



# Mining at McClean Lake



Orano Canada and its joint-venture partner, Denison Mines, are resuming mining at the McClean Lake Operation in northern Saskatchewan. The resumption of mining is made possible by the development of an innovative technology and continued improvement of uranium markets.

Uranium was first discovered in the McClean Lake area in 1979. Mining began in 1995 and the JEB mill started production in 1999. Over the next 20 years, several additional orebodies were discovered in the area. Production was suspended in 2009 due to construction delays at the Cigar Lake mine and low uranium prices. A major expansion and modernization of the McClean Lake mill was completed in 2014 to process Cigar Lake ore.

Innovation has been constant at the McClean Lake Operation to improve worker safety and environmental performance while adapting to changing market conditions. Orano has developed new mining technology with potential to safely and economically mine the remaining ore bodies on the McClean Lake surface lease, while reducing environmental impact.

With successful test mining production of the technology and a strong recovery of uranium markets, Orano is ready to resume mining at the McClean Lake Operation and sustain the employment and economic development it provides for another generation.



## Proven Safe, Clean and Economic

Five uranium deposits have been safely mined at the McClean Lake Operation since 1999 by conventional open pit mining. Future mining will apply innovative technology to reduce the environmental footprint, cost and time required to develop new uranium deposits.

### Open pit

Open pit mining has proven to be a safe and environmentally sound method of mining the near-surface uranium deposits at the McClean Lake Operation. Overburden was removed by heavy equipment and stockpiled in facilities engineered to protect the environment. Ore was processed at the McClean Lake Mill which is recognized as the world's largest and most modern uranium mill.



## Surface Access Borehole Resource Extraction

The McClean Lake Joint Venture has developed an innovative method to mine the smaller, near-surface high-grade deposits on the McClean Lake surface lease. The Surface Access Borehole Resource Extraction (SABRE) method builds on the hydraulic boring process applied at the Cigar Lake mine, but is conducted entirely from the surface with a very small environmental footprint and lower costs than conventional mining methods.

