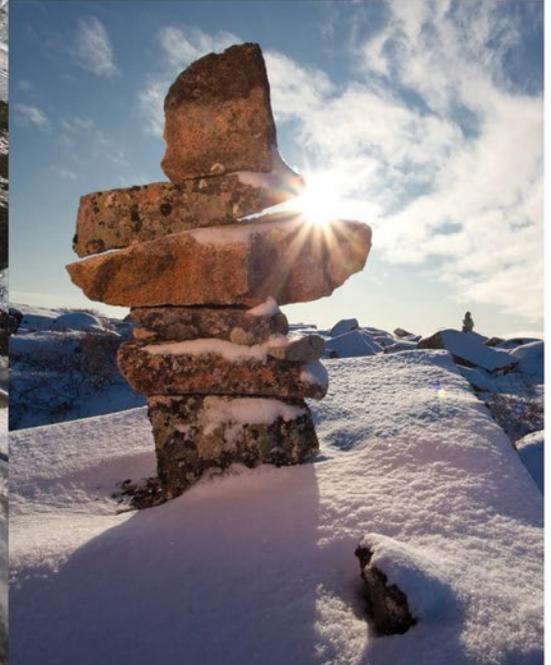
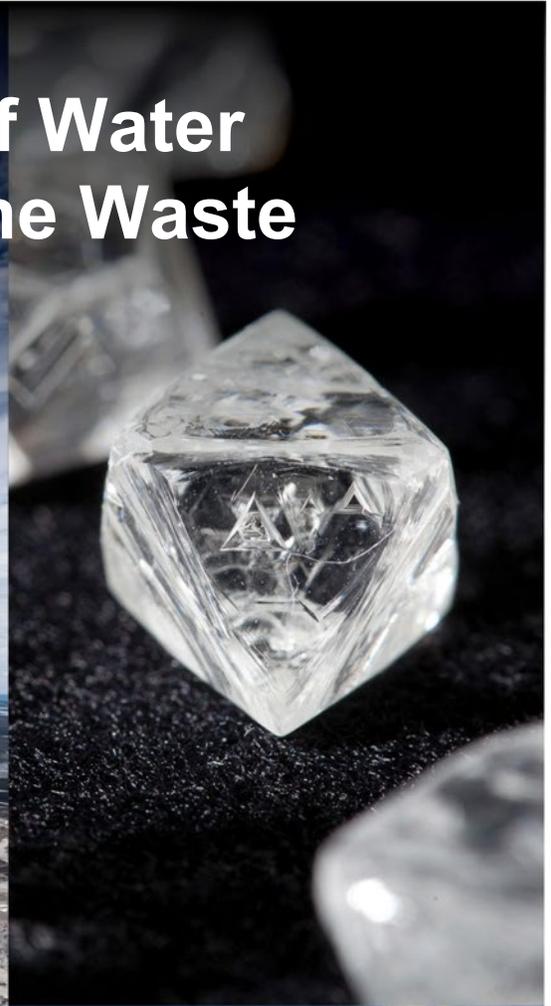


Justification for the Use of Water Frequented by Fish as Mine Waste Disposal Areas

March 2021



Arctic Canadian
Diamond Company Ltd.

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Introduction

This report was produced by Arctic Canadian Diamond Company Ltd (Arctic) for Environment and Climate Change Canada (ECCC) in February 2021 to provide justification for the continued use of Long Lake Containment Facility (LLCF) cells D and E, and Two Rock Sedimentation Pond (TRSP) as mine waste and/or effluent disposal areas (Tailings Impoundment Area; TIA) under Schedule 2 of the Metal and Diamond Mining Effluent Regulations (MDMER). Contributing authors were Laura Pacholski, Team Lead – Environmental Management and Monitoring; Harry O’Keefe, Superintendent Environment; Kurtis Trefry, Environment Advisor – Projects and Closure Planning; and Claudine Lee, Head of Environment.

Executive Summary

Following approval of the tailings management and construction plan for Long Lake, the LLCF has been successfully used as a tailings management facility for over 20 years. Mine water from the Sable development has been successfully managed using TRSP as a mine water management facility since early 2018. Through the Environmental Assessment process, the LLCF and TRSP were identified and proposed as the most suitable options for mine water and waste management and the review and approval of these waterbodies has already undergone rigorous scrutiny and public review.

On June 1, 2018, the scope of the MDMER was expanded to include diamond mines. Following analysis of prior information submitted by Arctic, ECCC with the assistance of Fisheries and Oceans Canada (DFO), determined that three waterbodies at the Ekati Mine (i.e., LLCF cells D and E, and TRSP) are currently fish frequented and used to dispose of mine waste. An amendment to Schedule 2 of the MDMER is required to authorize the continued use of these waterbodies for mine waste disposal activities.

In order to proceed with a Schedule 2 amendment, and, subject to Governor in Council approval, application of the Streamlining Policy to exempt the proposed listing from pre-publication in Part I of the Canada Gazette, ECCC requested a document justifying the continued use of these three waterbodies to dispose of mine waste.

The purpose of this document is to provide the requested information to ECCC relating to LLCF cells D and E and TRSP and serve as justification for the continued use of these fish-frequented waterbodies for the purposes of mine waste management. This report provides information on the current and future operations at the Ekati Diamond Mine, mining processes, mine waste and water management, justification for the continued use of the LLCF and TRSP under Schedule 2 of the MDMER, and information on the existing fish habitat compensation.

In conclusion, Arctic must keep using LLCF cells D and E and TRSP as TIAs. The inability to continue using these waterbodies as TIAs would be detrimental to the continuation of mining at Ekati due to the associated impacts on economic feasibility of the mine, lack of suitable alternatives, and potential environmental impacts to alternative waterbodies that would need to be considered. Moreover, no additional compensation is required for LLCF cells D and E

and TRSP, as all the existing compensation under S.35 of the Fisheries Act meets the requirements of S.27.1 of the MDMER and has already been completed as required by law in 1997.

Background

On June 1, 2018, the scope of the MDMER was expanded to include diamond mines. Following analysis of prior information submitted by Arctic, ECCC with the assistance of Fisheries and Oceans Canada, determined that three waterbodies at the Ekati Mine are currently fish frequented and used to dispose of mine waste. An amendment to Schedule 2 of the MDMER is required to authorize the continued use of these waterbodies for mine waste disposal activities.

The three waterbodies in question are as follows:

- Long Lake Containment Facility, Cell D;
- Long Lake Containment Facility, Cell E; and
- Two Rock Sedimentation Pond.

In order to proceed with a Schedule 2 amendment, and, subject to Governor in Council approval, application of the Streamlining Policy to exempt the proposed listing from pre-publication in Part I of the Canada Gazette, ECCC requested a document justifying the continued use of these three water bodies to dispose of mine waste. More specifically, the information requested from Arctic and contained within this document is as follows:

1. Confirmation of quantifiable fish habitat for Long Lake Cells D and E as well as TRSP; these values represent the pre-alteration state of the waterbodies before any mine related activities, i.e., usage for disposal of mining waste.
2. A justification for the continued use of the three waterbodies for disposal of mine waste. This justification as well as related information would effectively satisfy the requirements of a typical Assessment of Alternatives report as well as a Fish Habitat Compensation Plan needed to authorize disposal of mine waste into a Tailings Impoundment Area listed in Schedule 2 of the MDMER. Considering that the Ekati mine has previously implemented offsetting measures under section 35 of the Fisheries Act for the destruction of fish habitat resulting from mine waste disposal activities at a time when diamond mines were not captured under the authorization scheme for mine waste disposal provided under section 5 of the MDMER, ECCC is of the view that this document would serve as adequate rationale to proceed with a Schedule 2 amendment. Key elements of this justification include:
 - a. Rationale as to how the current and continued use of the three waterbodies for disposal of mine waste is the most appropriate option from environmental, technical, and socio-economic perspectives.
 - b. Description of the offsetting measures implemented to date under S.35 of the Fisheries Act and those to be undertaken in the future, along with a justification as to how these measures compensate the use of the waterbodies to be listed in Schedule 2 and the subsequent loss of fish habitat. Following receipt of this information, ECCC will inform and engage potentially impacted Indigenous groups and stakeholders on the proposed listing based on the associated document.

The purpose of this document is to provide the requested information to ECCC relating to LLCF cells D and E and TRSP and serve as justification for the continued use of these fish-frequented waterbodies for the purposes of mine waste management.

General Information

Company Identification

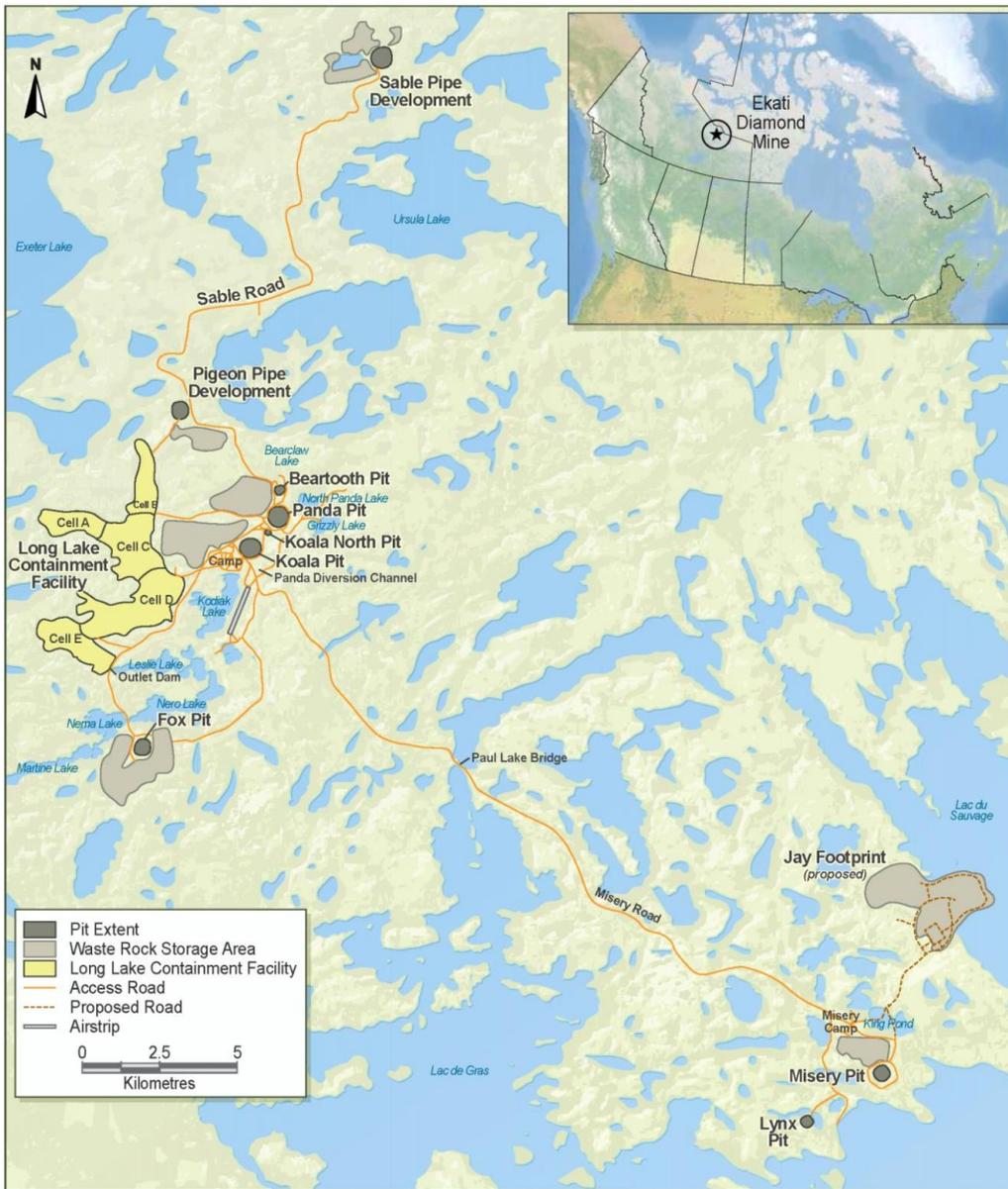
Arctic Canadian Diamond Company Ltd., 900-606 4 Street SW, Calgary, Alberta T2P 1T1

