division is responsible for administering Ekati's Environmental Agreement (EA). The Division did a good job communicating about the Ekati mine creditor protection and sale process. The Environmental Impact Report (Environmental Agreement requirement) remains outstanding, and the Wildlife Effects Monitoring Plan and the Environmental Assessment Annual Report took the Company a very long time to respond to comments. While some of the responsibility for this rests with the GNWT, it is clear that the company did not provide the information requested by GNWT in a timely manner. The Agency appreciates the GNWT's persistence in requiring the Company to provide responses in an attempt to move the reports forward.

Wildlife Division: The Wildlife Division hosted the Diamond Mine Wildlife Monitoring Meeting in February 2021. The meeting was well attended and provided some informative presentations. However, ultimately no specific decisions or paths forward resulted from the meeting. The Agency is looking forward to progress beyond the current caribou Zone of Influence discussion to a thorough examination into the effectiveness of mitigation and development of innovative mitigation practices.

The 2019 Wildlife Effects Monitoring Program annual report has been out for review for over a year and the Wildlife Division has not provided any comments, although they did request to see the company's responses to the Agency's comments.

Agency staff and directors during WLWB Public hearings, 2018.

Environment Division: The Northwest Territories continues to lack a comprehensive air quality management regime. In response to an Agency recommendation last year, the GNWT committed to developing air regulations once review of the Mackenzie Valley Resource Management Act is complete. The Agency looks forward to progress during the coming year towards a territorial air quality management regime.

Crown-Indigenous Relations and Northern Affairs Canada

Following devolution of its land and water management responsibilities to the GNWT, Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) has a much-diminished role in environmental regulatory processes, including involvement with the EA. Each year the Agency has an Annual General Meeting (AGM) in order to meet its obligations under its bylaws. The Agency was pleased to see that a representative from CIRNAC attended the 2020-21 AGM. We hope to continue to see CIRNAC's participation at future meetings.

Fisheries and Oceans Canada

Fisheries and Oceans Canada (DFO) involvement with the regulatory process continues to be minimal. They provided only limited comments on fish-related review items. DFO has valuable expertise locally and nationally that could benefit the Ekati regulatory process. Unfortunately, DFO's interpretation of its mandate limits its ability to provide technical expertise to evaluate possible effects of the Ekati mine on fish in the downstream environment.

Environment and Climate Change Canada

Environment and Climate Change Canada's (ECCC) level of involvement in the regulatory processes for the Ekati mine remained similar to previous years, providing limited comments on some but not all of the Aquatic Effect Monitoring Program submissions. The Agency has noted that the comments it does provide are generally well thought out and believes that the regulatory system would benefit from ECCC's increased involvement on all relevant submissions.

Wèk'eezhìı Land and Water Board

The WLWB continues to ensure effective and diligent management of the Water Licence, Land Use Permits and management plans associated with the operation of the Ekati mine. In particular the Agency notes efforts by WLWB staff to ensure progress continues to be made on updating the Interim Closure and Reclamation Plan despite the challenges presented by ongoing COVID-19 restrictions.

The detailed analysis provided in its Reasons for Decisions continues to be very helpful to the Agency in understanding why decisions were made and clarifying requirements for Board directives.

Agency staff and directors during site visit 2019.

ASSESSMENT OF THE PROPONENT

HIGHLIGHTS

- Regular communications between Arctic Canadian Diamond Company Ltd. staff and the Agency continued during the creditor protection process and temporary suspension of mining operations.

- Delays in submission of reports and in responding to comments has become an issue.

Surface mining at Misery pit. Photo courtesy of Arctic Canadian Diamond Company Ltd.

With only minor exceptions, Arctic Canadian Diamond Company Ltd. (Arctic Diamond) continues to operate the Ekati mine in compliance with its water and land licences and permits.

The 2020-21 year has been difficult for Arctic Diamond with COVID-19 restrictions, the suspension of mining operations and creditor protection, resulting in a reduction in staff and financial restrictions. During the suspension and creditor protection process, the Agency conducted weekly meetings with the company to be kept updated on the sale of the mine and other on-site activities. The Agency found these meetings very helpful and hope that the open lines of communication continue.

