



November 3, 2021

## **Orano and Denison Announce Successful 2021 Mining Test Showcasing SABRE Potential**

Orano Canada Inc. (“Orano Canada”) and Denison Mines Corp. (“Denison”) (TSX: DML, NYSE American: DNN), as joint-venture partners in the McClean Lake Joint Venture (“MLJV”), are pleased to report the successful completion of a five-year test mining program deploying the patented Surface Access Borehole Resource Extraction (“SABRE”) mining method on the McClean Lake property.

The final stage of a five-year field test was completed from May to September 2021 with four mining cavities successfully excavated to produce approximately 1,500 tonnes of high-value ore ranging in grade from 4%  $U_3O_8$  to 11%  $U_3O_8$ . The program was concluded with no safety, environmental or radiological incidents and confirmed the ability to achieve key operating objectives associated with the test program – including targets for cavity diameter, rates of recovery, and mine production rates.

The majority of the ore recovered from the test mining program has now been transferred to the McClean Lake mill, and is expected to be processed for the MLJV by the end of the year.

This test represents an important milestone for the SABRE technology. Based on the success of the 2021 program, the partners plan to evaluate the potential use of this innovative method for future mining operations at their jointly owned McClean Lake and Midwest properties. The McClean Lake joint venture is owned by Orano Canada (77.5% and operator) and Denison (22.5%). The Midwest joint venture is owned by Orano Canada (74.83% and operator) and Denison (25.17%).

“The SABRE mining method is the result of long-term R&D and involves a mix of different equipment, technology and expertise,” said Orano Canada President and CEO Jim Corman. “I’m proud of the work this operational team of drillers, mechanics and engineers completed this summer as they showed how agile this method can truly be. They demonstrated the Orano values of innovative thinking, cohesion and team spirit, revising plans throughout the summer to incorporate the learnings from each new drill hole.”

David Cates, Denison’s President & CEO, commented “With this test result, SABRE has demonstrated that it is capable of mining high-grade uranium ore in the Athabasca Basin region. Orano, as operator of the MLJV, has diligently advanced the necessary R&D efforts as part of a long-term vision for developing a mining method that could benefit our joint venture. We are appreciative of Orano’s efforts to ensure the safe and successful development of this patented technology and look forward to jointly exploring its potential applications in the context of improving uranium markets.”

### **About SABRE**

SABRE is the culmination of a mining equipment invention and development initiative that began in 2004. It is a non-entry, surface-based mining method that uses a high-pressure water jet placed at the

bottom of a drill hole to excavate a mining cavity. The cuttings from the excavation process are then air lifted to surface, separated and stockpiled. SABRE is viewed as an innovative mining method that could potentially allow for the economic access to relatively small high-grade orebodies in the Athabasca Basin that are either too small or too deep to be mined economically by open-pit and/or underground mining methods.

SABRE is unique in that the mining method can be selective and scalable, which has the potential to provide superior flexibility when compared to conventional mining methods and is thus ideally suited to ever changing uranium market conditions – with a potentially short production ramp up of months instead of years. The SABRE method is considered environmentally friendly as a result of its less intrusive nature and potentially smaller surface footprint when compared to conventional open pit or underground mining methods. Reduced water usage and power consumption also contribute to potential reductions in greenhouse gas emissions and improved sustainability. Additionally, as a non-entry mining method, radiological exposure for mine workers is minimized.

### **Quality Assurance, Quality Control and Data Verification**

Orano Canada, under the supervision of a Qualified Person in accordance with the requirements of NI 43-101, has performed detailed QAQC and data verification, where possible, of all datasets with respect to the test mining program.

For more information please contact:

Carey Hyndman  
Manager, Communications and Stakeholder Engagement  
Orano Canada  
306-343-4503  
[carey.hyndman@orano.group](mailto:carey.hyndman@orano.group)

and/or

David Cates  
President & CEO  
Denison Mines Corp.  
416-979-1991 x362

### **Qualified Persons**

The technical information in this release has been prepared and/or reviewed and approved by Mr. Louis-Pierre Gagnon, P. Eng., General Manager, Mine Projects of Orano Canada, who is a Qualified Person in accordance with the requirements of NI 43-101.

On behalf of Denison, Mr. David Bronkhorst, P. Eng., Denison's Vice President Operations and a Qualified Person in accordance with the requirements of NI 43-101, has approved the technical disclosure in this release.

