

**PRESS RELEASE****Denison Announces 97% Recovery from Long-Term  
Phoenix ISR Core Leach Test**

**Toronto, ON – December 8, 2022.** **Denison Mines Corp.** (“Denison” or the “Company”) (TSX: DML; NYSE American: DNN) is pleased to announce highly successful results from long-term core leach metallurgical testing completed to further support the Feasibility Study (“FS”) underway for the Phoenix In-Situ Recovery (“ISR”) uranium mining operation proposed for the Company’s 95% owned Wheeler River project (“Wheeler River” or the “Project”).

To support the establishment of ISR production and recovery curves to be used in the FS, the Company completed a long-term test of a representative intact core sample (“Core 4A”) using specialized equipment to replicate the in-situ leaching conditions of the Phoenix deposit.

The results from long-term core leach testing of Core 4A are highlighted by the following:

- Overall recovery of uranium in excess of 97% – demonstrating excellent recovery of uranium from intact high-grade core, without the use of permeability enhancement.
- Average recovered solution uranium head grade of 18.3 grams per litre (“g/L”) – exceeding the assumed 15 g/L uranium head grade being used in FS plant designs (see news release dated August 4, 2021).
- Continuous intact core leach testing over a period of 377 days, with uranium recovery head grades consistently maintained above 5 g/L during the final stages of the production curve and then declining during the ramp-down stage.
- Maximum recovered solution uranium head grade of 49.8 g/L achieved using similar lixiviant concentrations as to those used during the Feasibility Field Test (“FFT”).

Kevin Himbeault, Denison’s Vice President of Plant Operations & Regulatory Affairs, commented, ***“The positive results of the long-term intact core leach test carried out on Core 4A add to the weight-of-evidence de-risking the use of the ISR mining method at the high-grade Phoenix uranium deposit. The ability to demonstrate the recovery of over 97% of the uranium from a high-grade intact core sample is quite positive and provides notable support for the estimated recovery value of 85% used in the 2018 Pre-Feasibility Study (“PFS”). Additionally, demonstrating an average uranium head grade of 18.3 g/L, over a year of testing Core 4A, provides further tangible support for the assumed 15 g/L uranium head grade being used in FS plant designs.”***

*This press release constitutes a “designated news release” for the purposes of the Company’s prospectus supplement dated September 28, 2021 to its short form base shelf prospectus dated September 16, 2021.*

Since 2019, Denison has completed several core leach tests using intact core samples obtained from Phoenix during various field test programs. The test work has been completed at the Saskatchewan Research Council (“SRC”) laboratories in Saskatoon, and makes use of specialized equipment intended to replicate the in-situ leaching conditions of the Phoenix deposit – including maintaining the core in its original shape and exerting uniform pressure on the exterior of the core (simulating in-situ overburden pressure) to ensure lixiviant must travel through the natural pathways existing within the core sample. Previous core leach testing focused on the basic leaching characteristics of intact core from different hydrogeological units, allowing assessment of varying lixiviant compositions, uranium grade ramp-up, lixiviant flow characteristics through the intact core, and the neutralization efficiency of intact core. The core leach test of Core 4A was used to study similar parameters; however, it was leached longer term to develop an

aggregate life-of-well recovery and production profile, including the initial ramp-up and the gradual decline of the UBS head grade. This profile will be used to support wellfield production modelling and optimization.

Core 4A is calculated to have a grade of 26.7%  $U_3O_8$ , which is comparable to the average grade of the estimated Indicated Mineral Resources for Phoenix of 19.14%  $U_3O_8$ , and is representative of one of the main hydrogeological units identified within the Phoenix deposit.

The actual grade of Core 4A was calculated post-test, as the intact core cannot be assayed without destroying the integrity of the core. Upon termination of the core leach test, the remaining core was crushed, ground, and assayed to determine the final residual uranium mass contained within the leached-out core sample. The residual mass of uranium, along with the mass of uranium recovered during leaching, was used to calculate both the overall recovery as well as the original grade of the core.

