

PRESS RELEASE**DENISON REPORTS URANIUM CONCENTRATIONS FROM
INITIAL CORE LEACH TESTS UP TO FOUR TIMES THE AMOUNT
ASSUMED IN PRE-FEASIBILITY STUDY FOR PHOENIX ISR OPERATION**

Toronto, ON – February 19, 2020. Denison Mines Corp. (“Denison” or the “Company”) (DML: TSX, DNN: NYSE American) is pleased to report that initial data from core leach tests includes elemental uranium (“uranium”) concentrations, after the initial test startup, in the range of 13.5 grams per litre (“g/L”) to 39.8 g/L. This compares favourably to the previous metallurgical test work completed to assess the use of the In-Situ Recovery (“ISR”) mining method at the high-grade Phoenix uranium deposit (“Phoenix”) – which supported a uranium concentration of 10 g/L for the ISR processing plant design used in the Pre-Feasibility Study (“PFS”) completed for the Company’s 90% owned Wheeler River Uranium Project (“Wheeler River” or the “Project”), located in northern Saskatchewan, Canada.

David Bronkhorst, Denison’s Vice President Operations, commented, “*The initial data from the core leach test shows that uranium can be recovered from intact core samples at a concentration that is significantly higher than the levels used in the PFS. The implications of a higher uranium concentration coming from the ISR wellfield are potentially significant – allowing the metallurgical team to explore various combinations of lixiviant parameters to optimize operating costs, and processing plant configurations to potentially reduce capital costs while maintaining the same level of annual uranium production.*”

Background

The test work incorporated into the PFS (see press release dated September 24, 2018) included column leach and agitated leach tests, which led to the design of the Phoenix processing plant in the PFS based on a minimum of 10 g/L uranium content in the uranium bearing solution expected to be recovered from the ISR wellfield. The current metallurgical test program (“2020 Metallurgical Program”) has been designed to build upon the laboratory test data collected as part of the PFS (see news release dated December 18, 2019).

The first stage of the 2020 Metallurgical Program involves completing specialized tests using intact mineralized core samples, representative of the in-situ conditions at Phoenix. The testing apparatus used for these tests allows for intact core samples to be mounted within a flexible sleeve with a confining pressure applied to the exterior of the sleeve. Lixiviant (in the case of Phoenix, an acid-bearing mining solution) can then be injected into the intact core at one end of the sample without having a way to by-pass the intact core. As a result, the lixiviant travels through the core to the other end of the sample, where a uranium bearing solution is recovered. Denison considers this type of specialized test of intact competent core samples to be the most representative available laboratory test of the natural leach conditions of the host rock.

Current Core Leach Test

Over 50 days of testing has been completed, to date, on a mineralized core sample recovered from drill hole GWR-016. The core sample was recovered from between 405 and 407 metres below surface within the extent of the high-grade core of Phoenix Zone A. Various parameters for lixiviant composition (including both acid and oxidant concentration) have been tested to date. In all cases, the lixiviant is injected into the core continuously and only interrupted periodically if a change in the lixiviant composition is required. After the initial test startup, uranium bearing solution recovered from the core sample has returned uranium content in the range of 13.5 g/L to 39.8 g/L. **The average uranium concentration returned over the last 20 days of testing is 29.8 g/L – which represents a uranium content that is approximately 200% higher than (or three times) the minimum level used for the ISR process plant design in the PFS.**

The test with this core sample will continue as the Company refines the optimal lixiviant parameters for the mineralized core within Phoenix Zone A and ultimately the optimal uranium-bearing solution parameters for the solution that will be fed into the proposed process plant flowsheet. The initial results reported from the testing completed, to date, reflect the uranium concentrations recovered from a single core sample. Additional core samples are planned for core leach testing (as described below). The initial results reported above may not be representative of results from further testing of the current core sample, or future testing of additional core samples.