Arctic Diamond deserves credit for maintaining compliance and continuing with the majority of their monitoring programs despite COVID-19 restrictions and limitations of travel and funding due to COVID-19, the suspension of mining operations and the CCAA process. Specifically, Arctic Diamond should be commended for finding solutions to ensure that the large majority of aquatic, water quality and seepage monitoring was able to continue despite significant difficulties posed by COVID-19 and the CCAA process which limited funding.

Due to the financial situation at the Ekati mine this year, the majority of annual reports and required documents were delayed. A certain amount of delay is understandable given the situation, however there are a number of important documents that have been delayed or remain outstanding longer than can be explained by the financial situation alone. The Environmental Impact Report (EIR) is required under the Environmental Agreement to be submitted every three years. The next iteration of the EIR was scheduled to be submitted and reviewed in 2019. In February 2020 a draft submission was submitted for review, however, due to COVID-19 the review and required workshop discussions were cancelled. At the time of writing, there has not been any official review or meeting time set to complete the 2019 EIR process. Since the next iteration of the EIR for 2021 is due in early 2022, there is a pressing need to complete the review of the 2019 EIR.

Agency staff and directors during site visit 2019.

The Water Licence and Environmental Agreement Annual Report (WL and EA Annual Report) is an annual submission required by both the Water Licence and Environmental Agreement, and requires a satisfactory determination by the Minister of Environment and Natural Resources (ENR). In August 2020, the Agency submitted comments on the 2019 WL and EA Annual Report, noting it was unsatisfactory because, in the Agency's opinion, the summary report failed to include important results from fish monitoring and seepage reports. Arctic Diamond did not make requested changes to the summary report but our comments were considered in the 2020 WL and EA Annual Report.

The Wildlife Effects Monitoring Program (WEMP) is required under the EA, but there is no clear approval process under the EA for this report. This has led to past Agency comments largely being ignored by the company. The Agency submitted comments on the 2019 WEMP on July 17, 2020. Despite several requests from the Agency and ENR for a response, Arctic Diamond only responded on April 30, 2021 as part of their 2020 WEMP submission. The Agency feels the WEMP report requires a more formal approval process.

As part of the wildlife mitigation efforts, a number of remote cameras were set up by the company along mine roads to capture caribou behaviour. A summary Caribou Camera Report has been promised, initially for summer 2018, then summer 2020, and recently at several month delay intervals up to June 2021, with nothing delivered to date (late May 2021). High level results from the camera study were summarized in the 2020 WEMP citing the summary report, but release of the report by the company was denied. This delay is unacceptable, as the report needs to be submitted to help demonstrate caribou interactions with the road and the success of mitigation measures in place to help determine their effectiveness. The Agency is hopeful that with the new mine ownership combined with post-pandemic stability that the delay in report submission and responses will improve.

FINANCIALS

HIGHLIGHTS

- The Independent Environmental Monitoring Agency had a financial audit completed for fiscal year 2020-2021 in accordance with Canadian accounting standards for not-for-profit organizations.

Beartooth open pit.

MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL REPORTING

The accompanying financial statements have been prepared by management, which is responsible for the reliability, integrity and objectivity of the information provided. They have been prepared in accordance with Canadian accounting standard for Not-for-Profit Organizations. Where necessary the statements include amounts that are based on informed judgments and estimates by management, giving appropriate consideration to reasonable limits of materiality.

In discharging its responsibility for the integrity and fairness of the financial statements and for the accounting systems from which they are derived, management maintains the necessary system of internal controls designed to provide assurance that transactions are authorized, assets are safeguarded and proper records are maintained. These controls include quality standards in hiring and training employees, written policies and procedures manuals, and accountability for performance within appropriate and well-defined areas of responsibility. The Independent Environmental Monitoring Agency's (IEMA) management recognizes its responsibility for conducting the IEMA's affairs in accordance with the requirements of applicable laws and sound business principles, and for maintaining standards of conduct that are appropriate to IEMA.

The Auditor annually provides an independent, objective audit for the purpose of expressing an opinion on the financial statements in accordance with generally accepted auditing standards. The Auditor also considers whether the transactions that come to his notice in the course of this audit are, in all significant respects, in accordance with specified legislation and directives from IEMA.

