

PRESS RELEASE**Denison Reports Financial and Operational Results for Q1 2022,
including \$47.8 million gain on Physical Uranium Holdings**

Toronto, ON – May 4, 2022. Denison Mines Corp. ('Denison' or the 'Company') (TSX: DML, NYSE American: DNN) today filed its Condensed Consolidated Financial Statements and Management's Discussion & Analysis ('MD&A') for the quarter ended March 31, 2022. Both documents will be available on the Company's website at www.denisonmines.com or on SEDAR (at www.sedar.com) and EDGAR (at www.sec.gov/edgar.shtml). The highlights provided below are derived from these documents and should be read in conjunction with them. The Company's results reflect earnings attributable to Denison shareholders of \$0.05 per share for the quarter ended March 31, 2022 – including mark-to-market gains of \$47.8 million on the Company's investment in 2.5 million pounds U₃O₈ of physical uranium holdings. All amounts in this release are in Canadian dollars unless otherwise stated.

David Cates, President and CEO of Denison commented, "Our results from the first quarter of 2022 reflect further improvements in the uranium market, as well as an active start to the year for the Company's Wheeler River and McClean Lake projects.

The spot price of U₃O₈ increased by nearly 40% during the first quarter, reflecting the relative scarcity of discretionary uranium holdings available to the spot market amidst an environment of significant geopolitical uncertainty, which drove a substantial increase in the value of Denison's physical uranium holdings and the Company's earnings per share of \$0.05. Denison remains committed to holding its physical uranium position for the long-term as both a means to enhance our shareholders' exposure to the uranium market and a tool for the future financing of the development of the Wheeler River project. At the end of the first quarter, Denison's physical uranium holdings had a market value of approximately \$181 million, representing ~60% of Denison's share of the initial capital costs estimated for the Wheeler River project in the Pre-Feasibility Study.

At Wheeler River, we have commenced and made significant progress towards the execution of the first of two planned evaluation field programs in 2022. Our first field program for the year, involves additional ISR testing and includes the installation of multiple small diameter three-spot test patterns designed to facilitate the collection of information from additional areas of the Phoenix deposit and support the finalization of our plans for the second field program planned for the year – the Feasibility Field Test ('FFT'). The FFT is scheduled for completion by the end of the fourth quarter of 2022 and is intended to support the Feasibility Study for the project by providing further verification of the permeability, leachability and containment parameters needed for the successful application of the ISR mining method at Phoenix.

At our 22.5% owned McClean Lake project, which is a joint venture with French nuclear giant Orano, we achieved a significant milestone with receipt of regulatory approval for the expansion of the McClean Lake Tailings Management Facility ('TMF'). With the TMF expansion approved, the McClean Lake mill is well positioned to remain a strategically significant asset in the Athabasca Basin for many years to come.

Overall, it has been a busy quarter for the Denison team, as we advance several key projects related to Wheeler River and our portfolio of development and exploration projects, during a very dynamic time for the uranium industry. This work is part of an ambitious plan for 2022, which is expected to involve several potential catalysts and the completion of various key milestones through the end of 2022 and into 2023."

Highlights**▪ Commenced the 2022 In Situ Recovery ('ISR') field program at the Phoenix uranium deposit ('Phoenix')**

The Company's ambitious 2022 evaluation plan for the Wheeler River Project ('Wheeler River' or the 'Project') is designed to further de-risk the technical elements of the Phoenix ISR project ahead of the completion of the Feasibility Study ('FS') initiated for the project in late 2021. Key to the 2022 plan is the completion of additional field programs ('2022 Field Program'), including the installation of additional PQ test wells in multiple three-spot test patterns to be used to assess the ISR mining conditions in additional areas of the Phoenix deposit, as well as the completion of a FFT. Efforts in support of the 2022 Field Program commenced in the first quarter, including initial mobilization of necessary equipment to the Wheeler River site, the collaring of the PQ wells, and the drilling of six of the nine planned PQ wells.

- **Obtained regulatory approval for the expansion of the McClean Lake Tailings Management Facility**

In January 2022, the Canadian Nuclear Safety Commission ('CNSC') approved an amendment to the operating license for the McClean Lake Joint Venture ('MLJV') and Midwest Joint Venture ('MWJV') operations, which allows for the expansion of the McClean Lake TMF, along with the associated revised Preliminary Decommissioning Plan ('PDP') and cost estimate. The McClean Lake mill is a strategically significant asset in the Athabasca Basin region and the approval of the TMF expansion ensures the facility will be well positioned to serve as a regional milling centre for current and future uranium mining projects in the eastern portion of the Athabasca Basin for many years to come.

As a result of the updated PDP, the Company's pro rata share of the financial assurances required to be provided to the Province of Saskatchewan has decreased from \$24,135,000 to \$22,972,000. Accordingly, subsequent to quarter end, the pledged amount of cash required under the 2022 Facility has been decreased to \$7,972,000, and the Company's additional cash collateral of \$135,000 has been released – resulting in the return of \$1,163,000 in previously restricted cash to the Company. Additionally, the Company's reclamation obligation has been updated to reflect the PDP, as well as other relevant estimates, resulting in a decrease in the obligation of \$3,303,000.