On 11 December 2020, the Alberta Court of Queen's Bench approved the asset purchase agreement of Dominion Diamond Mines by DDJ Capital Management, LLC and Brigade Capital Management, LP. Dominion has transferred its assets to a new entity, known as the Arctic Canadian Diamond Company Ltd. From 1 February 2021, please address all further communication regarding Schedule 2 of MDMER to the Arctic Canadian Diamond Company Ltd.

Location

The Ekati Diamond Mine is located approximately 200 km south of the Arctic Circle and 310 km northeast of Yellowknife, NWT, Canada. See figures 1 and 2 below for reference. The mine is situated within the Lac de Gras watershed at the headwaters of the Coppermine River drainage basin, which flows north to the Arctic Ocean. Located 100 km north of the tree line on the Arctic tundra, the local terrain is characterized by boulder fields, tundra, wetlands, and numerous lakes with interconnecting streams. There are more than 8,000 lakes within the claim block. It is an area of continuous permafrost with a shallow active layer (less than 2 metres thick), which thaws during the brief summer.

Figure 1: Location of Ekati Diamond Mine



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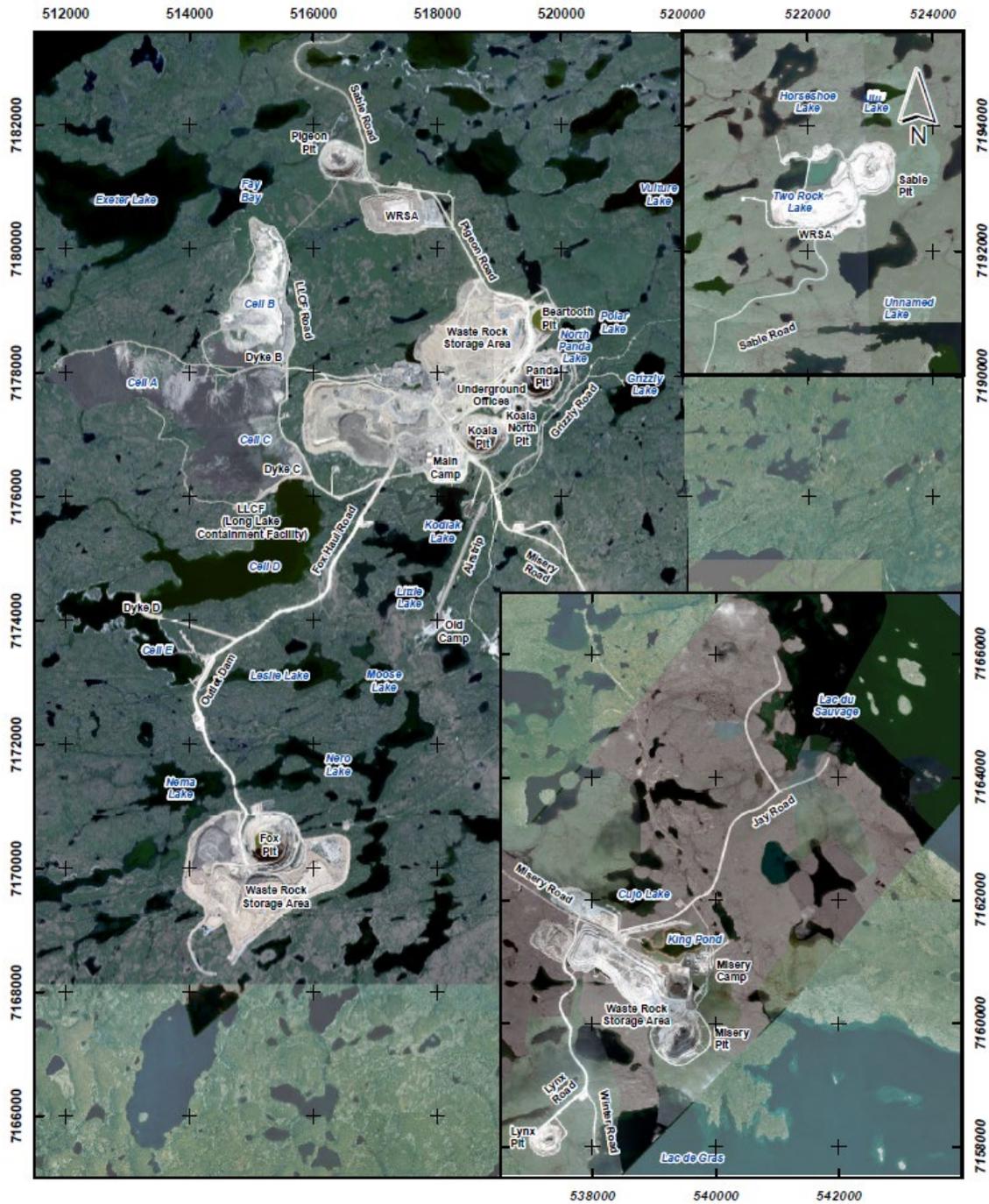
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Figure 2: Satellite Imagery of Ekati Diamond Mine



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Site History

On April 10, 2013, the Ekati mine was acquired from BHP Billiton Canada Inc. (and its various affiliates) all of BHP Billiton's diamond assets, including BHP Billiton's controlling interest in the Ekati Diamond Mine.

The Ekati Diamond Mine consists of the Core Zone, which includes the current operating mine and other permitted kimberlite pipes, as well as the Buffer Zone, an adjacent area hosting kimberlite pipes having both development and exploration potential. The Company acquired BHP Billiton's 80% interest in the Core Zone and 58.8% interest in the Buffer Zone, with the remaining interests held by other joint venture parties.

The Ekati Diamond Mine officially began production in October 1998, following extensive exploration and development work dating back to 1981. The company operates the Ekati Diamond Mine in which it owns a controlling interest. Over the mine's early years, production was focused on six open pits (Beartooth, Fox, Koala, Koala North, Misery, and Panda) and three underground operations (Koala, Koala North, and Panda).

Mining activities are complete in seven kimberlite pipes (Panda, Beartooth, Fox, Koala, Koala North, Misery open pit, and Lynx) and five remain as part of the planned mining activities to 2035 (Pigeon, Sable, and Jay open pits, and Misery underground).

Description of Current and Future Operations

Scheduling of mine operations of the Ekati Diamond Mine is based on a variety of operational, economic, and business factors, and is routinely reviewed and changed. A high-level summary of the mining activities per pit is provided below:

- Fox
 - Open pit operations ended in 2014
- Panda
 - Open pit operations have been completed
 - Underground operations have been completed and reclaimed
 - In-pit deposition of processed kimberlite is ongoing
- Koala North
 - Open pit operations have been completed, and the lower section of the pit has been reclaimed in preparation for pit flooding
 - Underground operations have been completed, and reclaimed in preparation for pit flooding
- Koala
 - Open pit operations have been completed and reclaimed
 - Underground operations were completed in 2018
 - Reclamation of the underground workings was completed in 2019
 - In-pit deposition of processed kimberlite is ongoing
- Beartooth

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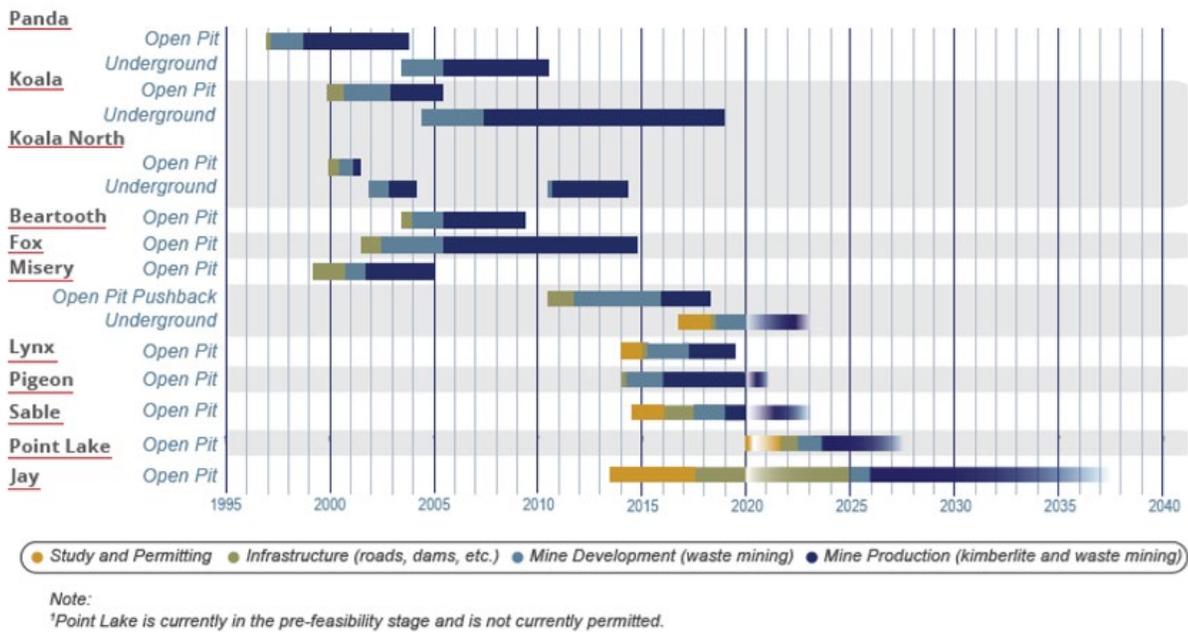
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- Open pit operations have been completed
- In-pit deposition of processed kimberlite is ongoing
- Lynx
 - Open pit operations have been completed
 - The open pit is currently being utilized for water management from the King Pond Settling Facility
- Sable
 - Open pit is in production scheduled to end in 2022
- Pigeon
 - Open pit production commenced in 2015 and is scheduled to end in 2021
- Misery
 - Open pit operations ended in 2018
 - Misery underground is currently in production
- Point Lake
 - Project permitting application scheduled to be submitted in 2021
- Jay
 - Optimization study of the Jay Project is ongoing

Figure 3: Mine Plan



Description of Mining Processes

The design-rated capacity for the Ekati Diamond Mine is 5,664,000 tonnes per year. The design-rated capacity was determined by calculating the maximum daily ore throughput from the last five years of operation (16,000 tonnes) and multiplying by the amount of days the Process Plant operates each year (354 days). The design-rated capacity is limited by assurance metrics which ensure safe, responsible and efficient operation.