Kim Poole
Secretary Treasurer
July 5, 2021

Panda Diversion channel.

INDEPENDENT AUDITOR'S REPORT

Board of Directors,
Independent Environmental Monitoring Agency

Opinion

We have audited the accompanying financial statements of Independent Environmental Monitoring Agency (IEMA), which comprise the statement of financial position as at March 31, 2021, and the statement of operations, statement of changes in net assets and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of IEMA as at March 31, 2021, and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-forprofit organizations.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the *Audit of the Financial Statements* section of our report. We are independent of IEMA in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing IEMA's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate IEMA or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing IEMA's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

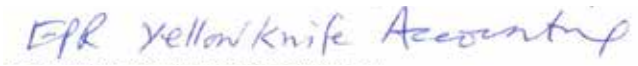
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of IEMA's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on IEMA's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause IEMA to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.



EPR Yellowknife Accounting Professional Corporation
Chartered Professional Accountants

Yellowknife, NT
July 5, 2021

STATEMENT OF FINANCIAL POSITION

For the year ended March 31
See accompanying notes.

Approved by:

Director

Director

	2021	2020
ASSETS		
CURRENT ASSETS		
Cash	$ 115,744	$ 72,361
Account receivables	1,133	-
Restricted cash (Note 4)	483,338	107,614
Prepaid expenses	2974	1,716
	603,189	181,691
Tangible Capital Asset (Note 5)	16,378	1,736
TOTAL ASSETS	**619,567**	**183,427**
LIABILITIES		
CURRENT LIABILITIES		
Accounts payable and accrued liabilities (Note 6)	109,052	63,727
Deferred revenue (Note 7) -	366,201	-
Contributions repayable (Note 8)	117,137	107,614
	592,390	**171,341**
Deferred Capital Contributions (Note 9)	15,091	-
FUND BALANCES		
Unrestricted Fund	(4,292)	10,350
Tangible Capital Asset Fund	16,378	12,086
TOTAL NET ASSETS	12,086	
TOTAL LIABILITIES AND NET ASSETS	**$ 619,567**	**$ 183,427**

STATEMENT OF OPERATIONS

For the year ended March 31
See accompanying notes.

	2021	2020
REVENUES		
Core fund-Dominion Diamond Mines ULC	$ 687,310	$ 673,750
Separate fund-Dominion Diamond Mines ULC	40,000	40,000
Interest income	1,604	3,856
Wages subsidy	1,219	745
Transfer to deferred capital contributions	(17,837)	-
Amortization of deferred capital contributions	2,746	-
TOTAL REVENUES	**715,042**	**718,351**
EXPENSES		
Board meetings, Conference Calls, Follow-up		
Honoraria	39,809	37,824
Travel, meals and accommodations	-	13,105
Other	-	2,413
Agency Participation in Document Review		
Honoraria	78,825	55,903
Travel, meals and accommodations	-	2,630
Community Consultation and Communications		
Community visits	-	1,850
Annual report	63,653	63,450
AGM	8,871	4,457
Other meetings including workshops	161	108,441
Outside Contracts		
Other Professional fees	67,044	10,028

Management and Administrations		
Amortization	3,194	662
Auditing and bookkeeping	20,182	23,374
Wages and benefits	249,990	233,579
Staff travel	-	31
Professional development	-	829
Professional fees	12,039	-
Office rental	31,500	31,500
Insurance	4,449	4,690
Telephone, internet and email	8,594	4,583
Office supplies, printing, postage	3,233	4,393
Interest and bank charges	920	631
Cleaning, repairs and maintenance	5,441	4,883
Other	-	1,481
TOTAL EXPENSES	**597,905**	**610,737**
Excess of revenues over expenses before other items	**$ 117,137**	**$ 107,614**
Other Items		
Unspent funding-Core	(77,137)	(67,614)
Unspent funding-Separate Fund	(40,000)	(40,000)
	(117,137)	**(107,614)**
Excess of revenues over expenses for the year	**$ -**	**$ -**

STATEMENT OF CHANGES IN NET ASSETS

For the year ended March 31
See accompanying notes.