### **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  $U_3O_8$  (1,809,000 tonnes at an average grade of 3.3%  $U_3O_8$ ), plus combined Inferred Mineral Resources of 3.0 million pounds  $U_3O_8$  (82,000 tonnes at an average grade of 1.7%  $U_3O_8$ ). 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 (operator) and JCU (Canada) Exploration Company Limited (“JCU”). Denison has an effective 95% ownership interest in Wheeler River (90% directly, and 5% indirectly through a 50% ownership in JCU).*

*A PFS was completed for Wheeler River in 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  $U_3O_8$  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  $U_3O_8$ . 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](http://www.sedar.com) and on EDGAR at [www.sec.gov/edgar.shtml](http://www.sec.gov/edgar.shtml).*

*Denison suspended certain activities at Wheeler River during 2020, including the EA process, which is on the critical path to achieving the project development schedule outlined in the PFS. While the EA process has resumed, the Company is not currently able to estimate the impact to the project development schedule outlined in the PFS, and users are cautioned against relying on the estimates provided therein regarding the start of pre-production activities in 2021 and first production in 2024.*

### **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 its effective 95% interest in the Wheeler River project, Denison’s interests in the Athabasca Basin 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 67.01% interest in the Tthe Heldeth Tùé (“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, Denison holds additional interests in various uranium project joint ventures in Canada, including the Millennium project (JCU 30.099%), the Kiggavik project (JCU 33.8118%) and Christie Lake (JCU 34.4508%). Denison's exploration portfolio includes further interests in properties covering ~300,000 hectares in the Athabasca Basin region.

Denison is also engaged in post-closure mine care and maintenance services through its Closed Mines group, which manages Denison's reclaimed mine sites in the Elliot Lake region and provides related services to certain third-party projects.

#### **For more information, please contact**

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#### **Qualified Persons**

*The disclosure of scientific or technical information related to the FFT, the core leach testing, or Wheeler River project contained in this release has been reviewed and approved, as applicable, by Mr. David Bronkhorst, P.Eng, Denison's Vice President, Operations or Mr. Andrew Yackulic, P. Geo., Denison's Director, Exploration, who are Qualified Persons 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 'potential', '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' or 'be achieved'.*

*In particular, this news release contains forward-looking information pertaining to the following: scope, objectives and interpretations of the FS process for the proposed ISR operation for the Phoenix deposit, including metallurgical testing programs described herein and the interpretation of the results therefrom; the scope and design, and related test work, with respect to plans and process designs for the FS; and expectations regarding its joint venture ownership interests and the continuity of its agreements with its 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 Denison to be materially different from those expressed or implied by such forward-looking statements. For example, the modelling and assumptions upon which the work plans for the Wheeler River Project are based may not be maintained after further work is completed. In addition, Denison may decide or otherwise be required to discontinue testing, evaluation and development work 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 25, 2022 or subsequent quarterly financial reports 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 Mineral Resources and Mineral Reserves:** *This news release may use the terms 'measured', 'indicated' and 'inferred' mineral resources. United States investors are advised that 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. '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 an inferred mineral resource exists, or*

*is economically or legally mineable. United States investors are also cautioned not to assume that all or any part of measured or indicated mineral resources will ever be converted into mineral reserves.*

*Effective February 2019, the United States Securities and Exchange Commission ('SEC') adopted amendments to its disclosure rules to modernize the mineral property disclosure requirements for issuers whose securities are registered with the SEC under the Exchange Act and as a result, the SEC now recognizes estimates of "measured mineral resources", "indicated mineral resources" and "inferred mineral resources". In addition, the SEC has amended its definitions of "proven mineral reserves" and "probable mineral reserves" to be "substantially similar" to the corresponding definitions under the CIM Standards, as required under NI 43-101. However, information regarding mineral resources or mineral reserves in Denison's disclosure may not be comparable to similar information made public by United States companies.*