Minewater is defined in Water Licence W2012L2-0001 as: “*Minewater includes runoff from facilities associated with the Project and all water or Waste pumped or flowing out of any open pit or underground mine.*” Minewater must meet the effluent quality criteria specified in Part H of Water Licence W2012L2-0001 and the MDMER on the concentration of deleterious substances, pH and ensure that the effluent is not acutely lethal prior to release to a Receiving Environment. This is achieved by directing Minewater to several centralized Minewater management facilities at Ekati, where the collected waters are analyzed and demonstrated compliant prior to Discharge. Long Lake cells D and E, and the TRSP are two such Minewater management facilities.

Processed kimberlite is defined in Water Licence W2012L2-0001 as: “*Processed Kimberlite means material rejected from the process plant after the recoverable diamonds have been extracted.*” Processed kimberlite generated from processing encompasses two fractions:

1. Coarse Processed Kimberlite is the fraction of kimberlite typically greater than 0.5 mm in diameter and is trucked to the southwest area of the Panda/Koala WRSA.
2. Fine processed kimberlite is the fraction of kimberlite typically smaller than 0.5 mm in diameter and is transported by pipeline as a slurry to an authorized Processed Kimberlite Containment Area (PKCA), currently the LLCF, Beartooth Pit, and Panda/Koala/Koala North open pits and associated underground workings.

Water is used in the processing of kimberlite as a means of dust control and as part of the gravitational separation process. The extraction of diamonds is a physical process rather than a chemical process, which is why water is required to control dust and assist with gravitational segregation of kimberlite as it moves through the various stages of processing. Water from underground mining comes from inflow sources of groundwater that are required to be removed from the mining area, and water is also used in underground mining for dust control during drilling operations.

Management of water that is used within and released from the diamond separation process in the Process Plant is described as part of the management of fine processed kimberlite. Please refer to the Wastewater and Processed Kimberlite Management Plan for more information on wastewater and processed kimberlite management at the Ekati Diamond Mine (Dominion 2019).

Open Pit Mining

Prior to mining, each of the kimberlite pipes was covered by a lake which was subsequently drained to allow mining development. Where possible, lake sediments, glacial sediments and topsoil were removed and stored for possible use during reclamation. The current topography and geomorphology reflect a mined and natural landscape with waste rock storage areas, pit developments and infrastructure surrounded by tundra.

The method of open pit mining is similar for all of the open pits at the Ekati mine. All of the kimberlite pipes, with the exception of Pigeon, are located under lakes which require dewatering prior to mining. The Pigeon pipe was located on rolling moraine that was partially covered by a small pond.

For the developments to date, each lake was fished out prior to development by a combination of Indigenous fishers and fisheries biologists/technicians, and the fish were either distributed to local communities or transferred to other nearby waterbodies. The lakes were then drained of water, and overburden (lake sediments and glacial till) was removed. Fish habitat lost through the removal of these lakes has been compensated for (or offset) through Fisheries Act Authorizations.

In comparison to other types of ore deposits, kimberlite pipes are very regular and contacts between kimberlite and the host rock are readily defined. The Ekati mine kimberlite pipes are roughly circular in plan view and lie within competent host rocks. The ore-waste boundary is structural and easily defined on rock type. The kimberlite pipes at the Ekati mine have distinct physical characteristics—they are predominantly carrot shaped—that result in a high stripping ratio, which in turn must be met with a high-capacity materials handling fleet.

The first step in open pit mining is to remove the overburden material, which at the Ekati mine includes beach areas and tundra, lake sediments, and glacial till that lie within the designed pit perimeter. The removal of surface till, waste rock, waste kimberlite, and kimberlite ore require the use of explosives and standard truck and shovel techniques.

Excavated rock is loaded into haul trucks with a 90- to 225-tonne capacity and is transported to Waste Rock Storage Areas (WRSA), to temporary ore storage locations, or to the processing plant.

The design of open pits is similar for all pits at the Ekati mine. Single, double, or triple benches (typically 10 m) are used depending on geological conditions. The majority of the open final pit slopes are or are planned to be within granite, diabase, or metasediment host rock (i.e., and not in kimberlite).

Underground Mining

Underground mining has been undertaken below Panda, Koala North, and Koala pits, and Misery Pit. Koala Underground is currently in production. The process of underground mining to date starts with access development, which involves blasting and excavating tunnels—known as declines—through the granite bedrock to the kimberlite pipe. Typically, an underground ramp leading progressively to the top section of the underground kimberlite is constructed as a spiral. Deeper kimberlite sections are accessed by blasting spiral-shaped declines in the bedrock adjacent to the kimberlite pipe.

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The ore is excavated by cutting horizontally into the kimberlite pipes from the spiral ramps. Ore is transported from the underground developments by a combination of specialized underground haul trucks and conveyors.

Kimberlite ore from the Panda and Koala pipes is extracted from underground using sublevel retreat and sublevel cave methods, respectively. The extraction from Misery pipe will be done using sublevel retreat methods. Sublevel retreat and sublevel caving mining methods are “top down” techniques for regularly shaped ore bodies with weak to strong ore. The ore is drilled and blasted in rings called upholes from multiple drill drifts on each sublevel and extracted in a controlled manner. Production then continues from successive lower sublevels in the kimberlite pipe. The sublevel retreat method is commenced from directly beneath the depleted open pit, while the sublevel cave method is started from beneath a block of low-grade kimberlite. The low-grade kimberlite will be allowed to cave in a controlled manner as the higher value ore is extracted. Both sublevel retreat and sublevel cave are recognized and well-documented mining methods. With the sublevel retreat method, a relatively small portion of the ore is left in the stope to reduce the requirement for remote-controlled extraction and to provide a measure of protection for personnel and equipment from waste rock failures in the pipe/pit walls above the active workings, as well as to control ventilation through the draw points. With sublevel caving, the cave material performs this function. At the conclusion of mining, the amount of ore removed is essentially the same for both mining methods.

A connecting underground conveyor system from Koala Underground to Panda Underground was commissioned in late 2007. A 2.4 km long conveyor system (commissioned in 2006) transports kimberlite from the Panda Underground crusher to the ore storage area at the processing plant. The movement of ore on these conveyor systems is monitored from a control room at the surface.

Due to the close proximity of the Panda, Koala, and Koala North underground operations, a common access decline to the undergrounds was developed through the Koala North Portal. Ventilation shafts have been sunk to ensure ventilation to all areas of the underground. Other facilities that are wholly underground include an underground maintenance shop, lunch rooms, refuge chambers in case of emergency, and sizing facilities to regulate ore fragmentation size on the conveyor system.

Underground mines require extensive ventilation, dewatering systems, and carefully developed safety and emergency response procedures. Safe areas with independent air supply are located in each of the Panda, Koala North, and Koala underground workings to provide refuge for workers in case of a fire or explosion. Communication systems are also in place to warn workers of potential hazards, and specially trained emergency response teams are always on standby.

Kimberlite Processing

Diamond-bearing kimberlite extracted from the open pit and underground mining operations is processed at a single, centralized processing plant, located within the permanent Ekati main camp, southwest of Koala Pit.

Physical separation of diamonds from kimberlite requires grinding and washing at the processing plant. The primary crusher reduces ore to a maximum size of 300 mm, and then a water-flushed cone crusher reduces the coarse ore to 75 mm. A high-pressure grinding roll is used to crush kimberlite to liberate diamonds and break ore down to a maximum top size of 25 mm. Flocculants and coagulants are added to aid in settling of the fine processed kimberlite fractions. Heavy

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medium separation using a slurry of water and ferrosilicon is used to separate a heavy mineral concentrate from the crushed ore. X-ray sorters are used to extract diamonds from the heavy medium separation concentrate because diamonds luminesce when X-rayed.

The coarse fraction (sand size greater than 0.65 mm) is referred to as coarse rejects, or coarse processed kimberlite, and is trucked to the coarse kimberlite rejects storage area located adjacent to the processing plant. The fine fraction (fine processed kimberlite; fine sand, silt and clay less than 0.65 mm) is sent to the processed kimberlite containment areas by slurry pipeline at an approximate daily volume of 13,000 m³ (including solids and slurry).

Description of Mine Waste Management

Waste materials from open pit and underground mining are placed in waste rock storage areas (WRSAs) located adjacent to open pit operations. The WRSAs also contain and store other materials including coarse kimberlite rejects, kimberlite stockpiles, lake sediments, glacial tills and landfill material. Salvage topsoil as well as co-mixed lake sediments/glacial till have also been stockpiled adjacent to WRSAs. There are currently six separate WRSAs constructed at the Ekati mine (Panda/Koala/Beartooth, Pigeon, Fox, Misery, Lynx and Sable).

The WRSAs at the Ekati mine are all designed and constructed to meet the following primary objectives:

- To be inherently physically stable structures, both during mine operations and in the long term;
- Designed as permanent structures to remain after mining is completed;
- Constructed to promote permafrost aggradation; and
- Designed to achieve reasonable balance between surface footprint and height, with 50 m the target height.

Waste Rock Storage Areas at the Ekati mine are constructed to minimize the risk of runoff originating from them and to encourage permafrost formation. As the Ekati mine is located within the climate zone of continuous permafrost, water infiltrating the WRSAs becomes trapped in the waste rock as ice when it encounters sub-freezing internal temperatures. Leaching from waste rock is thus limited to the outer surface of the waste rock (active layer) where water produced by melting of seasonal surficial ice and snow runs over the trapped ice surface.

The following is a list of generic features that are incorporated into the design of WRSAs at the Ekati mine:

- Construction of a basal layer of granitic waste rock over the tundra, prior to construction of the WRSA. This allows early aggradation of permafrost into the base of the waste rock and limits contact of potentially reactive waste rock with surface flow over tundra soils, which can be naturally acidic;
- Encapsulation of potentially reactive materials (e.g. metasediment) within a thermally protective and geochemically non-reactive cover such that the potentially reactive materials remain at freezing conditions, thereby ensuring stable storage over time;
- Use of rock with low reactivity in zones expected to be subject to seasonal thawing (i.e. the active layer of the piles is intentionally constructed with a granite/diabase or glacial till cap);
- Construction of toe berms in selected areas where appropriate (i.e. drainage gullies) to limit runoff of water from the waste rock; and

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- Setbacks from the receiving waterbodies as a mitigation measure to allow for attenuation of drainage by tundra soils and contingencies such as construction of frozen toe berms, and water collection structures.