	2021		
	Total	**Unrestricted fund**	**Tangible capital asset fund**
Balance, Beginning of Year	$ 12,086	$ 10,350	$ 1,736
Excess of revenues over expenses	-	-	-
Amortization	-	3,194	(3,194)
Additions		(17,836)	17,836
BALANCE, END OF YEAR	**$ 12,086**	**$ (4,292)**	**$ 16,378**

	2020		
	Total	**Unrestricted fund**	**Tangible capital asset fund**
Balance, Beginning of Year	$ 12,086	$ 9,688	$ 2,3986
Excess of revenues over expenses	-	-	-
Amortization	-	662	(662)
Additions		-	-
BALANCE, END OF YEAR	**$ 12,086**	**$ 10,350)**	**$ 1,736**

STATEMENT OF CASHFLOWS

For the year ended March 31
See accompanying notes.

	2021	2020
CASH PROVIDED BY (USED IN)		
Operating activities		
Excess of revenue over expenses	$ -	$ -
Items not affecting cash		
Amortization	3,194	662
	3,194	662
Changes in non-cash working capital balances		
Increase in accounts receivable	(1,133)	-
Increase in prepaid expenses	(1,258)	(1,190)
Increase in accounts payable and accrued liabilities	45,326	3,196
Increase (Decrease) in deferred revenue	366,201	(356,875)
Increase (Decrease) in contributions repayable	9,523	(42,038)
Increase in deferred capital contribution	15,091	-
Net change in non-cash working capital balances	433,750	(396,907)
Net cash provided by (used in) operating activities	436,944	(396,245)
Investing activity		
Purchase of capital assets	(17,837)	-
Net cash provided by (used in) investing activities	(17,837)	-
Increase (decrease) in cash and cash equivalents	419,107	(396,245)
CASH, BEGINNING OF YEAR	179,975	576,220
CASH, END OF YEAR	**$ 599,082**	**$ 179,975**
Cash consists of		
Operating cash	115,744	72,361
Restricted cash	483,338	107,614
	$ 599,082	$ 179,975

STATEMENT ON FINANCIAL STATEMENTS

For the year ended March 31
See accompanying notes.

1. ORGANIZATION AND JURISDICTION

Independent Environmental Monitoring Agency ("IEMA") is a not-for-profit organization incorporated under the Societies Act of the Northwest Territories. It is exempt from income tax under Section 149(1)(i) of the Income Tax Act.

The mission of IEMA is to oversee environmental management of the Ekati Diamond Mine in the Northwest Territories.

2. BASIS OF ACCOUNTING

These financial statements have been prepared in accordance with the significant accounting policies set out below. These financial statements are prepared in accordance with Canadian Accounting Standards for not-for-profit organizations.

3. SIGNIFICANT ACCOUNTING POLICIES

The following is the summary of the significant accounting policies used by management in the preparation of these financial statements.

a) Fund accounting

The accounts of the IEMA are maintained in accordance with the principle of fund accounting. A fund is a set of accounts established to classify resources according to specific activities. The following funds are maintained and are internally restricted by IEMA.

Unrestricted Fund - to record the general activities of IEMA.

Investment in Equipment - to record the historical cost of equipment acquired less accumulated amortization and disposal.

b) Tangible capital assets

Capital Assets are recorded at cost. Amortization is applied as a reduction to both the asset and net assets invested in Equipment. Amortization is calculated by the declining balance method over their estimated useful lives at the following rates:

Equipment 20%

Computer Equipment-old 30%

Computer Equipment-New 55%

Website 30%

3. SIGNIFICANT ACCOUNTING POLICIES (CONTD...)

Tangible capital assets (Contd...)

When tangible capital assets are sold or retired, the related cost and accumulated amortization are removed from the accounts and any gain or loss is charged against earnings in the period.

Tangible capital assets acquired or constructed during the year are not amortized until they are put into use.

One half of the year's amortization is recorded in the year of acquisition. No amortization is recorded in the year of disposal.

c) Financial instruments - recognition and measurement

Independent Environmental Monitoring Agency measures its financial assets and financial liabilities at fair value. IEMA subsequently measures all of its financial assets and financial liabilities at amortized cost, except for investment in equity instruments that are quoted in an active market, which are measured at fair value. Changes in fair value are recognized in the statement of operations.