- **Discovered high-grade uranium mineralization at 24.68% owned Waterfound River Joint Venture ('Waterfound')**

In March 2022, multiple new high-grade intercepts of unconformity-hosted uranium mineralization were discovered in the final three drill holes completed during the winter 2022 exploration program at Waterfound. The results were highlighted by drill hole WF-68, which returned a broad zone of uranium mineralization, including a peak interval of 5.91% eU₃O₈ over 3.9 metres (0.05% eU₃O₈ cut-off) with a sub-interval grading 25.30% eU₃O₈ over 0.7 m, located approximately 800 metres west, along the La Rocque Conductive Corridor, of the previously discovered high-grade mineralization (including 4.49% U₃O₈ over 10.53 metres) at the Alligator Zone. The newly identified mineralization remains open along strike in both directions and additional drilling to test the extent of mineralization is expected to be completed during the planned summer exploration drilling program.

- **Received US\$2.1 million from Uranium Industry a.s ("UI") pursuant to new Repayment Agreement**

During the first quarter of 2022, the Company received US\$2.1 million from UI pursuant to the terms of a Repayment Agreement that was executed in January 2022. Under the Repayment Agreement, UI has agreed to make scheduled payments on account of an arbitration award in favour of Denison (with respect to the arbitration proceedings between the Company and UI related to the 2015 sale by Denison to UI of its mining assets and operations located in Mongolia), plus additional interest and fees. The total amount due to Denison under the Repayment Agreement, including amounts already received in 2022, is approximately US\$16 million, which is payable over a series of quarterly installments and annual milestone payments ending on December 31, 2025.

- **Welcomed new additions to the Board of Directors and the Management Team**

In January 2022, Ms. Laurie Sterritt was appointed to Denison's Board of Directors and Mr. Kevin Himbeault was appointed to the position of Vice President of Plant Operations & Regulatory Affairs. Ms. Sterritt has over 25 years of experience in the fields of Indigenous, government, and community relations, is a member of the Kispixox Band of the Gitksan Nation, and is a Partner at Leaders International, an executive search firm in Canada. Mr. Himbeault has over 25 years of diverse involvement in the mining industry, including an 18-year career with Cameco Corporation ('Cameco') where he most recently held the position of Operations Manager for the Key Lake mill. Mr. Himbeault will be tasked with oversight of all matters related to process plant operations and regulatory affairs for Denison.

Additionally, in February 2022, Mr. Yun Chang Jeong joined the Board of Directors as a nominee of Korea Hydro Nuclear Power ('KHNP') pursuant to the KHNP Strategic Relationship Agreement ('KHNP SRA'). Mr. Jeong currently serves as the General Manager of the Nuclear Fuel Supply Section of KHNP and fills the vacancy on Denison's Board created by the resignation of KHNP's previous nominee, Mr. Jun Gon Kim.

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 Saskatchewan 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 Tué ('THT,' formerly J Zone) and Huskie deposits on the Waterbury Lake property. Each of Midwest Main, Midwest A, THT and Huskie are located within 20 kilometres of the McClean Lake mill.

Through its 50% ownership of JCU (Canada) Exploration Company, Limited ('JCU'), Denison holds additional interests in various uranium project joint ventures in Canada, including the Millennium project (JCU, 30.099%), the Kiggavik project (JCU, 33.8123%) and Christie Lake (JCU, 34.4508%).

Denison's exploration portfolio includes further interests in properties covering approximately 297,000 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 Elliot Lake reclamation mine sites in the Elliot Lake region and provides related services to certain third-party projects.

Technical Disclosure and Qualified Person

The technical information contained in this press release has been reviewed and approved by David Bronkhorst, P.Eng, Denison's Vice President, Operations and/or Andrew Yackulic, P. Geo, Denison's Director, Exploration, each of whom is a Qualified Person in accordance with the requirements of NI 43-101.

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

Certain information contained in this press 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 press release contains forward-looking information pertaining to the following: projections with respect to exploration, development and expansion plans and objectives, including the plans and objectives for Wheeler River and the related evaluation field program; the interpretation of the results of its exploration drilling programs; plans and objectives for the feasibility study; its investments in uranium; the estimates of Denison's mineral reserves and mineral resources; expectations regarding Denison's joint venture ownership interests; expectations regarding the continuity of its agreements with third parties; and its interpretations of, and expectations for, nuclear energy and uranium demand. Statements relating to 'mineral reserves' or 'mineral resources' are deemed to be forward-looking information, as they involve the implied assessment, based on certain estimates and assumptions that the mineral reserves and mineral resources described can be profitably produced in the future.

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 results and underlying assumptions and interpretations of the PFS as well as de-risking efforts such as the ISR field programs discussed herein may not be maintained after further testing or be representative of actual conditions within the applicable deposits. In addition, Denison may decide or otherwise be required to extend its evaluation activities and/or the FS and/or otherwise discontinue testing, evaluation and development work if it is unable to maintain or otherwise secure the necessary approvals or resources (such as testing facilities, capital funding, 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 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 press 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 press release. Denison does not undertake any obligation to publicly update or revise any forward-looking information after the date of this press release to conform such information to actual results or to changes in Denison's expectations except as otherwise required by applicable legislation.