Application of the above features depends on the specific geochemical characteristics of the waste rock in combination with site-specific considerations such as topographical features and proximity to the aquatic Receiving Environment.

For more information on the quantity of waste rock removed from each pipe and the general design criteria of the WRSAs, please refer to the latest version of the Waste Rock and Ore Storage Management Plan available on the Wek'èezhii Land and Water Board's public registry.

There is currently one active processed kimberlite containment area for deposition of processed kimberlite at the Ekati mine; the LLCF. The Phase 1 processed kimberlite containment area was part of the original kimberlite bulk sample processing conducted at Old Camp and has not been in operation since 2002. The area has since undergone progressive reclamation.

In addition to active deposition in the LLCF, processed kimberlite can also be deposited and stored in open pits. Mining at Beartooth Pit was completed in April 2009, and beginning in 2013, fine processed kimberlite was deposited into the pit via the Beartooth slurry pipeline. Beartooth Pit continues to operate as a processed kimberlite containment area and water management facility. The mined-out Panda and Koala pits are used for processed kimberlite deposition beginning in 2019 after the completion of mining and decommissioning activities in the Koala Underground.

Long Lake Containment Facility

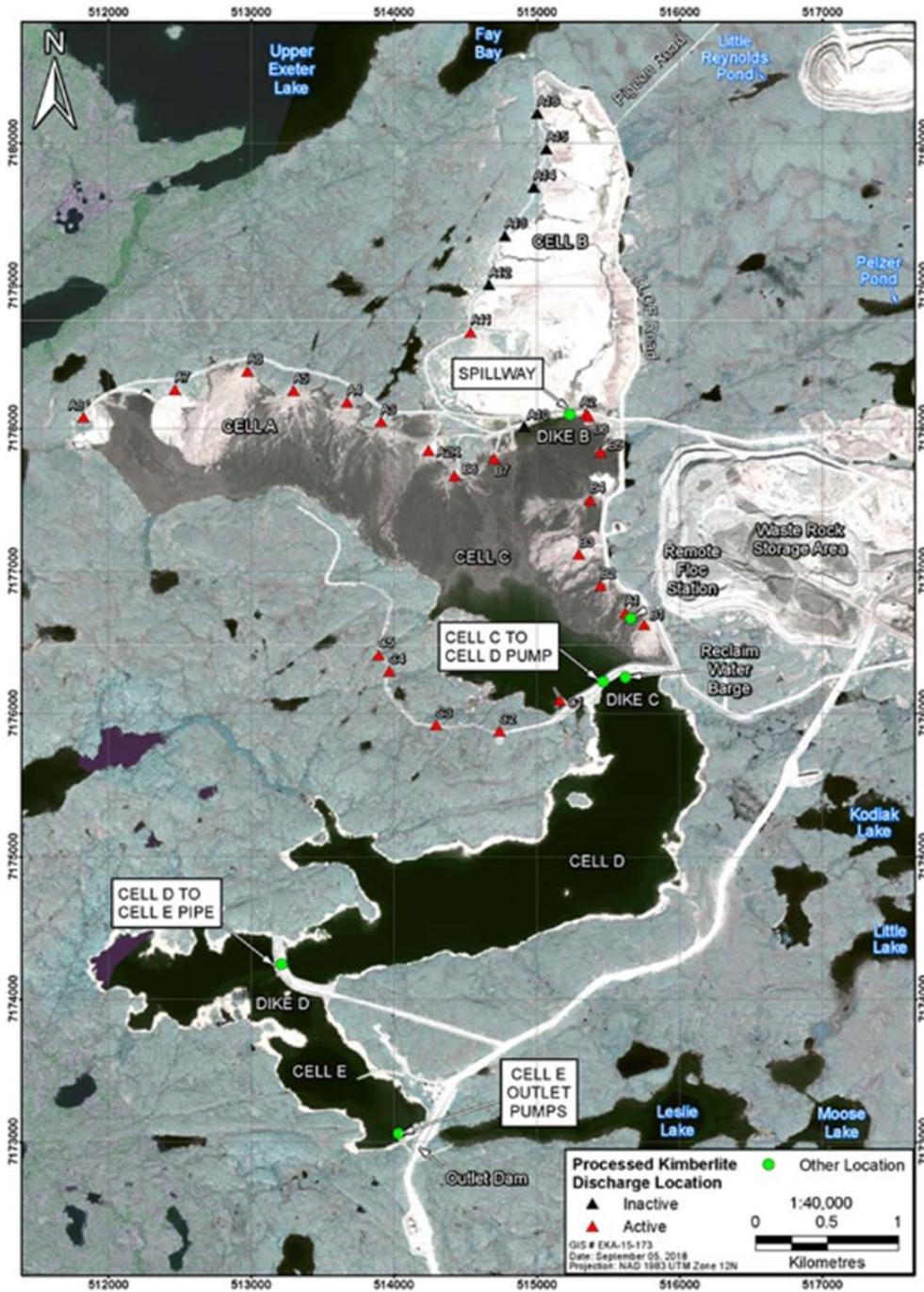
The LLCF encompasses Long Lake and the former headwater lakes of Long Lake (Figure 4). The LLCF is at the headwater of the western Koala Watershed, which feeds into the Lac de Gras watershed (Figure 1).

The LLCF currently includes the following components:

- Cells — A, B, C, D, and E. Cells A and C of the LLCF will continue to be available as active fine processed kimberlite deposition locations until they reach their final designed capacity limits. Cell B is no longer receiving fine processed kimberlite. Cell D is licensed to store processed kimberlite, but no deposition has occurred to date; instead, Cell D is used as a Minewater management and reclaim water pond. Cell D will serve as a contingency processed kimberlite deposition area throughout mine operations. Cell E provides surge water storage capacity for surplus water and acts as a finishing pond prior to pumped Discharge to the Receiving Environment. Cell E will not receive fine processed kimberlite.
- Dikes — B, C, and D (designation corresponds to upstream subtended cell). These filter dikes are designed to retain processed kimberlite solids within the upstream cell but allow water to filter through to the downstream cell. Dike B is considered to be effectively sealed (as anticipated) and water transfer from Cell B to C flows through a culvert. Dike C is considered to be partially sealed and water transfer from Cell C to D is augmented by pumping. Dike D is not affected by processed kimberlite but water transfer from Cell D to E is augmented by pumping as required to safely manage pond water levels.

- Dams — The Outlet Dam serves as the downstream water control structure at the outlet of Cell E which retains water until sampled, authorized and pumped to the Receiving Environment. Water levels are maintained with minimum 1.0 m freeboard and in accordance with the current Water Licence.
- Water Pumps — Pumps on the upstream side of Dike C are used to pump water from Cell C to the reclaim barge in Cell D. The reclaim water barge in Cell D pumps water to the processing plant. In 2017, a weir was installed on Dike D to control the flow of water from Cell D to Cell E (this has replaced a previously installed diesel-powered pump). Pumps in Cell E transfer water that meets the current Water Licence (W2012L2-0001) effluent quality criteria into Leslie Lake (at SNP Station 1616-30). Pumping rates into Leslie Lake are up to 2.55 m³/s from 1 May to 31 July, and 0.52 m³ per second at other times (approximately 6 to 8 million m³ annually).
- Access Roads — Roads are located along the north side of Cell A, around the perimeter of Cell B; along the east, west, and south sides of Cell C; and along the east side of Cells D and E. The Fox Pit road extends from the processing plant to the outlet dam across the Outlet Dam.
- Powerlines, pipelines, and Discharge spigots — Pipelines are used for the delivery of the fine processed kimberlite slurry along the access roads from the Process Plant site. These run along the east, west, and north side of Cell C, and the north side of Cell A. Electric pumps are used to pump the water from Cell E to Leslie to reduce environmental risks associated with diesel pumps.

Figure 4: Long Lake Containment Facility



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Beartooth Processed Kimberlite Containment Area

Beartooth Pit is a relatively smaller sized open pit located approximately 3 km from the Process Plant to the north of and adjacent to Panda Pit. Mining operations in Beartooth Pit ceased permanently in 2009. Since 2009, the mined-out pit has been used as a Minewater retention pond at times when it is beneficial to divert certain waste water sources away from the LLCF. Fine processed kimberlite has been deposited into Beartooth Pit via slurry pipeline on an intermittent basis since February 2013.

Beginning in 2009, various sources of Minewater have been directed to the mined-out Beartooth Pit (subsequently Beartooth Processed Kimberlite Containment Area) including from the Ammonium Nitrate Storage Facility sumps, Polar Explosives sump and underground Minewater from Panda and Koala. The diversion of this water away from the LLCF was initially part of Arctic's adaptive management response to elevated nitrate concentrations in the LLCF water and to the risk of future elevated chloride concentrations in the LLCF water. These measures continue to be used to reduce potential effects in the Receiving Environment downstream of the LLCF.

Excess Minewater, precipitation and runoff that accumulates in the pit is pumped to the LLCF (Cell C) on an as-needed basis, typically seasonally during the summer. The pumped water mixes with other waters in the LLCF and forms part of the Discharge from Cell E of the LLCF to the Receiving Environment, Leslie Lake.