Financial assets measured at cost include cash and cash equivalents, term deposits and restricted cash. Financial liabilities that are measured at cost include accounts payable and accrued liabilities and contributions repayable.

d) Impairment

Financial assets measured at amortized cost are tested for impairment when there are indicators of possible impairment. At the end of each reporting period, management assesses whether there are any indications that financial assets measured at cost or amortized cost may be impaired. When a significant adverse change has occurred during the period in the expected timing or amount of future cash flows from the financial asset or group of assets, a write-down is recognized in net income. The write down reflects the difference between the carrying amount and the higher of:

- the present value of the cash flows expected to be generated by the asset or group of assets;

- the amount that could be realized by selling the assets or group of assets;

- the net realizable value of any collateral held to secure repayment of the assets or group of assets. When the events occurring after the impairment confirm that a reversal is necessary, the reversal is recognized in net income to a maximum of the accumulated impairment loss recorded in respect of the particular financial asset.

e) Deferred revenue

Deferred revenue is the unspent contribution amounts received during the fiscal year. It is reported as a current liability as it is expected that the program will be completed or funds be repaid within the next fiscal year.

f) Revenue recognition

IEMA follows the deferred method of accounting for contributions. Restricted contributions are recognized as revenue in the year in which related expenses occur. Unrestricted contributions are recognized as revenue when they are received or receivable or if the amount can be reasonably estimated and its collection is reasonably assured.

Interest income is recognised when earned.

g) Use of Estimates

The preparation of financial statements in conformity with Canadian accounting standards for not-for-profit organizations requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the balance sheet date and the reported amounts of revenues and expenses during the year. Actual results could differ from those estimates

4. RESTRICTED CASH.

Restricted cash represents cash received from Dominion Diamond Mines ULC that is intended for a specific purpose or represents the amount to repay.

	2021	2020
Cash received in advance for the next fiscal year (Note 8)	366,201	-
Cash repayable from annual surplus (Note 9)	117,137	107,614
	$ 483,338	**$ 107,614**

5. TANGIBLE CAPITAL ASSETS

	Cost	Accumulated Amortization	2021 New Book Value	2020 New Book Value
Equipment	$ 25,400	$ 13,437	$ 11,962	$ 1,077
Computer equipment	14,023	9,970	4,052	140
Website	15,120	14,756	364	519
	$ 54,543	**$ 38,163**	**$ 16,378**	**$ 1,736**

6. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

	2021	2020
Accounts payable and accrued liabilities	$ 62,721	$ 28,380
Payroll remittances-Canada Revenue Agency	8,961	10,783
GNWT-payroll taxes	1,451	1,529
Salaries and benefits payable	35,919	23,035
	$ 109,052	**$ 63,727**

7. DEFERRED REVENUE

Deferred revenue consists of payments received in advance from Dominion Diamond Mines ULC and is intended for the upcoming fiscal year expenditures.

	2021	2020
Opening balance	$ -	$ 356,875
Plus; amount received related to the following year	366,201	-
Less; amount recognized as revenue in the year	-	(356,875)
	$ 366,201	**$ -**

8. CONTRIBUTIONS REPAYABLE

	2021	2020
Dominion Diamond Mines ULC Core Funding	$ 77,137	$ 67,614
Dominion Diamond Mines ULC Separate Funding	40,000	40,000
	$ 117,137	**$ 107,614**

Contributions repayable arising from one fiscal year are normally deducted from contributions provided by Dominion Diamond Mines ULC in the following fiscal year. In the year, IEMA had excess contributions of $117,137 which is to be deducted from the 2021/2022 contributions.

9. DEFERRED CAPITAL CONTRIBUTIONS

Deferred capital contributions represent the unamortized amount of grants received for the purchase of capital assets. The amortization of capital contributions is recorded as revenue in the statement of operations. The changes in the deferred capital contributions balances are as follows:

	2021	2020
Balance, beginning of the year	$ -	$ -
Contributions received during the year	17,837	-
Less; amortization of deferred capital contribution	(2,746)	-
	$ 15,091	**-**

10. COVID-19 AFFECT

In January 2020, the World Health Organization declared a public health emergency due to the spread of the COVID-19. By March 2020, a series of outbreaks in Canada, led the federal government to implement various restrictive measures designed to curb the spread of the virus. Following suit, the Territorial Government of Northwest Territories enacted measures of similar intent . The impact of the measures has led to widespread economic uncertainty.

