

Denison Announces Completion of Conceptual Mining Study Evaluating ISR Mining Method for J Zone and Decision to Initiate Preliminary Economic Assessment

TORONTO, July 28, 2020 /CNW/ - **Denison Mines Corp.** ("Denison" or the "Company") (TSX: DML) (NYSE American: DNN) is pleased to announce the successful completion of an internal conceptual mining study (the "Concept Study") examining the potential future development of the J Zone uranium deposit ("J Zone") using the In-Situ Recovery ("ISR") mining method. Based on the results from the Concept Study, the Company has decided to initiate the preparation of a Preliminary Economic Assessment ("PEA"), which is expected to be completed during the second half of 2020. [View PDF](#)

The Concept Study was prepared by Denison's in-house project development team under the oversight of David Bronkhorst, P.Eng., the Company's Vice President, Operations, and was reviewed and approved by the Technical Committee of the Company's Board of Directors.

The J Zone deposit is located on the Company's Waterbury Lake property ("Waterbury"), which is owned by Denison (66.71%) and Korea Waterbury Lake Uranium Limited Partnership ("KWULP") (33.29%), which is comprised of a consortium of investors, in which Korea Hydro & Nuclear Power ("KHNP") holds a majority position. KHNP is also a significant shareholder in Denison.

David Cates, Denison's President & CEO, commented, *"We are encouraged by the results of the J Zone Concept Study, and we are pleased to advance to a PEA. The ability to complete the J Zone Concept Study with our internal project development team showcases the depth of talent that Denison has recruited since the completion of the Wheeler River Pre-Feasibility Study in 2018 – which study was highlighted by the selection of the ISR mining method for the Phoenix deposit. While investing in advancing our understanding of the potential applicability of the ISR mining method at Phoenix, we also invested in our team – bringing on key project development staff with expertise in hydrogeology, mine engineering, environmental permitting, and corporate social responsibility. This approach allows us to internalize critical technical project knowledge related to Phoenix, and facilitates opportunities to apply this knowledge to the Company's other potentially ISR amenable uranium deposits – like J Zone. Having the benefit of completing a first-of-its-kind ISR field test at Phoenix in 2019, our team was well positioned to carry out the J Zone Concept Study and is expected to play an important role in facilitating future studies."*

Property Location

Waterbury Lake is located within the eastern portion of the Athabasca Basin in northern Saskatchewan. The property can be accessed year-round by provincial highway or by air to Points North Landing, a privately owned service centre with accommodations and airfield, which is located near the eastern edge of the property. The J Zone deposit is located on the eastern portion of the property approximately 15 km from Denison's 22.5% owned McClean Lake uranium mill (See Figure 1).

Estimated Mineral Resources

J Zone is estimated to contain Indicated mineral resources totaling 12,810,000 lbs U₃O₈, based on 291,000 tonnes at an average grade of 2.00% U₃O₈. The deposit is defined by 268 drill holes intersecting uranium mineralization over a combined east-west strike length of up to 700 metres and a maximum north-south lateral width of 70 metres. Uranium mineralization is generally found within several metres of the unconformity at depth ranges of 195 to 230 metres below surface, with vertical thicknesses ranging from tens

of centimeters to over 19.5 metres.

The mineral resource estimate for the J Zone deposit (and the technical information described herein) is described in an independent technical report, prepared in accordance with NI 43-101, titled "Technical Report with an Updated Mineral Resource Estimate for the Waterbury Lake Property, Northern Saskatchewan, Canada", dated December 21, 2018, by SRK Consulting. .

