## Operational evolution of the Ekati Diamond Mine

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The Ekati Diamond Mine is located in the high Canadian arctic in one of the most prospective diamond mining camps in the world. Operations at Ekati started in October 1998 with the development and open pit mining of the Panda kimberlite pipe. Panda was the first kimberlite pipe to be mined in Canada and produced more than 13 Mct from the open pit with an average grade just under one carat per tonne. Over the course of the next two decades, Ekati would see the development of an additional eight kimberlite orebodies, transitioning from a single source conventional open pit mine to multiple sources combining both surface and underground operations. Over this period, Ekati produced more than 70 Mct from the Panda/Koala kimberlite cluster, Fox kimberlite, Pigeon kimberlite and the Misery kimberlite cluster. Current operations include the Misery pushback pit, Pigeon open pit, Lynx open pit and Koala underground mine. Pre-stripping operations are well advanced at the Sable open pit located approximately 18 km north of the central Ekati infrastructure.

The combination of conventional surface mining activities with the introduction of sublevel retreat and incline caving methods have allowed for the successful extraction of high value resources at depth while managing the risks associated with operating in arctic conditions. From pit wall monitoring, to strict draw control and remote operation, sublevel block caving and incline block caving methods have proven successful in extracting value in kimberlite bodies at depth. High capacity long haulage road trains are being deployed to accelerate the development of new sources of ore more distant to the process plant.

Future mining operations are contemplated for the large Jay pipe located about 1 km offshore in Lac du Sauvage, sublevel retreat mining at Misery Main pipe, and an inclined cave underground mine at the Fox kimberlite pipe.

More than 150 kimberlite pipes have been found historically on the original Ekati mining claims. As the potential to further expand the life of the asset is being evaluated, exploration is being reinvigorated using new exploration techniques such as Unmanned Aerial Vehicle (UAV) for high resolution magnetic surveys. Alternative mining methods having the potential to unlock lower margin kimberlite pipes are also being evaluated. There is significant future potential remaining at Ekati which will require challenging the status quo and considering nontraditional approaches.