Management has assessed the impact of the COVID-19 and the impact of the Federal and Territorial Government's restrictive measures, and has determined that there is no impact on the amounts and information reported in the financial statements as at March 31, 2021 and that subsequent to year end, the impact of the measures to combat the spread of the virus have not caused a significant change to the assets and liabilities of IEMA or cause doubt to the future operation of the business.

11. CONTRACTUAL OBLIGATIONS

IEMA leases the office building under a lease expiring on December 31, 2023. Future minimum lease payments total $90,972 and include the following payments over the next three years: 2021- $29,925, 2022 - $30,523.50 and 2023 - $ 30,523.50.

12. ECONOMIC DEPENDENCE

IEMA receives all of its contribution funding from Dominion Diamond Mines ULC. Management is of the opinion that operations would be significantly affected if the funding was substantially curtailed or ceased. The funding arrangement is governed by legislation.

13. FINANCIAL INSTRUMENTS

Financial instruments consist of recorded amounts of cash and cash equivalents, term deposits and restricted cash as well as accounts payable and accrued liabilities, deferred revenue, and contributions repayable which will result in future cash outlays.

IEMA is exposed to the following risks in respect of certain of the financial instruments held:

(a) Credit risk

Credit risk arises from the potential that a counter party will fail to perform its obligations. IEMA does have credit risk in cash, cash equivalents, term deposits, and restricted cash of $ 603,189 (2020 -$181,691) as a result of having funds with one chartered bank in excess of the insurable limit. Furthermore, IEMA has a concentration of credit risk as full balance of cash is held at one financial institution. This risk has not changed from the prior year.

(b) Liquidity risk

Liquidity risk arises from the potential that an entity will have difficulty in meeting its obligation associated with the financial liabilities. IEMA does have a liquidity risk in the accounts payable and accrued liabilities and contributions repayable of $ 607,481 (2020 - $171,341). Liquidity risk is the risk that IEMA cannot repay its obligations when they become due to its creditors. This risk has not changed from the prior year. IEMA manages liquidity risk by continually monitoring actual and forecasted cash flows from operations to ensure, as far as possible, that it will have sufficient liquidity to meet its liabilities when due, without incurring unacceptable losses or risking damage to IEMA'S reputation. IEMA has determined that the risk is not significant.

15. COMPARATIVE FIGURES

The financial statements have been reclassified, where applicable, to conform to the presentation used in the current year.

ACRONYMS & GLOSSARY

AEMP – Aquatic Effects Monitoring Program

AQMP – Air Quality Monitoring Program

AQEMMP – Air Quality and Emissions Monitoring and Management Plan

ARD – Acid Rock Drainage

ARF – Aquatic Response Framework

CAM – Continuous Air Monitoring

CCME – Canadian Council of Ministers of the Environment

CIRNAC – Crown-Indigenous Relations and Northern Affairs Canada (formally INAC)

CIMP – Cumulative Impact Monitoring Program

CPI – Consumer Price Index

CRMP – Caribou Road Mitigation Plan

CKRSA – Coarse Kimberlite Rejects Storage Area

Dominion – Dominion Diamond Mines, ULC ("the company")

DFO – Fisheries and Oceans Canada

DO – Dissolved Oxygen

EQC – Effluent Quality Criteria

ECCC – Environment and Climate Change Canada

EIR – Environmental Impact Report

EMAB – Environmental Monitoring Advisory Board

ENR – Department of Environment and Natural Resources (GNWT)