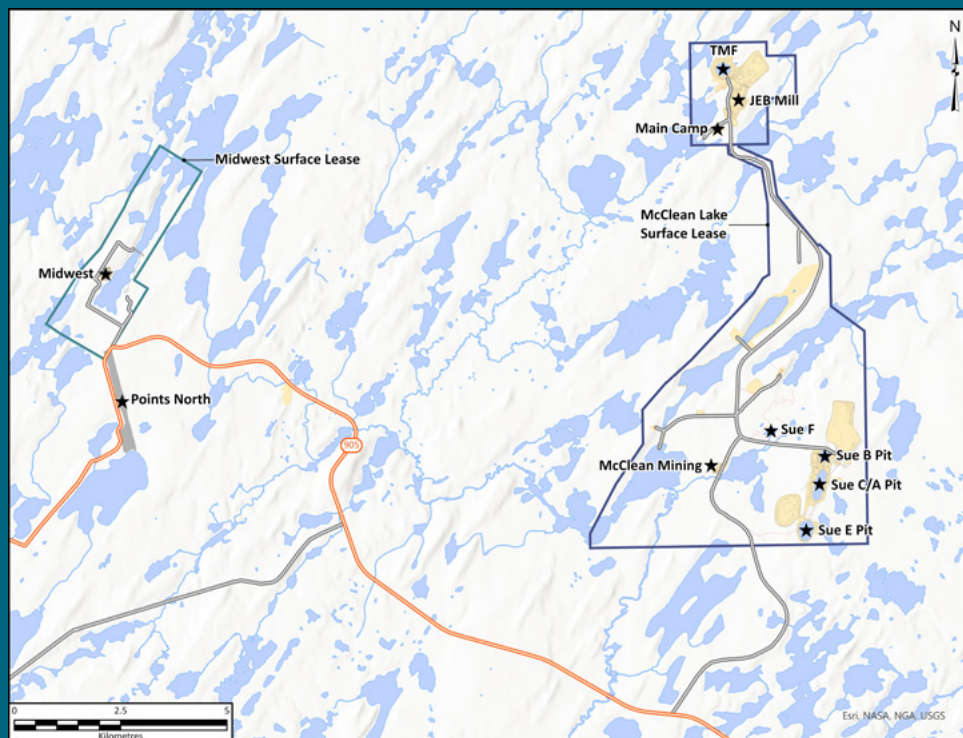
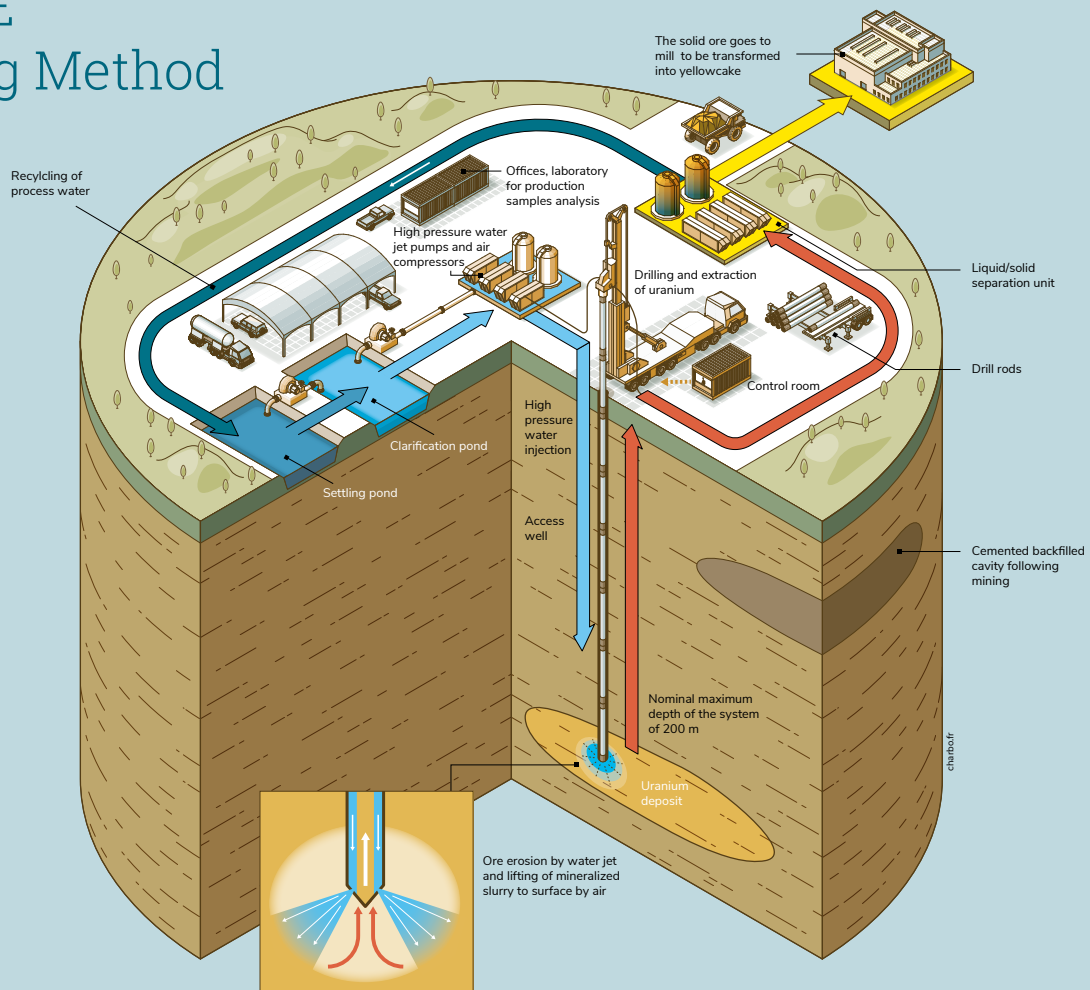
SABRE uses precise drilling to access underground deposits. Ore is broken with a high-pressure water jet and pumped to the surface as a slurry. The slurry is dewatered and hauled to the McClean Lake Mill for processing. Work on the SABRE technique began in 2004 and advanced steadily toward successful field testing completed in 2021. The advantages of a reduced environmental footprint, minimized treatment of mine water, lower cost, and low infrastructure requirements make SABRE a very attractive option to develop the smaller high-grade deposits in the McClean Lake area and across the Athabasca Basin.

