

PRESS RELEASE

Denison Reports Financial and Operational Results for Q2 2023

Toronto, ON – August 10, 2023. Denison Mines Corp. ('Denison' or the 'Company') (TSX: DML, NYSE American: DNN) has filed its Condensed Consolidated Financial Statements and Management's Discussion & Analysis ('MD&A') for the quarter ended June 30, 2023. Both documents are or will be available on the Company's website at www.denisonmines.com, SEDAR+ (at www.sedarplus.ca) 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. All amounts in this release are in Canadian dollars unless otherwise stated.

David Cates, President and CEO of Denison commented, *“During the second quarter, Denison achieved a further notable milestone associated with the advancement of our flagship Wheeler River Project ('Wheeler River') with the completion of (i) a highly successful Feasibility Study ('Phoenix FS') evaluating the use of In-Situ-Recovery ('ISR') mining for the high grade Phoenix uranium deposit ('Phoenix'), and (ii) a positive cost update ('Gryphon Update') to the Pre-Feasibility Study ('PFS') for the underground mine planned for the Gryphon uranium deposit ('Gryphon').*

As outlined in the Phoenix FS, Denison has successfully completed several years of technical de-risking, which has cemented Phoenix's position as one of the lowest-cost uranium development projects in the world. Notably, the economics of Phoenix as an ISR mining operation remain exceptionally robust, despite industry-wide cost inflation, while most contemporary uranium development projects have not yet been tested against current cost inflation. The recent results of the Phoenix FS and Gryphon Update illustrate Denison's unique potential to become a meaningful uranium producer with multiple low-cost development assets.

Global support for the role of nuclear power in the clean energy transition continues to grow and uranium buyers are increasingly prioritizing geopolitical stability. Denison is well funded, with over \$235 million in working capital and investments at the end of the second quarter, and focused on advancing Phoenix to a final investment decision in anticipation of building a much-needed new source of Canadian uranium production.”

Highlights**▪ Feasibility Study for Wheeler River Phoenix deposit yields significant increase in economic results**

In June 2023, Denison released the results of the Phoenix FS completed for ISR mining of Phoenix. The Phoenix FS demonstrates robust economics including:

- Base case pre-tax NPV (8%) of \$2.34 billion (100% ownership-basis) representing a 150% increase in the base case pre-tax NPV_{8%} for Phoenix from the 2018 Pre-Feasibility Study ('2018 PFS').
- Very robust base case pre-tax Internal Rate of Return ('IRR') of 105.9%.
- Adjusted base case after-tax NPV_{8%} of \$1.56 billion (100% basis) and IRR of 90.0% – with Denison's effective 95% interest in the project equating to an adjusted base case after-tax NPV_{8%} of \$1.48 billion.
- Base case pre-tax and after-tax (adjusted) payback period of 10 months – equating to a reduction of 11 months for the pre-tax payback period from the 2018 PFS.
- Optimized production profile, based on ISR mine planning efforts evaluating production potential for individual well patterns – resulting in an increase to the planned rate of production by approximately 43% during the first five years of operations.
- Estimated pre-production capital costs of under \$420 million (100% basis), yielding an impressive base case after-tax (adjusted) NPV to initial capital cost ratio in excess of 3.7 to 1.
- Robust economics that easily absorb cost-inflation and design changes impacting both operating and capital costs, confirming Phoenix's position with estimated cash operating and all-in costs expected to be amongst the lowest-cost uranium mines in the world.
- Phoenix FS plans aligned and costed to meet or exceed environmental criteria expected to be required by the ongoing regulatory approval process.
- Updated mineral resource estimate, reflecting the results of 70 drill holes completed in support of ISR de-risking

and resource delineation activities, which has upgraded 30.9 million pounds U₃O₈ into measured mineral resources, and increased the average grade of the Zone A high-grade domain. This zone is now estimated to contain 56.3 million pounds U₃O₈ in Measured and Indicated mineral resources at an average grade of 46.0% U₃O₈.

- Upgraded 3.4 million pounds U₃O₈ into Proven mineral reserves, representing the equivalent of 85% of production planned during the first calendar year of operations.

▪ **Completion of Phoenix ISR De-Risking and Transition to Engineering Design**

The Phoenix FS reflects independent third-party validation of the selection of the ISR mining method for Phoenix and builds on the findings from a comprehensive and rigorous multi-year technical de-risking process highlighted by the highly successful completion of the leaching and neutralization phases of the Phoenix Feasibility Field Test ('FFT') in late 2022. Through the technical de-risking process, Denison has acquired extensive deposit-specific data and developed a robust ISR mine planning model that involved evaluation of the production potential for individual well patterns.