EPA – NWT Environmental Protection Act

GNWT – Government of the Northwest Territories

GTC – Ground Temperature Cable

HVAS – High volume Air Samplers

IACT – Inter-Agency Coordinating Team

ICRP – Interim Closure and Reclamation Plan

KIA – Kitikmeot Inuit Association

KPSF – King Pond Settling Facility

LKDFN – Łutsel K'e Dene First Nation

LLCF – Long Lake Containment Facility

LUP – Land Use Permit

MVEIRB – Mackenzie Valley Environmental Impact Review Board

NSMA – North Slave Métis Alliance

NWT – Northwest Territories

PAG – Potential Acid Generating

PDC – Panda Diversion Chanel

PK – Processed Kimberlite

PM – Particulate Matter

PSD – Pigeon Stream Diversion

QA/QC – Quality Assurance/Quality Control

REA – Report of Environmental Assessment

MVEIRB – Mackenzie Valley Environmental Impact Review Board

SLEMA – Snap Lake Environmental Monitoring Agency

SNP – Surveillance Network Program

SSMMP – Suspended Sediment Monitoring and Management Plan

TK – Traditional Knowledge

TKEG – Traditional Knowledge Elders Group

TOC – Total Organic Carbon

TDS – Total Dissolved Solids

TSP – Total Suspended Particulate

TSS – Total Suspended Solids

WEMP – Wildlife Effects Monitoring Program

WLWB – Wek'eezhìi Land and Water Board

WPKMP – Wastewater and Processed Kimberlite Management Plan

WROMP – Waste Rock and Ore Management Plan

WRSA – Waste Rock Storage Area

YKDFN – Yellowknives Dene First Nation

VEC – Valued Ecosystem Component

ZOI – Zone of Influence

Acid Rock Drainage – Outflow of water that has become acidic due to exposure to exposed rock surfaces in waste rock piles, open pits and underground workings.

Action Levels – A predetermined change, to a monitored variable or other qualitative or quantitative measure that requires the Licensee to take appropriate actions that may include, but that are not limited to: further investigations, changes to operations, or enhanced mitigation measures.

Adaptive Management – A management system with continual monitoring so that if initial mitigation measures are ineffective, additional or alternative mitigation is applied to keep the impact within acceptable levels.

Benthos – The sediments and mud at the bottom of rivers, lakes and ponds that can contain living organisms. Benthic invertebrates such as fly larvae and clams are an important food source for small fish.

Cladocera – An order of small crustaceans (i.e., zooplankton) that live in water (commonly called water fleas).

Coarse Kimberlite Rejects – A mixture of sand to gravel-sized, light and dense minerals that are left over after the diamonds have been removed from the kimberlite.

Consultation – Includes meaningful discussion, listening, and the company being prepared to amend proposed plans or programs based on information received in the consultation process.

Contaminants – A substance or material that, when added to an environment, can cause harm to people, fish, wildlife or plants.

Diabase – A fine-grained dark grey to black igneous rock, sometimes known as 'black granite'.

Environmental Agreement – Created as a legally binding instrument to provide monitoring and input into management practices not covered by other authorizations. Parties include Dominion and the federal and territorial governments. Akaitcho Treaty 8 First Nations (LKDFN and YKDFN), Kitikmeot Inuit Association, North Slave Métis Alliance and Tłı̨cho Government were involved in the negotiations.

Granite – Very hard, igneous rock made up mostly of quartz, mica, and feldspar and is often used in the construction of roads and other similar structures.

Hydrocarbons – Organic compounds which contain only hydrogen and carbon. This includes fossil fuels (i.e., coal, petroleum and natural gas) as well as their derivatives, such as plastics, solvents and oils.

Kimberlite – A potentially diamond bearing iron and magnesium rich rock from deep in the earth's mantle. Kimberlites are generally found as vertical pipe-like structures.

Metasediment – Rock with sedimentary origins that is exposed to pressure and heat and recrystallizes.

Mitigate – To make something less harmful. In this case, to make sure environmental impacts the mine causes are as minimal as possible.

Phytoplankton – Microscopic plants (e.g., algae) found in freshwater and ocean environments. They are an important food source for zooplankton.

Processed Kimberlite – The waste material and water mixture that is left over after the mill removes the diamonds from the ore. Also referred to as “tailings”.

Progressive Reclamation – Cleaning up areas or reclaiming them as you work. Reclamation carried out during the construction and operation phases of a mine prior to final closure (e.g., rock waste dumps).

Reclamation – The recovery to viable ecosystems of areas of land and water bodies that have been disturbed during mining.