Sable Waste Rock Storage

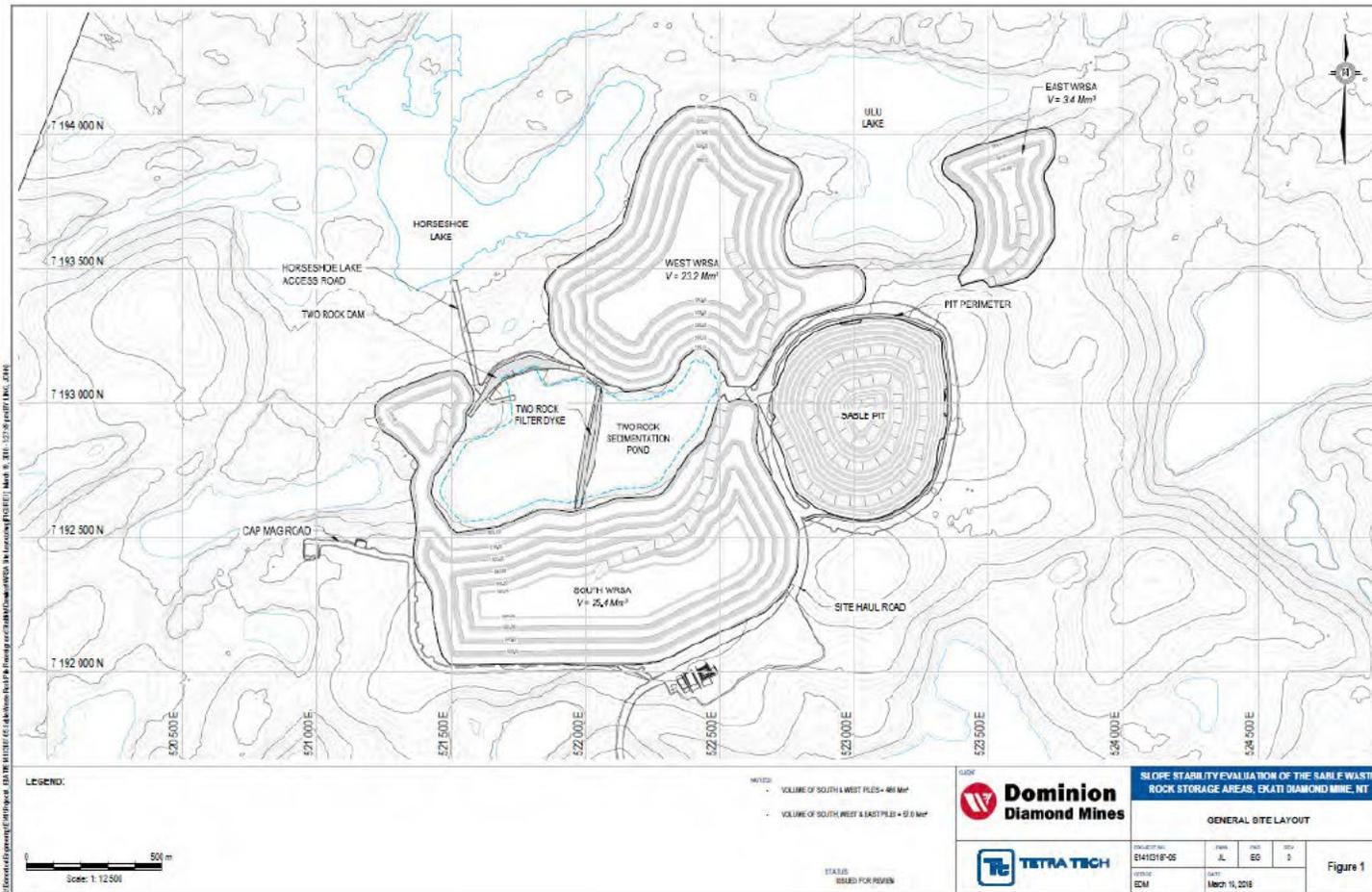
95% of the waste rock excavated from Sable Pit will be granite. Granite rock has been demonstrated and accepted over the past 15 years of operations at the Ekati mine as non-acid generating and non-metal leaching. To verify the results of the samples collected during the geochemical characterization, waste rock sampling will be conducted at Sable pit for two years at a rate of three samples per rock type per bench per year. After two years, the need for further waste rock sampling will be evaluated based on results.

There are three parts to the Sable WRSA (Figure 5): The West WRSA is located northwest of the proposed Sable Pit and the South WRSA is located southwest of the proposed Sable Pit and wraps around the west side of TRSP. The East WRSA is located northeast of Sable Pit. Directly south of the West WRSA and north of the South WRSA is TRSP. The South WRSA is a roughly rectangular shaped pile approximately 1,400 m long and 600 m wide. It will have a final volume of approximately 25.4 Mm³ and a final design elevation of 563 metres above sea level (MASL). The West WRSA is an irregularly shaped pile that is approximately 1,200 m at the greatest length and 1,100 m at the greatest width. It will have a final volume of approximately 23.2 Mm³ and a final design elevation of 550 MASL. The East WRSA is a roughly rectangular shaped pile approximately 650 m in length and 500 m in width. It will have a final volume of approximately 3.4 Mm³ and a final design elevation of 535 MASL.

Arctic will not place rock in the East WRSA unless contingency volume is required, or operational conditions are such that the rock must be placed in the East WRSA. The pile will be constructed in bench lifts of 15 m height with steps every lift to

meet the final wall angle that will vary depending on the storage area. Toe berms will not be constructed unless deemed necessary based on results of the seepage monitoring program and adaptive management practices.

Figure 5: Sable Waste Rock Storage Areas



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Description of Water and Effluent Management

Long Lake Containment Facility

The LLCF has been in operation since 1998 and was designed to safely contain processed kimberlite and to provide acceptable water quality and quantity according to operating and environmental protection requirements. Processed kimberlite is separated at the processing plant and the fine fraction (defined as material less than 0.5 mm in diameter, classed as fine sand, silt, and clay) is sent to the LLCF as a slurry by pipeline. The components of the LLCF include containment Cells A, B, C, D, and E; filter Dikes B, C, and D; the Outlet Dam; water pumps; access roads; and pipelines, spigots, and power lines (Figure 4). The UTM (Universal Transverse Mercator) coordinates for the centre point of cells D and E are Zone 12N E515141; N7174873 and E513397; N7173874, respectively.

A Reclaim Water Barge is located at the north end of Cell D, which pumps water from Cell D to the Process Plant. The reclaim barge is located in Cell D to provide adequate quality (i.e., clarity) and quantity of water (about 4.5 M m³ annually) for diamond processing. Water is syphoned or pumped from Cell C to the intake of the reclaim barge. In order to contain water within the LLCF watershed the maximum level in Cell D has been set to 449.3 m. Pipes have been installed to convey water from Cell D to Cell E. Pumps located on Dike D pump water over the dike into Cell E to augment dike seepage when desired to manage Discharge from Cell E or to maintain desired water levels in Cell D. The Reclaim Water Barge has been designed such that ideal water level in Cell D is 448 m and the minimum water level should be 447 m.

Cell E is used as a final polishing pond where water quality can be monitored and water levels can be controlled. During operations, the Discharge of Cell E water is controlled by the Outlet Dam, a frozen core dam. Water is only Discharged to the downstream Receiving Environment when it meets the water quality requirements specified in the current Water Licence (W2012L2-0001). Pumping rates are up to 2.55 m³ per second from 1 May to 31 July, and 0.52 m³ per second at other times. The water level is generally maintained less than or equal to Cell D with a maximum level of 449.3 m.

Operational water quality monitoring is conducted within Cell E of the LLCF at SNP Station 1616-30. Water quality is also monitored at Leslie Lake and other lakes downstream of the LLCF. Indicators measured are water quality, sediment quality, physical limnology, phytoplankton, zooplankton, and lake benthos. Details on the monitoring methods and results are found in Aquatic Effects Monitoring Program annual reports.

Monthly water levels for Cell E, summary of process water use in the LLCF, water pumped to the LLCF, Discharge volumes from the LLCF, summary of treated sewage effluents to the LLCF, and Discharge water quality are reported in monthly SNP reports and the Water Licence and Environmental Agreement annual reports. Additional detail on the operational aspects of water volumes and management can also be found in the Wastewater and Processed Kimberlite Management Plan.

The basis of the current LLCF processed kimberlite deposition plan was established through a comprehensive review of the LLCF development plan in 2005 and an evaluation of deposition completed in 2011. The selected deposition plan maximized the utilization of storage capacity in Cells A, B, and C in favour of deferring or avoiding processed kimberlite deposition into Cell D through the formation of beaches in Cells A, B, and C. Deposition into Cells A and C of the LLCF

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will continue until the remaining current storage capacity for solids is exhausted (i.e., the remaining FPK storage capacity within the LLCF is 34 Mm³ [Dominion 2019]; however deposition is currently directed to Panda and Koala pits). During processed kimberlite deposition into Panda/Koala Pit, the LLCF will be utilized to manage Minewater decanted from the pits. Additionally, the LLCF will be utilized to pump flood Fox Pit.

Surface Minewater

Management methods for surface Minewater from all current and planned future operations are described below. Surface Minewater is collected from the following locations:

- Ekati Main Camp and Pit Areas; snowmelt and rainwater runoff from areas with high vehicular traffic are collected into a containment sump lined with geo-membranes to minimize seepage losses. The collected water is pumped or trucked to the LLCF or otherwise directed to an interim storage location such as the Beartooth or Panda/Koala processed kimberlite containment areas.
- Landfarm; water from precipitation (rain/snowmelt): is contained within a plastic liner prior to trucking to the LLCF or an interim storage location such as the Beartooth or Panda/Koala processed kimberlite containment areas.
- Contaminated Snow and Ice Containment Facility; hydrocarbon impacted snow and ice from winter spill remediation activities is collected in this facility as per the Spill Contingency Plan. The spring melt water is collected in the lined sump and free-phase hydrocarbons are recovered by skimming activities before water is trucked to the LLCF or an interim storage location such as the Beartooth or Panda/Koala processed kimberlite containment areas.
- Various Buildings; wastewater collected from various buildings includes wastewater from truck washing operations, maintenance shops wastewater (e.g., floor washing and general maintenance) that is collected in internal concrete sumps and trucked to the LLCF or an interim storage location such as the Beartooth or Panda/Koala processed kimberlite containment areas.
- Scrubbers; the incinerator building is equipped with two wet scrubbers to reduce emissions; collected water is trucked to the LLCF or an interim storage location such as the Beartooth or Panda/Koala processed kimberlite containment areas.
- Containment Berms; fuel bulk storage and transfer locations collect rainwater and snowmelt within lined sumps. The spring melt water is collected, and free-phase hydrocarbons are recovered by skimming activities before water is trucked to the LLCF or an interim storage location such as the Beartooth or Panda/Koala processed kimberlite containment areas.
- Fresh Air Raise Containment Berms; located at the Panda/Koala underground mines produce wastewater that is taken to the LLCF.
- The concrete sumps around the Ammonia Nitrate Storage Facility and the Polar Explosives Building collect surface water which is collected by truck and deposited into the LLCF, the Beartooth Processed Kimberlite Containment Area or the Panda and Koala Processed Kimberlite Containment Area.

Panda, Koala North and Koala Pits

The lower levels of the Panda, Koala North and Koala open pits were hydraulically open to the underlying underground workings (i.e., prior to processed kimberlite deposition). Following commencement of deposition, the pits, including contained Minewater, are managed as an active processed kimberlite containment area. Excess Minewater that accumulates in the processed kimberlite containment area is pumped to the LLCF or to the Process Plant on an as-needed basis.

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Fox Site

Open pit mining of the Fox kimberlite was completed in 2014 and, since that time, local area runoff (including surface Minewater) enters and accumulates within the pit. During the previous period of open pit mining, most drainage and runoff that flows toward the Fox Pit was captured before it reached the pit by surface diversion ditches and sumps. Once captured, the water was then pumped by a pipeline to Cell C of the LLCF or released to the tundra (with Inspector authorization). An in-line flocculant treatment plant is in place in the LLCF pipeline to be utilized if necessary to aid in settlement of suspended sediment in water pumped to the LLCF. This has not been necessary and has not been utilized since early in Fox pit dewatering activities and remains in place as a contingency only. The operational surface Minewater management pipelines and sumps remain in place pending future consideration of mining the deeper portions of the Fox kimberlite.

Pigeon Site

Surface Minewater within the Pigeon Pit area is contained within the water deflection berms located between the northern edge of the Pigeon Pit area and Pigeon Stream and is directed into the surface sumps or managed as open pit water. Once captured, the water is moved by pipeline or by truck to the LLCF, Beartooth Processed Kimberlite Containment Area or Panda/Koala.