Overview of the 2020 Metallurgical Test Program

In December 2019, the Company initiated the 2020 Metallurgical Program, which is expected to provide important information for the purpose of completing the Environmental Assessment ("EA") and a future Feasibility Study for the Phoenix ISR operation (see Denison's news release dated December 18, 2019). The 2020 Metallurgical Program has been designed to use the mineralized drill core recovered through the installation of various test wells during the 2019 ISR field test program (see Denison's news release dated December 18, 2019) and to build upon the previous laboratory test data, which was collected as part of the PFS process to assess the recovery of uranium. The 2020 Metallurgical Program has been planned in stages, allowing for the initial results from each stage of testing to inform the design and criteria of the further stages of testing.

The first stage of the 2020 Metallurgical Program is expected to continue throughout the first half of 2020 using core samples representative of the various ore types and grade ranges (~1% U₃O₈ to up to 60% U₃O₈) contained within Phoenix. The goal of the first stage of the program is to determine the optimal lixiviant parameters for various grade ranges within Phoenix, which will involve the testing of several representative core samples. The uranium recovery results from the first 50 days of testing of the first core sample will allow refinement of the test program for the next core samples planned for future intact core leach tests, and for the final planning and design of the second stage of the 2020 Metallurgical Program – which involves the completion of various column leach tests.

The column leach tests planned in the second stage of the program involve the crushing and packing of mineralized core samples into test columns, which are then expected to utilize the same lixiviant composition as the core leach tests to provide additional data on the recovery of uranium, and any other metals, from the various ore types and grade ranges associated with the Phoenix deposit. The purpose of the column leach tests is to correlate data from the specialized core leach tests to the traditional ISR laboratory testing methods used during the PFS. Additionally, the column leach tests are able to generate uranium bearing solutions in larger quantities for further laboratory testing of the process plant flowsheet – which is planned as the third stage of the 2020 Metallurgical Program, and is expected to involve bench-scale testing of the unit operations of the proposed process plant flowsheet with uranium-bearing solutions produced during the leach tests. The third stage of the program is in the planning stage and will be refined pending the results of the leach tests.

The laboratory work for the first stage and second stage of the 2020 Metallurgical Program is being carried out at the Saskatchewan Research Council ("SRC") Mineral Processing and Geoanalytical Laboratories, in Saskatoon, under the supervision of Mr. Chuck Edwards (P.Eng., FCIM).

About Wheeler River

Wheeler River is the largest undeveloped uranium project in the infrastructure rich eastern portion of the Athabasca Basin region, in northern Saskatchewan – including combined Indicated Mineral Resources of 132.1 million pounds U₃O₈ (1,809,000 tonnes at an average grade of 3.3% U₃O₈), plus combined Inferred Mineral Resources of 3.0 million pounds U₃O₈ (82,000 tonnes at an average grade of 1.7% U₃O₈). The project is host to the high-grade Phoenix and Gryphon uranium deposits, discovered by Denison in 2008 and 2014, respectively, and is a joint venture between Denison (90% and operator) and JCU (Canada) Exploration Company Limited (10%).

A PFS was completed for Wheeler River in late 2018, considering the potential economic merit of developing the Phoenix deposit as an ISR operation and the Gryphon deposit as a conventional underground mining operation. Taken together, the project is estimated to have mine production of 109.4 million pounds U₃O₈ over a 14-year mine life, with a base case pre-tax NPV of \$1.31 billion (8% discount

rate), Internal Rate of Return ("IRR") of 38.7%, and initial pre-production capital expenditures of \$322.5 million. The Phoenix ISR operation is estimated to have a stand-alone base case pre-tax NPV of \$930.4 million (8% discount rate), IRR of 43.3%, initial pre-production capital expenditures of \$322.5 million, and industry leading average operating costs of US\$3.33/lb U₃O₈. The PFS is prepared on a project (100% ownership) and pre-tax basis, as each of the partners to the Wheeler River Joint Venture are subject to different tax and other obligations.

Further details regarding the PFS, including additional scientific and technical information, as well as after-tax results attributable to Denison's ownership interest, are described in greater detail in the NI 43-101 Technical Report titled "Pre-feasibility Study for the Wheeler River Uranium Project, Saskatchewan, Canada" dated October 30, 2018 with an effective date of September 24, 2018. A copy of this report is available on Denison's website and under its profile on SEDAR at www.sedar.com and on EDGAR at www.sec.gov/edgar.shtml.