Concept Study

The Concept Study evaluated the potential use of the ISR mining method for the J Zone deposit. In an ISR uranium mining operation, a mining solution (lixiviant) is injected into the ore zone through a series of drill holes known as injection wells. The lixiviant leaches the uranium as it travels through the ore zone and is then recovered as a uranium bearing solution ("UBS"), which is pumped back to surface via a series of recovery wells. Once on surface, the UBS is sent to a surface processing plant for the chemical separation of the uranium. Following the uranium removal, the lixiviant is reconditioned and returned to the wellfield for further production. The ISR mining method accounts for a significant portion of uranium mine production globally and is generally considered the lowest cost uranium mining method in the world – owing to the fact that the method eliminates the surface disturbances and costs associated with physically removing ore and waste from the ground, as well as the tailings treatment and storage, that are normally associated with underground or open pit mining operations.

J Zone shares many geological characteristics with the high-grade Phoenix deposit, which is part of the Company's 90% owned Wheeler River Uranium Project ("Wheeler River"). J Zone is situated at the unconformity contact, between the overlying sandstone and underlying basement rocks, the mineralization is characterized as variably fractured, broken and desilicified with zones of strong clay and high-grade uranium metals. For these reasons, the mineralization is largely believed to be highly permeable with the ability to increase areas of lower permeability with the use of permeability enhancement techniques. Additionally, J Zone is similar to Phoenix in that it is underlain by relatively impermeable basement rocks providing the natural underlying aquitard necessary for the containment of lixiviant within the overlying sandstone units.

The internal studies undertaken by the Company on J Zone are preliminary in nature and there is significant uncertainty with respect to the potential for, and the economic and technical risks associated with, advancing to a PEA for J Zone, and such further studies may not be undertaken or completed if the preliminary results of internal studies are not maintained after further testing and/or analysis.

About Denison

Denison is a uranium exploration and development company with interests focused in the Athabasca Basin region of northern Saskatchewan, Canada. The Company's flagship project is the 90% owned 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 ('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 deposits and a 66.71% interest in the J Zone and Huskie deposits on the Waterbury Lake property. The Midwest, J Zone and Huskie deposits are located within 20 kilometres of the McClean Lake mill. In addition, Denison has an extensive portfolio of exploration projects in the Athabasca Basin region.

Denison is engaged in mine decommissioning and environmental services through its Closed Mines group, which manages Denison's Elliot Lake reclamation projects and provides post-closure mine and maintenance services to industry and government clients.

Denison is also the manager of Uranium Participation Corporation, a publicly traded company listed on the TSX under the symbol 'U', which invests in uranium oxide in concentrates and uranium hexafluoride.

Qualified Persons

The technical information contained in this release has been reviewed and approved by Mr. David Bronkhorst, P.Eng, Denison's Vice President, Operations, who is 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 mineral resource estimate for J Zone and Concept Study as well as their underlying assumptions and interpretations; the expectations for further evaluation activities including a PEA; 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, further studies, including a PEA, may not be undertaken if the results of the Concept Study are not maintained after further testing; Denison may decide or otherwise be required to discontinue the related work if it is unable to maintain or otherwise secure the necessary resources (such as testing facilities, capital funding, regulatory approvals, etc.) or operations are otherwise affected by COVID-19 and its potentially far-reaching impacts. 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 13, 2020 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 Measured, Indicated and Inferred Mineral Resources and Probable Mineral Reserves: *This press 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, these terms are not defined under Industry Guide 7 under the United States Securities Act and, until recently, have not been permitted to be used in reports and registration statements filed with the United States Securities and Exchange Commission ('SEC'). '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. In addition, the terms "mineral reserve", "proven mineral reserve" and "probable mineral reserve" for the purposes of NI 43-101 differ from the definitions and allowable usage in Industry Guide 7. Effective February 2019, the 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.

[Figure 1: Waterbury Lake Project – Location of J Zone Relative to McClean Lake Mill](#)

SOURCE Denison Mines Corp.

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Additional assets available online:  [Photos \(1\)](#)  [Documents \(1\)](#)

<https://denisonmines.mediaroom.com/2020-07-28-Denison-Announces-Completion-of-Conceptual-Mining-Study-Evaluating-ISR-Mining-Method-for-J-Zone-and-Decision-to-Initiate-Preliminary-Economic-Assessment>