Beartooth Pit

Prior to 2009, water was pumped or trucked out of the Beartooth Pit to the LLCF. Mining operations ceased in 2009 and, since that time, the Beartooth pit has been used for retention of Minewater that was enriched in nitrate and/or chloride. This was initiated as an adaptive management response to enhance the protection of the environment downstream of the LLCF. Underground Minewater, surface Minewater from the ammonium nitrate storage facility sumps, and other Minewater has been directed to the Beartooth Pit since 2009. This practice will continue on an adaptive management basis as needed.

Use of the Beartooth Pit as a processed kimberlite containment area was approved by the Wek'èezhii Land and Water Board in 2012 and since that time fine processed kimberlite has been deposited into the Beartooth Processed Kimberlite Containment Area via slurry pipeline on an intermittent basis. Excess Minewater that accumulates is pumped to the LLCF or the Panda Pit, on an as-needed basis, typically seasonally during the summer.

Two Rock Sedimentation Pond

Two Rock Sedimentation Pond is used to manage Minewater from Sable Pit and seepage from the Sable WRSA. Open pit Minewater from Sable Pit is collected in the pit and moved by pipeline or truck to the upstream cell of TRSP where suspended sediments settle and filter from the water that seeps through the filter dike to the downstream cell. The sediment capacity of TRSP is anticipated to be adequate for the duration of the open pit operations without interim excavation. The functioning of TRSP is monitored during operations and excess sediment in the upstream cell may be excavated if necessary to ensure effective settling of sediment.

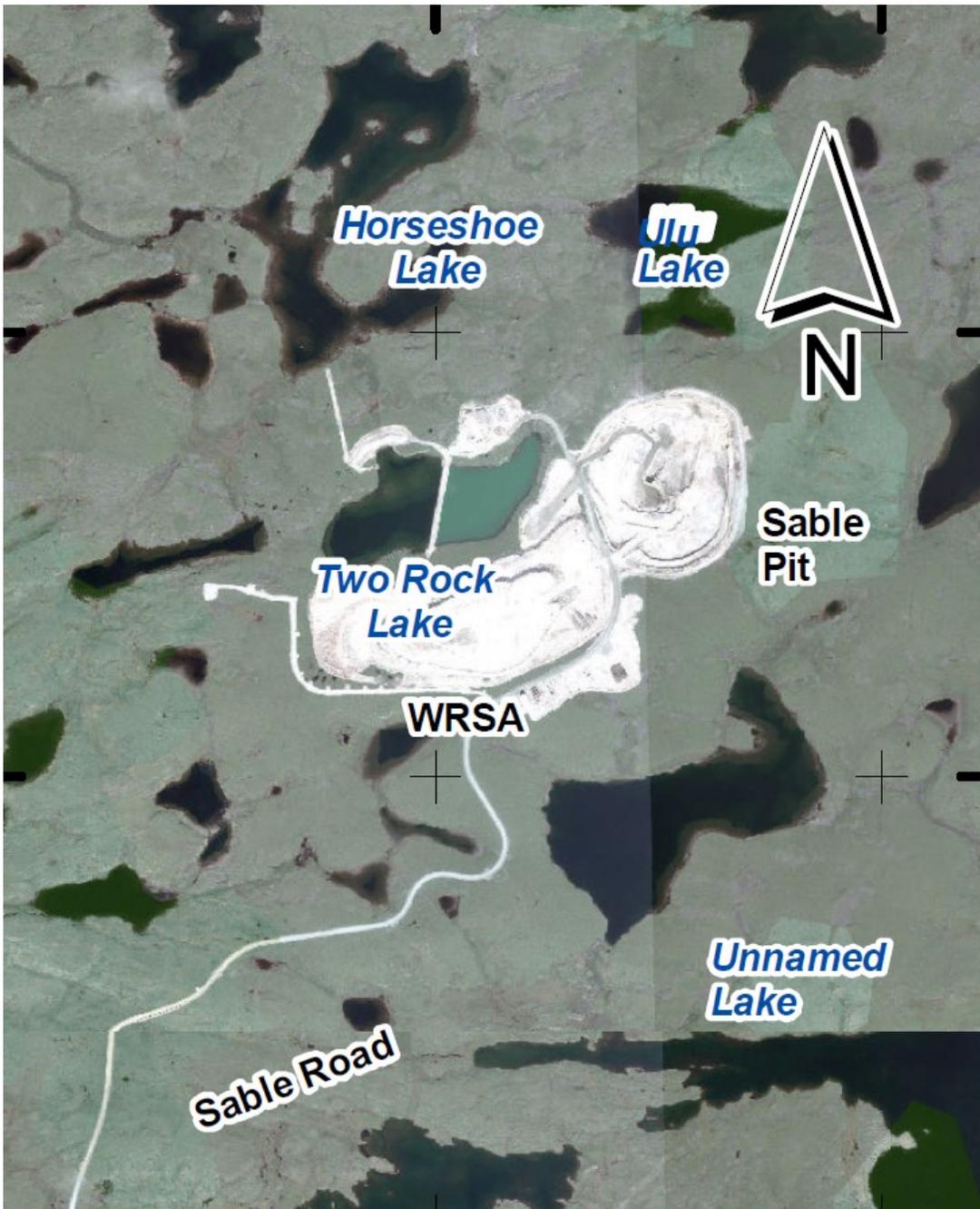
The UTM (Universal Transverse Mercator) coordinates for the centre point of TRSP are Zone 12N E521990; N7192840 (Figure 5). The water storage capacity for TRSP is 887,000 m³, which equates to a three-year storage capacity (Dominion 2021). A filter dike was constructed in 2017 to divide TRSP into two cells (upstream and downstream). The dike was constructed with waste rock and a sand, gravel silt filter blanket to filter suspended sediments from the water as it moves from the upstream cell to the downstream cell.

Two Rock Dam was constructed in 2017 at the outlet of Two Rock Lake to contain TRSP and consists of frozen sand and gravel core water retention dam, protected by crushed transition rock and covered with granite on a permafrost foundation.

During the mine life, the key water inflows to TRSP include: runoff from natural catchments surrounding lakes, rainfall, runoff from the WRSAs, and water pumped from Sable Pit. The Sable Pit sump water will be pumped to the upstream cell of TRSP for passive processing. The sources of Sable Pit sump water include surface runoff, precipitation, and groundwater infiltration into the open pit. Potable water and wastewater will be hauled to and from the main mine site.

Two Rock Sedimentation Pond at the Sable site manages Discharge to Horseshoe Lake in the Horseshoe watershed. Per Condition H.29 of the Water Licence, the annual volumes of Discharge from TRSP shall not exceed 740,600 m³ during the operations phase.

Figure 5: Two Rock Sedimentation Pond



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Justification for the Use of Waters Frequented by Fish as Mine Waste Disposal Areas

Justification and Assessment of Alternatives

Justification

The use of Long Lake and the individual cells of Long Lake (i.e., cells A, B, C, D, and E) were proposed in the 1995 Environmental Impact Statement Report and supporting information in the Tailings Management Plan and Preliminary Design of Retention Structures (BHP Billiton 1995). This proposed approach to tailings management was extensively reviewed as part of the Environmental Assessment in 1996. Following approval of the tailings management and construction plan for Long Lake, the LLCF has been successfully used as a tailings management facility for over 20 years. Similarly, TRSP was included in the Environmental Assessment for the Sable, Pigeon, and Beartooth kimberlite pipes in 2000 (BHP and Dia Met 2000) and dewatering described in the Sable Lake and Two Rock Sedimentation Pond Dewatering Plan in 2017 (DDEC 2017). Mine water from the Sable development has been successfully managed using TRSP as a mine water management facility since early 2018.

Through the Environmental Assessment process, the LLCF and TRSP were identified and proposed as the most suitable options for mine water management, as has been demonstrated through their successful operational use to date. The inability to continue using these waterbodies as TIAs would be detrimental to the continuation of mining at Ekati due to the associated impacts on economic feasibility of the mine, lack of suitable alternatives, and potential environmental impacts to alternative waterbodies that would need to be considered, etc. In addition, the review and approval of these waterbodies has already undergone rigorous scrutiny and public review, with no demonstrated benefits of undergoing additional repetitive, time consuming, and costly review as part of the MDMER.

Assessment of Alternatives

The Environmental Assessments for which both mine water and waste management facilities were proposed (i.e., Long Lake and Two Rock Lake), were conducted in accordance with regulatory guidance over 20 years ago and considered the environmental, technical, economic, and socio-economical aspects. At that time, the most appropriate options for mine water and waste management were proposed based on proximity to the operational facilities (i.e., Process Plant, open pit mine), suitability for the operational needs (e.g., capacity), and the potential for effectively managing environmental effects. There are no appropriate alternatives that meet all these requirements as closely as the current TIAs or that have the operational data demonstrating successful use.

Fish Habitat Compensation

History and Context of Compensation Done to Date

Long Lake Cells D and E

A Fish Habitat Compensation Agreement was implemented in accordance with authorization SCA96021 issued under section 35 of the Fisheries Act (DFO 1997, amended July 8, 2013.). DFO accepted \$1.5M to compensate for destruction of lake habitats, including Long Lake.

DFO closed the Authorization after Dominion Diamond Mines (now Arctic) demonstrated that all conditions, including the implementation of the Fish Habitat Compensation Agreement, were met (DFO 2019).

No additional compensation measures are required in order to list these water bodies in Schedule 2 of the MDMER.

Two Rock Sedimentation Pond

DFO accepted excess compensation from Fisheries Act Authorization SCA96021, which amounted to a portion of the associated \$1.5M CAD fund, to compensate for habitat lost under Fisheries Act Authorization SC99037 (DFO 2003, Amended April 9, 2013.). DFO closed the valid authorization period after Dominion Diamond Mines (now Arctic) demonstrated all conditions relevant to Two Rock Lake were met (DFO 2018).

No additional compensation measures are required in order to list this pond in Schedule 2 of the MDMER.

Description of Waterbodies to be Added to MDMER Schedule 2

Long Lake Cells D and E

The LLCF encompasses Long Lake and the former headwater lakes of Long Lake. The LLCF is at the headwater of the western Koala Watershed which feeds into the Lac de Gras watershed (Dominion Diamond Ekati Corporation 2013). The LLCF is subdivided into cells A through E and have water either flowing through dikes or diverted around them between each cell, starting from Cell A progressively through Cells B, C, D and finally E. Only Cells D and E are subject to a Schedule 2 amendment because they are considered as fish-frequented waters.

Cell D is used as a polishing pond that may receive fine processed kimberlite. A dike sits between Cells D and E that filters out fine processed kimberlite and channels water from Cell D into Cell E, the amount of which can be increased through pumping of additional water (Dominion Diamond Ekati Corporation 2013).

Cell E serves as the finishing pond in the LLCF. A frozen-core Outlet Dam serves as the downstream water control structure at the outlet of Cell E which retains water until sampled and authorized. Once downstream water quality has been analyzed, water is pumped over the Outlet Dam into the Receiving Environment (Leslie Lake).