Production capacity at the McClean Lake Mill has quadrupled since operations started 25 years ago. It has sufficient production and tailings capacity to mill all of the ore discovered to date on the site as well as ore from the Midwest Project and the Cigar Lake mine. Previous environmental assessments have approved plans to develop the Midwest and Sue F (formerly referred to as 'Caribou') deposits by open pit mining. Orano and its partner are reviewing options to determine the best method to mine the remaining orebodies at the McClean Lake Operation.

## Commercial Production Begins in 2025

Orano is now preparing the existing SABRE test mining site at the McClean deposit for commercial production. Eight pilot holes are being installed for the first cavities planned for extraction in 2025. Approximately 800,000 lbs  $U_3O_8$  (100% basis) are targeted for production from McClean in the first year, with approximately 3,000,000 lbs  $U_3O_8$  (100% basis) identified for additional production from a combination of the McClean and Sue F deposits during the years 2026 to 2030.

# SABRE Mining Method



# Keeping Communities Informed

Orano's mining plans at the McClean Lake Operation were thoroughly assessed and approved by federal and provincial regulators and shared with northern people through environmental assessment processes and ongoing consultation and engagement activities. Plans for the first year of production are approved with minor permit and licence updates needed for activities planned for 2026.

Orano is sharing information with communities in the area on our plan to resume mining at the McClean Lake Operation. We are enthusiastic about our innovative technology and are happy to talk about it.

All our plans will be reviewed by regulators and shared with communities before production begins. We have a number of events planned for northern communities this fall. If you can't participate and still have questions please contact us.

## Engagement Calendar – Fall 2024

### September

Athabasca Joint Environmental and Engagement Subcommittee

### October

Athabasca Denesuline First Nations and Basin Community Tour

### November

Northern Saskatchewan Environmental Quality Committee / Outreach to Métis Nation Saskatchewan and other rights-holders and interested stakeholders as requested

## Frequently Asked Questions

### How will communities benefit from resumed mining on the McClean Lake Operation?

The resumption of mining at the McClean Lake Operation will increase job security and create additional employment and contracting opportunities for northerners at the site. The development of additional ore sources and application of new mining techniques will give the McClean Lake operation more flexibility to respond to changing market conditions and sustain operations for the future.

### Will the increased industrial activity on the McClean Lake surface lease affect the environment?

All of the mining activities planned at the McClean Lake Operation and the Midwest Project have been thoroughly assessed by federal and provincial regulators and determined to be safe and protective of the environment. Previous assessments did not consider improvements to the McClean Lake Mill and the adoption of less intrusive mining methods that will significantly improve the expected environmental performance of planned mining activities.

### How do you manage the water used in the SABRE method?

Water is used in the SABRE mining system to break and remove ore and transport it as a slurry. Process water is recycled through a closed system of settling ponds and filters at the mine site. No process water is released to the environment at the mine site and runoff is carefully managed.

### What are the risks of the SABRE mining method?

The SABRE method involves less risk than conventional mining methods. SABRE breaks and extracts ore using pressurized water through bore holes from the surface. There is no need to construct pits, shafts or declines to access the ore or manage large volumes of waste rock. Reduced water treatment and power consumption improves sustainability. Worker safety is enhanced by minimizing radiological exposure.

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