## **About Orano Canada:**

Headquartered in Saskatoon, Saskatchewan, Orano Canada Inc. is a leading producer of uranium, accounting for the processing of 10 million pounds of uranium concentrate produced in Canada in 2020. Orano Canada has been exploring for uranium, mining and milling in Canada for more than 55 years. Orano Canada is the operator of the McClean Lake uranium mill and a major partner in the Cigar Lake, McArthur River and Key Lake operations. The company employs over 450 people in Saskatchewan, including about 320 at the McClean Lake operation where over 46% of employees are self-declared Indigenous. As a sustainable uranium producer, Orano Canada is committed to safety, environmental protection and contributing to the prosperity and well-being of neighbouring communities.

Orano Canada Inc. is a subsidiary of the multinational Orano group. As a recognized international operator in the field of nuclear materials, Orano delivers solutions to address present and future global energy and health challenges. Its expertise and mastery of cutting-edge technologies enable Orano to offer its customers high value-added products and services throughout the entire fuel cycle. Every day, the Orano group's 16,500 employees draw on their skills, unwavering dedication to safety and constant quest for innovation, with the commitment to develop know-how in the transformation and control of nuclear materials, for the climate and for a healthy and resource-efficient world, now and tomorrow.

Visit Orano at [www.oranocanada.com](http://www.oranocanada.com) or follow us on LinkedIn, Facebook and Twitter: @oranocanada

## **About Denison:**

Denison is a uranium exploration and development company with interests focused in the Athabasca Basin region of northern Saskatchewan, Canada. The Company has an effective 95% interest in its flagship Wheeler River Uranium Project, which is the largest undeveloped uranium project in the infrastructure rich eastern portion of the Athabasca Basin region of northern Saskatchewan. Denison's interests in the Athabasca Basin also include a 22.5% ownership interest in the McClean Lake joint venture, which includes several uranium deposits and the McClean Lake uranium mill that is contracted to process the ore from the Cigar Lake mine under a toll milling agreement, plus a 25.17% interest in the Midwest Main and Midwest A deposits, and a 66.90% interest in the Tthe Heldeth T   ( "THT," formerly J Zone) and Huskie deposits on the Waterbury Lake property. The Midwest Main, Midwest A, THT and Huskie deposits are each located within 20 kilometres of the McClean Lake mill.

Through its 50% ownership of JCU (Canada) Exploration Company, Limited, Denison holds additional interests in various uranium project joint ventures in Canada, including the Millennium project (JCU 30.099%), the Kiggavik project (JCU 33.8123%) and Christie Lake (JCU 34.4508%). Denison's exploration portfolio includes further interests in properties covering ~280,000 hectares in the Athabasca Basin region.

Denison is also engaged in mine decommissioning and environmental services through its Closed Mines group (formerly Denison Environmental Services), which manages Denison's Elliot Lake reclamation projects and provides post-closure mine care and maintenance services to a variety of third-party clients.

Visit Denison at [www.denisonmines.com](http://www.denisonmines.com) or follow us on Twitter: @DenisonMinesCo.

## **Cautionary Statement Regarding Forward-Looking Statements**

*Certain information contained in this news release constitutes 'forward-looking information', within the meaning of the applicable United States and Canadian legislation. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as 'plans', 'expects', 'budget', 'scheduled', 'estimates', 'forecasts', 'intends', 'anticipates', or 'believes', or the negatives and/or variations of such words and phrases, or state that certain actions, events or results 'may', 'could', 'would', 'might' or 'will be taken', 'occur', 'be achieved' or 'has the potential to'.*

*In particular, this news release contains forward-looking information pertaining to SABRE, its design and functions and the five-year test mining program and the interpretation of the results therefrom; the potential applications of SABRE, including evaluation of its potential use on other projects for the MLJV, Midwest joint venture and/or third parties; and expectations regarding the parties' joint venture ownership interests and the continuity of their agreements with partners and third parties.*

*Forward looking statements are based on the opinions and estimates of management as of the date such statements are made, and they are subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the company to which they relate to be materially different from those expressed or implied by such forward-looking statements. Orano Canada and Denison believe their respective expectations reflected in this forward-looking information are reasonable but no assurance can be given that these expectations will prove to be accurate and results may differ materially from those anticipated in this forward-looking information. For a discussion in respect of risks and other factors that could influence forward-looking events for Denison, please refer to the factors discussed in Denison's Annual Information Form dated March 26, 2021 or subsequent quarterly financial reports under the heading 'Risk Factors'. Any and all such factors are not, and should not be construed as being exhaustive.*

*Accordingly, readers should not place undue reliance on forward-looking statements. The forward-looking information contained in this news release is expressly qualified by this cautionary statement. Any forward-looking information and the assumptions made with respect thereto speaks only as of the date of this news release. Neither Orano Canada nor Denison undertake any obligation to publicly update or revise any forward-looking information after the date of this news release to conform such information to actual results or to changes in their respective expectations except as otherwise required by applicable legislation.*