Elevations within the LLCF are monitored on at least a monthly basis to ensure appropriate freeboard is maintained to prevent possible dam overtopping. Engineered structures such as the dams and dikes within the LLCF are inspected by engineering consultants three times per year (Dominion Diamond Mines ULC 2018).

Pre-alteration surface area of cells D and E was 2.7968 km² and 1.4419 km² respectively (Dominion Diamond ULC 2017).

Two Rock Sedimentation Pond

A semi-pervious filter dike was constructed within TRSP and divides the sedimentation pond into two cells. Mine water is pumped into the upstream cell, allowing suspended solids to filter out from the water that seeps through to the downstream cell. The retention dam retains the water within the downstream cell. Once downstream water quality has been analyzed, water is pumped over the retention dam and releases the water to the Receiving Environment (Horseshoe Lake) (Dominion Diamond Mines ULC 2018).

Pre-alteration surface area of TRSP was 0.2929 km² (DFO 2003, Amended April 9, 2013).

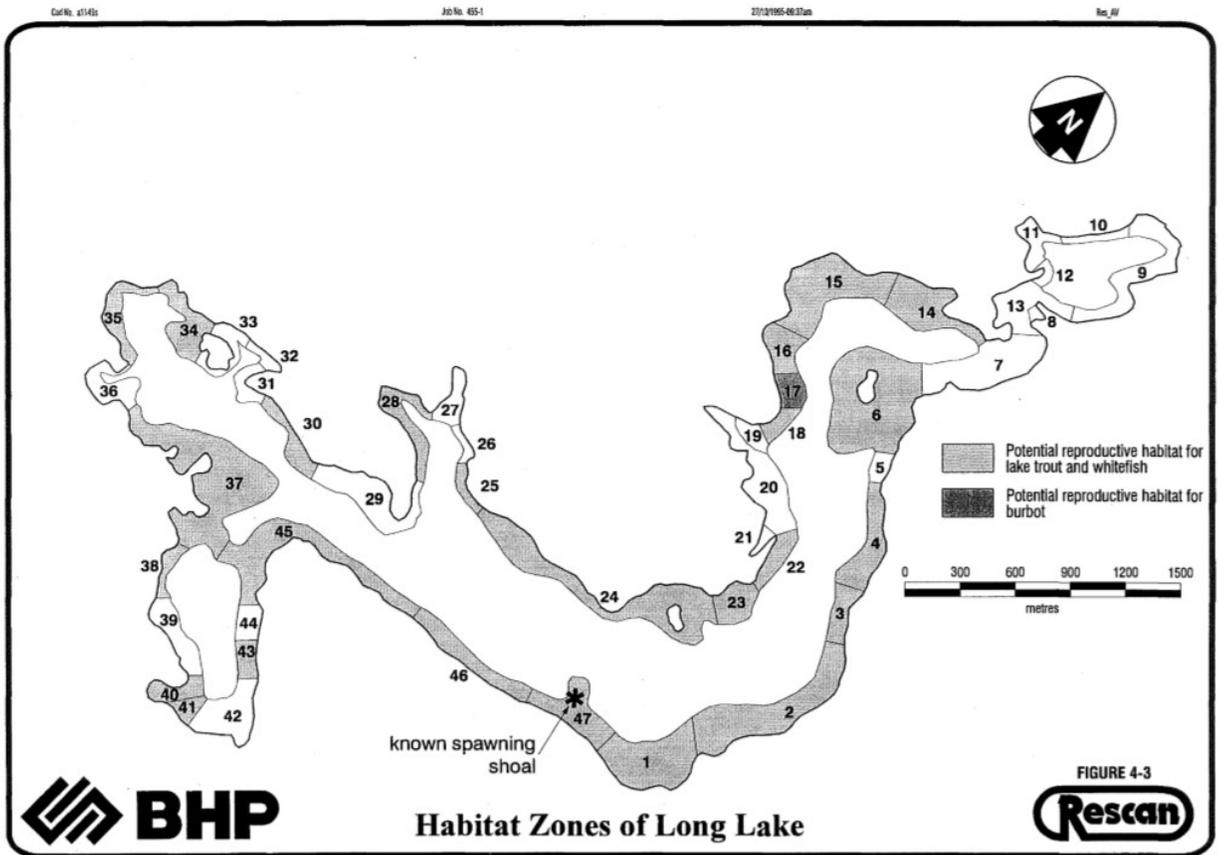
Previously Determined Quality of Fish Habitat

Long Lake Cells D and E

Information on the estimated fish habitat for Long Lake prior to mine development is provided in Toward a Fisheries Compensation Plan (BHP Diamonds Inc 1995). Figures from BHP Diamonds Inc 1995 are included below.

Fish habitat for Long Lake was determined by mapping and measuring habitat zones using AUTOCAD software and identifying preferred spawning sites where there was suitable substrate composition and depth for the fish species known to populate the lake (Figure 6; BHP Diamonds Inc 1995). In addition, ground-truthing of the habitat zones identified areas of fines that were not determined to be suitable spawning substrate and therefore, the area of potential spawning habitat was correct for the percentage of fine material (Table 1; BHP Diamonds Inc 1995).

Figure 6: Habitat Zones of Long Lake



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Table 1: Habitat Zone Statistics for Long Lake

Habitat Type	Habitat Zone	Substrate Type (%)					Zone Area Total (m ²)	LT/WF Habitat >1m (m ²)	Habitat Area Corrected for Fines (m ²)	Percent Area (%)	BB Habitat >2m (m ²)
		Bedrock	Boulder	Cobble	Gravel	Fines					
Near-shore	1		80	20			138469	89932	89932	65	
	2		60	40			189260	126703	126703	67	
	3	40	40	20			45228	31712	31712	70	
	4		60	40			95106	75280	75280	79	
	5		80	20			20376				
	6		60	30		10	253579	146157	131541	58	
	7		60	40			137418				
	8	100					5405				
	9		60	30		10	66308				
	10	100					23895				
	11		80			20	21134				
	12	100					8899				
	13		80			20	70215				
	14		70	30			94154	79472	79472	84	
	15	30	30	30		10	214820	88002	79201	41	
	16		70	30			38982	28850	28850	74	
	17		70	10		20	19718				10125
	18		70	30			14308	11295	11295	79	
	19	80		20			17389				
	20		70	20		10	87332				
	21		60	30		10	8976				
	22		80	20			25019	12973	12973	52	
	23		60	30		10	38814	14634	13170	38	
	24		80	20			198081	147522	147522	74	
	25	40	50	10			14087	7196	7196	51	
	26		70	10		20	7760				
	27		50			50	36497				
	28		70	20		10	52378	38888	34999	74	
	29		60	30		10	98792				
	30		80	20			32267	16652	16652	52	
	31	100					20228				
	32		70	20		10	11626				
	33		40	40		20	31481				
	34	50		30		20	52454	21250	17000	41	
	35	40	30	30			54753	30849	30849	56	
	36	90		10			43997				
	37		80	20			247651	169219	169219	68	
	38		50	30		20	24880	15576	12461	63	
	39		70	30			47588				
	40		70	10		20	32330	22072	17657	68	
	41	100					20251	16426	16426	81	
	42	70		20		10	74053				
	43	100					17326	13009	13009	75	
	44	70				10	22170				
	45		70	30			128842	98049	98049	76	
	46		80	30		10	62223	36871	33184	59	
	47		60	40			76582	62792	62792	82	
Basins	North						163099				
	Main						2708977				
	South						228802				
Islands	(subtract)						54160				
Total							6143973	1401379	1357144		10125
Average										65	

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Cell E is roughly oval and oriented in a north-west/south-east direction with a long axis of 2.6 km and a short axis ranging from 0.3 km to 0.9 km. Its surface area is 24% of the original surface area of Long Lake (BHP Diamonds Inc. 2003b).

Table 2: Morphometry of Cell E (BHP Diamonds Inc. 2003b)

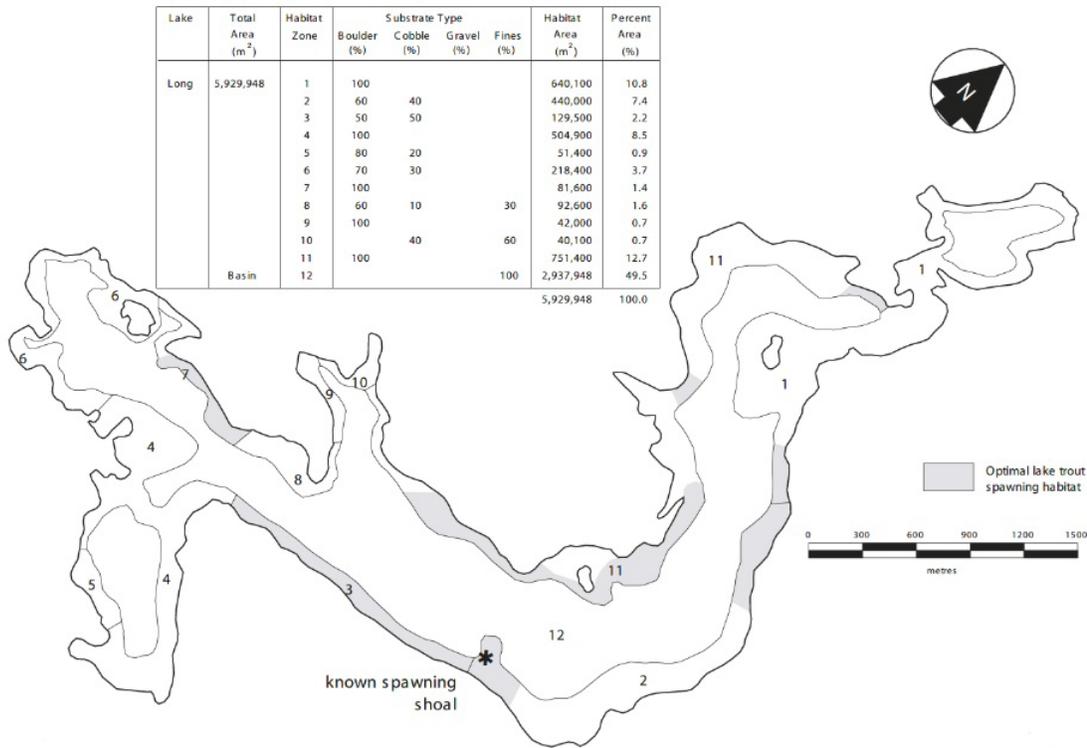
Variable	Units	Value
Surface area	ha	144
Perimeter	m	10,100
Maximum surface elevation	m	457
Maximum depth	m	18.7
Volume	10 ⁶ m ³	10.6
Average depth	m	7.4
Watershed area	ha	1,470

Cell E consists of two basins with substrates of fine sediment each surrounded by a narrow littoral zone with substrates of 100% boulder or a mixture of 70% boulder and 30% cobble. Cell E contains little of the optimal lake trout spawning habitat that used to exist in Long Lake. Most of that habitat is now in Cells C and D (BHP Diamonds Inc. 2003b).