With technical de-risking of the project substantially complete, front-end engineering design efforts to support the advancement of the planned Phoenix operation are already significantly progressed and the Company is on track to transition into detailed design efforts, consistent with the Company's Outlook for 2023, before the end of the year.

▪ **Cost update to the 2018 PFS for Wheeler River Gryphon deposit confirms the project remains to be positioned amongst the lowest-cost uranium mines in the world**

The scope of the Gryphon Update was targeted at the review and update of capital and operating costs. Mining and processing plans remain largely unchanged from the 2018 PFS aside from minor scheduling and construction sequencing optimizations. The key points include:

- Base case pre-tax NPV (8%) of \$1.43 billion (100% basis) is a 148% increase in the base case pre-tax NPV_{8%} for Gryphon from the 2018 PFS.
- Strong base case pre-tax IRR of 41.4%.
- Base case after-tax NPV_{8%} of \$864.2 million (100% basis) and IRR of 37.6% – with Denison's effective 95% interest in the project equating to a base case after-tax NPV_{8%} of \$821.0 million.
- Base case pre-tax payback period of 20 months, and base case after-tax payback period of 22 months – equating to a reduction of 17 months for the pre-tax payback period from the 2018 PFS.

Importantly, Gryphon remains a highly valuable project that provides Denison with an additional source of low-cost potential production to deploy significant free cash flows expected from Phoenix.

About Denison

Denison Mines Corp. was formed under the laws of Ontario and is a reporting issuer in all Canadian provinces and territories. Denison's common shares are listed on the Toronto Stock Exchange (the 'TSX') under the symbol 'DML' and on the NYSE American exchange under the symbol 'DNN'.

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. In mid-2023, a Feasibility Study was completed for Wheeler River's Phoenix deposit as an ISR mining operation, and an update to the previously prepared PFS was completed for Wheeler River's Gryphon deposit as a conventional underground mining operation. Based on the respective studies, both deposits have the potential to be competitive with the lowest cost uranium mining operations in the world. Permitting efforts for the planned Phoenix ISR operation commenced in 2019 and have advanced significantly, with licensing in progress and a draft Environmental Impact Statement ('EIS') submitted for regulator and public review October 2022.

Denison's interests in Saskatchewan 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 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 67.41% interest in the Tthe Heldeth Túé ('THT,' formerly J Zone) and Huskie deposits on the Waterbury Lake property. The Midwest Main, Midwest A, THT and Huskie deposits are located within 20 kilometres of the McClean Lake mill.

Through its 50% ownership of Japan (Canada) Exploration Company, Ltd ('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 approximately 285,000 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 third party projects.

Technical Disclosure and Qualified Person

The technical information contained in this press release has been reviewed and approved by Chad Sorba, P.Geol., Denison's Director, Technical Services, and Andy Yackulic, P.Geol., Denison's Director, Exploration, who are both Qualified Persons in accordance with the requirements of NI 43-101.

Further details of the Phoenix FS and Gryphon Update are provided in Denison's press release of June 26, 2023. The results of the Phoenix FS and Gryphon Update are also detailed in a technical report entitled "NI 43-101 Technical Report on the Wheeler River Project Athabasca Basin, Saskatchewan, Canada," with an effective date of June 23, 2023 and dated August 8, 2023. The technical report is or will be available on the Company's website at www.denisonmines.com, on SEDAR+ (at www.sedarplus.ca) and on EDGAR (at www.sec.gov/edgar.shtml).

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Non-GAAP Financial Measures

This release includes certain terms or performance measures commonly used in the mining industry that are not defined under International Financial Reporting Standards ("IFRS"). Such non-GAAP performance measures, including NPV, are included because the Company understands that investors use this information to determine the Company's ability to generate earnings and cash flows. The Company believes that conventional measures of performance prepared in accordance with IFRS do not fully illustrate the ability of mines to generate cash flows. Non-GAAP financial measures should not be considered in isolation as a substitute for measures of performance prepared in accordance with IFRS and are not necessarily indicative of operating costs, operating profit or cash flows presented under IFRS.

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 results of the FS and the scope, objectives and interpretations of the technical de-risking process for the proposed ISR operation for the Phoenix deposit, including the FFT, and the interpretation of the results therefrom; expectations with respect to future evaluation and development of Phoenix, including front-end engineering design and detailed design efforts; expectations regarding regulatory applications and approvals and the elements thereof, including the EIS; expectations regarding the performance of the uranium market and global sentiment regarding nuclear energy; expectations regarding Denison's joint venture ownership interests; and expectations regarding the continuity of its agreements with third parties. 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 FS 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 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 the Company's Annual Information Form dated March 27, 2023 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.