Seepage – Water that drains through or escapes from any structure that is supposed to hold, divert, or retain water (this includes Waste Rock Storage Areas).

Slave Geological Province – Area between the City of Yellowknife and the Arctic coast.

Tailings – See “Processed Kimberlite”.

Till – A collection of coarse sediments deposited by glaciers.

Total Suspended Particulates – The fraction of airborne particulates that will remain airborne after their release into the atmosphere.

Valued Ecosystem Component – Environmental element of an ecosystem that is identified as having scientific, social, cultural, economic, historical, archaeological or aesthetic importance.

Waste Kimberlite – The waste material that is left over after diamonds are removed from the ore (kimberlite). Also referred to as “tailings”.

Waste Rock – Rock that is mined and removed from the pit to provide access to the ore.

Waste Rock Seepage – Water that drains through the waste rock piles. This water may pick up contaminants as it touches the waste rock and may enter the receiving environment.

Wastewater – Water that contains wastes from the mining process.

Zone of Influence – Area of reduced caribou occupancy.

Zooplankton – Small, mostly microscopic animals that live suspended in freshwater (and ocean) environments. Zooplankton feed on phytoplankton and small particles in the water. They are an important food source for small fish.

DIRECTOR BIOGRAPHIES

JAIDA OHOKANNOAK | CHAIRPERSON

APPOINTED BY KITIKMEOT INUIT ASSOCIATION IN 2003

For over 20 years, Jaida Ohokannoak has lived and worked in small northern communities. She currently resides in Yellowknife. Jaida has significant experience, knowledge and expertise in environmental assessment, research, monitoring and renewable resource management. She believes mining can be conducted in an environmentally responsible manner to the benefit of both industry and local peoples without long-term adverse impacts to the environment.

EMERY PAQUIN | VICE CHAIRPERSON

APPOINTED JOINTLY BY THE GOVERNMENTS OF CANADA AND THE NWT, AND DOMINION DIAMOND IN 2015

Emery Paquin is an independent environmental consultant living in Yellowknife. He has more than 35 years of environmental management experience with the northern mining industry and territorial government, and served six years as a Member on the Inuvialuit Water Board.

KIM POOLE | SECRETARY/TREASURER

APPOINTED BY THE TŁĮCHǪ GOVERNMENT IN 2015

Kim Poole first served as an Agency Director from 2006 – 2015 (jointly appointed by the Governments of Canada and NWT and BHP Billiton), but was reappointed by the Tłı̨chǫ Government in 2015. Kim is an independent wildlife biologist with over 35 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.

BILL SLATER

APPOINTED BY THE NORTH SLAVE MÉTIS ALLIANCE IN 2018

Bill Slater 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.

JESSE JASPER

APPOINTED JOINTLY BY GOVERNMENTS OF CANADA AND THE NWT, AND DOMINION DIAMOND IN 2016

Jesse Jasper retired in 2011 after 39 years of service. Since 1971 he has worked exclusively in northern Canada, focusing on land and water resource development, water monitoring studies to evaluate impacts on development. He coordinated a number of reviews and technical presentations for environmental impact assessments, including NWT Diamond Project, which is now the Ekati Diamond Mine. Jesse represented INAC and EC on a number of boards, including the Mackenzie River Basin Board, the NWT Water Board, and the Mackenzie Gas Project.

TIM BYERS

APPOINTED BY AKAITCHO TREATY 8 FIRST NATIONS (YKDFN AND LKDFN) IN MAY 2001

Tim Byers 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.

RONALD ALLEN

APPOINTED JOINTLY BY GOVERNMENTS OF CANADA AND THE NWT, AND DOMINION DIAMOND IN 2017

Ron Allen has been living and working in a variety of Arctic communities since the 1970s and has worked with community groups and organizations on local cultural values, concerns and aspirations related to renewable resources. Ron moved to the Northwest Territories as a Renewable Resources Officer and transferred to Fisheries and Oceans Canada in the 1980s 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.

2020-2021

ANNUAL REPORT

A PUBLIC WATCHDOG FOR ENVIRONMENTAL MANAGEMENT AT THE EKATI DIAMOND MINE

TECHNICAL LANGUAGE

INDEPENDENT ENVIRONMENTAL MONITORING AGENCY

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