About Denison

Denison is a uranium exploration and development company with interests focused in the Athabasca Basin region of northern Saskatchewan, Canada. In addition to the Wheeler River project, Denison's Athabasca Basin exploration portfolio consists of numerous projects covering approximately 280,000 hectares. Denison's interests in the Athabasca Basin also include a 22.5% ownership interest in the McClean Lake joint venture ("MLJV"), which includes several uranium deposits and the McClean Lake uranium mill, which is currently processing ore from the Cigar Lake mine under a toll milling agreement, plus a 25.17% interest in the Midwest and Midwest A deposits, and a 66.57% interest in the J Zone and Huskie deposits on the Waterbury Lake property. Each of Midwest, Midwest A, J Zone and Huskie are located within 20 kilometres of the McClean Lake mill.

Denison is also engaged in mine decommissioning and environmental services through its Denison Environmental Services division and is the manager of Uranium Participation Corp., a publicly traded company which invests in uranium oxide and uranium hexafluoride.

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Qualified Persons

Description of the metallurgical test program and data contained in this release was reviewed by Mr. Chuck Edwards, P. Eng., FCIM, Principal at Chuck Edwards Extractive Metallurgy Consulting, an independent Qualified Person in accordance with the requirements of NI 43-101.

The other technical information contained in this release has been reviewed and approved by Mr. Dale Verran, MSc, P.Geo, Pr.Sci.Nat., Denison's Vice President, Exploration, a Qualified Person in accordance with the requirements of NI 43-101.

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 concerning the business, operations and financial performance and condition of Denison.

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 the following: the 2020 Metallurgical Program, including its intended scope and timing, objectives and evaluation interpretations; the current and continued use and availability of

third party technologies for testing; the results of the PFS and expectations with respect thereto; development and expansion plans and objectives, including plans for a feasibility study; and expectations regarding its joint venture ownership interests and the continuity of its agreements with its partners.

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 Denison to be materially different from those expressed or implied by such forward-looking statements. For example, the initial results of the 2020 Metallurgical Program discussed herein may not be maintained after further testing or be representative of actual conditions within the Phoenix deposit. In addition, Denison may decide or otherwise be required to discontinue the 2020 Metallurgical Program or other testing, evaluation and development work at Wheeler River if it is unable to maintain or otherwise secure the necessary resources (such as testing facilities, capital funding, regulatory approvals, etc.). Denison believes that the 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, please refer to the factors discussed in Denison's Annual Information Form dated March 12, 2019 under the heading 'Risk Factors'. These 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. Denison does not 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 Denison's expectations except as otherwise required by applicable legislation.

Cautionary Note to United States Investors Concerning Estimates of Measured, Indicated and Inferred Mineral Resources and Probable Mineral Reserves: This news release may use the terms 'measured', 'indicated' and 'inferred' mineral resources. United States investors are advised that while such terms have been prepared in accordance with the definition standards on mineral reserves of the Canadian Institute of Mining, Metallurgy and Petroleum referred to in Canadian National Instrument 43-101 Mineral Disclosure Standards ("NI 43-101") and are recognized and required by Canadian regulations, the United States Securities and Exchange Commission ("SEC") does not recognize them. 'Inferred mineral resources' have a great amount of uncertainty as to their existence, and as to their economic and legal feasibility. It cannot be assumed that all or any part of an inferred mineral resource will ever be upgraded to a higher category. Under Canadian rules, estimates of inferred mineral resources may not form the basis of feasibility or other economic studies. **United States investors are cautioned not to assume that all or any part of measured or indicated mineral resources will ever be converted into mineral reserves. United States investors are also cautioned not to assume that all or any part of an inferred mineral resource exists, or is economically or legally mineable.** The estimates of mineral reserves in this news release have been prepared in accordance with NI 43-101. The definition of probable mineral reserves used in NI 43-101 differs from the definition used by the SEC in the SEC's Industry Guide 7. Under the requirements of the SEC, mineralization may not be classified as a "reserve" unless the determination has been made, pursuant to a "final" feasibility study that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made. Denison has not prepared a feasibility study for the purposes of NI 43-101 or the requirements of the SEC. Accordingly, Denison's probable mineral reserves disclosure may not be comparable to information from U.S. companies subject to the reporting and disclosure requirements of the SEC.