The water level in Cell E in August 2003, was approximately 1.0 m to 1.5 m lower than its maximum surface elevation. Lowered water levels may also have reduced the available spawning habitat for Lake Trout and Round Whitefish in Cell E (BHP Diamonds Inc. 2003b).

Cell E of Long Lake underwent four separate fish studies (1994, 1997, 2003, and 2008) with varying results in terms of which fish species are present. As of 2008, four species were confirmed to be present in the waterbody, namely: Burbot, Lake Trout, Round Whitefish, and Slimy Sculpin (BHP Billiton Diamonds Inc. 2009). The 1997 study also confirmed the presence of Arctic Grayling in the waterbody (BHP Diamonds Inc. 2003b). This species may have been captured in the 2008 study if more hours were dedicated to additional fishing efforts.

Figure 7: Habitat Zones of Long Lake (BHP Diamonds Inc. 2003b)



Two Rock Sedimentation Pond

Two Rock Sedimentation Pond has a surface area of 28.6 ha and a maximum depth of 9.9 m. The lake was surveyed in August of 1999 and nine habitat zones were identified. The first was the central basin or sublittoral zone, which makes up 55.2% of the lake's surface area and had a substrate composed of fine sediment. The other 44.8% of the surface area consisted of littoral zone habitat that was divided into eight zones on the basis of substrate characteristics. Most of the littoral habitat (31.8% of the total lake surface area) was dominated by boulder and cobble and the remaining 13.0% was dominated by fine sediment (BHP Diamonds Inc. 2003a). Species of fish present in Two Rock Lake prior to fish-out in 2016 include Lake Trout, Burbot, and Slimy Sculpin (Dominion Diamond Ekati Corporation 2016).

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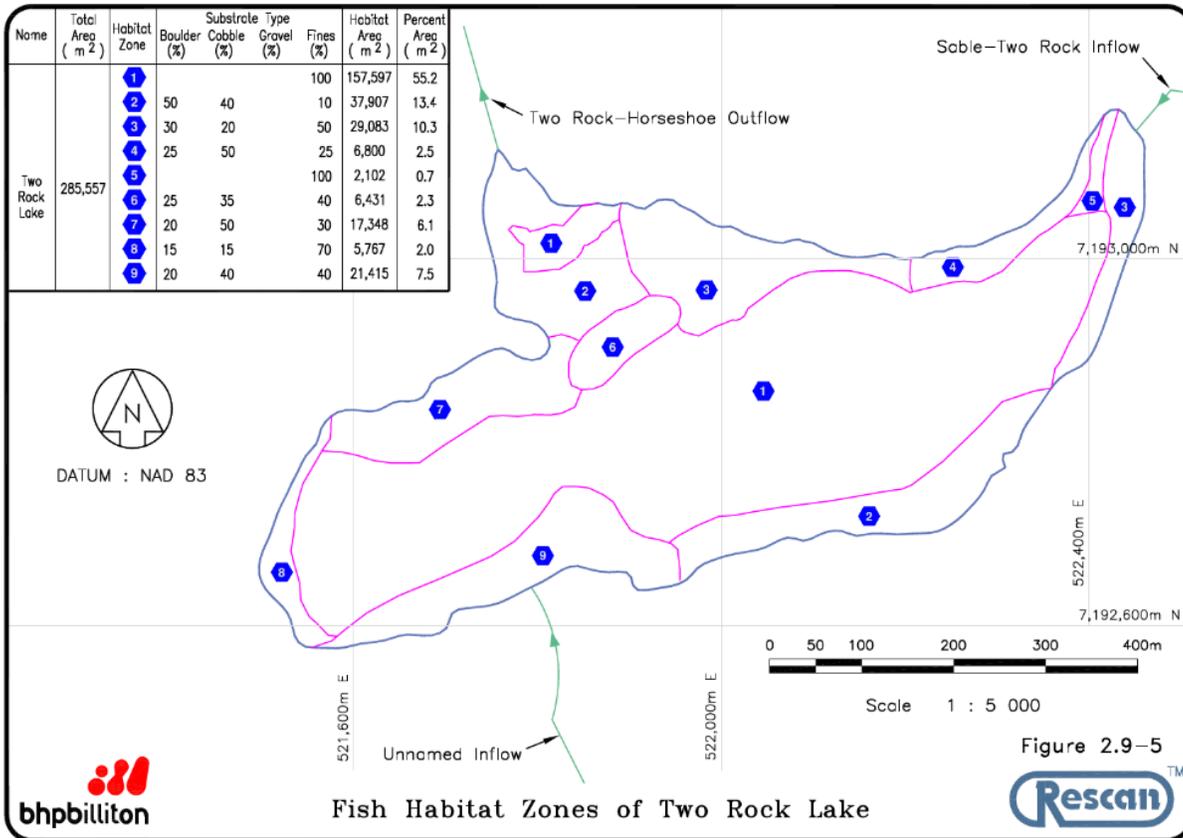
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Figure 8: Two Rock Sedimentation Pond Fish Habitat Zones (BHP Diamonds Inc. 2003a)



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Table 3: Summary of Pre-alteration Fish Habitat for LLCF and TRSP

Waterbody		Pre-alteration fish habitat
Long Lake	Cell D	0.61 km ²
	Cell E	0.34 km ²
Two Rock Sedimentation Pond (DFO 2003, Amended April 9, 2013.) ¹		0.037318 HU for lake trout
		0.046208 HU for round whitefish
		0.009869 HU for slimy sculpin
		0.011753 HU for burbot

Notes: fish habitat for cells D and E is taken from BHP Diamonds Inc 1995.

Fish Habitat Compensation Proposed to be Used Under S.27.1 of the MDMER

Long Lake Cells D and E

Results of Compensation Measures to Date

The Fisheries Act S.35 compensation for the fish habitat lost as a result of the use of Long Lake as a tailings management facility is set out in DFO's SCA96021 Fisheries Act Authorization. The authorization outlines the agreement made between the Dominion Diamond Ekati Corporation and DFO regarding the measures to be taken to compensate for the

¹ DFO made a clerical error in the final calculations for the pre-alteration fish habitat values of slimy sculpin and burbot. DFO considers the original figures listed in the authorization as the status quo despite the error, given the significant time lapse and consequent compensation measures having already occurred since.

loss of fish habitat in exchange for authorization to alter, disrupt, or destroy predetermined fish habitat, including the entirety of Long Lake, amongst others.

The main clause stipulating compensation for the destruction and use of Long Lake as a tailings management facility includes use of \$1.5 million CAD for the creation of a Fish Habitat Compensation Fund. This fund supports habitat restoration and enhancement projects proposed by an advisory committee established by DFO. Responsibility for management of the Fund resides solely with DFO (DFO 1997, amended July 8, 2013.). It is to be noted that the actual compensation for Long Lake was considered complete after the monetary transfer was made; the fund itself is considered as the compensation for the waterbody, not the projects funded by it.

The fund was and is still used for habitat restoration and enhancement projects, including but not limited to: baseline studies, research, travel, supplies and contractors.

As of today, DFO has used approximately 80% of the funds. More than \$1.2M were spent on a variety of projects, namely (DFO 2020):

1. Matthews Lake: Earth Dam Removal, dock removal, Barrel clean up (approx. 50% of funds used to date are associated with this project).
2. Stream assessment near Kugluktuk (Golder).
3. Prelude, Prosperous and Pickerel Lake Habitat Assessment (NSMA).
4. Lutsel'ke traditional knowledge gathering.
5. Chitty Lake Lake Trout project.

No quantitative fish habitat gain was determined for projects under this fund. DFO determined that the compensation implemented for the purposes of the authorization issued under section 35 of the Fisheries Act is adequate.

Future Compensation Measures in Progress or to be Implemented

Future compensation measures are inexistent for these waterbodies being that compensation was considered complete upon DFO's receipt of the relevant monetary transfer.

This being said, complementary measures brought about through use of the habitat restoration fund is entirely at the discretion of DFO's relevant advisory committee. To date, more than 80% of the fund has been used for projects and therefore any future complementary measures for these waterbodies would be limited in scale. These waterbodies have similarly no directly associated monitoring measures being that they were entirely compensated in accordance with the \$1.5M CAD habitat restoration fund set aside by DFO.

Use of Compensation for S.27.1 of the MDMER

The compensation is considered adequate for the purposes of S.35 of the Fisheries Act, and considering that the MDMER was not applicable at the time of deposit into these waterbodies, the existing S.35 compensation is proposed to be used as S.27.1 compensation under the MDMER.

Arctic has been authorized to use fish habitat and deposit (i.e., harmful alteration, disruption or destruction of habitat) mining waste into these waterbodies and have been doing so for over 20 years under S.35 authorizations. Tabling these waterbodies onto Schedule 2 is more so an administrative exercise that has been understood to not require any additional compensation than what was originally outlined in the S.35 authorizations for these waterbodies. The conditions under S.27.1 of the MDMER have either been met or are not entirely applicable to Long Lake cells D and E considering the nature of the compensation done to date, that is, monetary transfer and creation of a habitat restoration fund.

Two Rock Sedimentation Pond

Results of Compensation Measures to Date

Compensation for the use of Two Rock Lake as well as its outflow stream-lake transitional area is set out in DFO's SC99037 S.35 Authorization. The authorization allows for the use of Two Rock Lake as a sedimentation pond along with associated works, including construction of a dam across its stream-lake transitional area, its dewatering, and construction of an intermediate dike across the lake.

Compensation for the loss of fish habitat relies on clause 7 of DFO's SCA96021 S.35 Authorization, which permits, under certain conditions, part of the compensation delimited under this authorization to instead be used for other waterbodies. As such, Two Rock Lake was also compensated in accordance with the \$1.5M CAD fish habitat restoration fund managed by DFO. The relevant compensation that applies to Long Lake cells D and E thus also applies to Two Rock Lake and meets the criteria under S.35 of the Fisheries Act.

Future Compensation Measures in Progress or to Be Implemented

Being that the compensation for this waterbody is the same as that used for Long Lake Cells D and E, no future compensation measures are planned. The waterbody is similarly not subject to any monitoring or surveillance considering the nature of the compensation done to date, as per the previous section covering Long Lake Cells D and E.

Use of Compensation for S.27.1 of the MDMER

Being that the compensation for this waterbody is the same as that used for Long Lake Cells D and E, the existing S.35 compensation is proposed to be used for the purposes of S.27.1 of the MDMER, as per the previous section covering Long Lake Cells D and E.

Overall Costs Associated with Implemented or Planned Measures

Compensation for these waterbodies (i.e., LLCF cells D and E, and TRSP) was submitted to DFO in the form of a \$1.5M CAD payment, spread out in six installments from March 1, 1997, to April 1, 2001, to be used as a fund purposed for habitat restoration and enhancement projects (DFO 1997, amended July 8, 2013).

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Conclusions

In conclusion, Arctic must keep using LLCF cells D and E and TRSP as TIAs. Moreover, no compensation is required for LLCF cells D and E and TRSP, as all the compensation under S.35 of the Fisheries Act meets the requirements of S.27.1 of the MDMER and has already been completed as required by law in 1997.

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