

PRESS RELEASE

DENISON REPORTS 3.7% eU₃O₈ OVER 3.9 METRES FROM INITIAL FOLLOW UP DRILLING AT NEW HIGH-GRADE BASEMENT URANIUM DISCOVERY AT WATERBURY LAKE

Toronto, ON – August 22, 2017 Denison Mines Corp. (“Denison” or the “Company”) (DML: TSX, DNN: NYSE MKT) is pleased to report that drill hole WAT17-446A returned a mineralized interval of 3.7% eU₃O₈ over 3.9 metres (from 305.7 to 309.6 metres), including 7.8% eU₃O₈ over 1.8 metres (from 307.0 to 308.8 metres). Drill hole WAT17-446A was the fourth hole completed as part of the summer 2017 drilling program at the Waterbury Lake property and was drilled approximately 50 metres along strike to the west of WAT17-443, which intersected 1.1% eU₃O₈ over 0.8 metres (see [Denison’s Press Release dated August 1st, 2017](#)).

Today’s news is highlighted by the following:

- Results from drill hole WAT17-446A represent a significant increase in the thickness and grades of the previous high-grade uranium intersections reported from drill hole WAT17-443;
- High-grade uranium mineralization has now been intersected 50 metres along strike to the west of the result previously reported in drill hole WAT17-443;
- The east-west trend targeted by the Waterbury Lake summer drilling program remains open in all directions and follow-up drilling on an approximate 50 x 50 metre spacing is ongoing; and
- In response to the results returned to date, the number of drill holes expected to be completed, as part of the summer 2017 drilling program, has been increased by 50% to 9 drill holes, from an original plan of 6 drill holes.

Dale Verran, Denison’s Vice President of Exploration, commented, ***“The results from WAT17-446 represent a very promising intersection at quite an early stage of evaluating this exciting new discovery at Waterbury Lake. The high-grades, apparent continuity of mineralization, and the degree of structure and alteration over drill hole step-outs of 50 metres or more suggest we are dealing with a very worthwhile exploration target. With an expanded summer drill program, we are certainly looking forward to further results from our efforts to continue to explore this untested trend.”***

New high-grade basement hosted uranium discovery

The summer 2017 drilling program at Waterbury Lake was designed to test an east-west geological trend, which shares interpreted similarities with the east-west trend that hosts the J Zone and Roughrider deposits, which are located approximately one kilometer to the south. Follow-up drilling to the high-grade mineralization discovered in WAT17-443, the first hole of the program, is ongoing and has been designed to test the basement-hosted mineralized zone on an approximate 50 x 50 m spacing. The priority of the follow up drilling is to commence an evaluation of the scale of, and controls on mineralization, which is currently open in all directions.

The second and third follow-up drill holes of the program also intersected mineralization including 0.5% eU₃O₈ over 0.6 metres (from 346.0 to 346.6 metres) in drill hole WAT17-444, located approximately 65 metres down-dip of drill hole WAT17-443, and 0.2% eU₃O₈ over 0.6 metres (from 277.2 to 277.7 metres) in drill hole WAT17-445, located approximately 60 metres up-dip of drill hole WAT17-446A. The locations of the drill hole collars and the J Zone and Roughrider deposits are provided in Figure 1.

Results are reported herein as preliminary radiometric equivalent grades (“eU₃O₈”) derived from a calibrated downhole total gamma probe. The Company subsequently reports definitive assay grades following sampling and chemical analysis of the mineralized drill core. The four drill holes completed are

orientated steeply to the southeast with azimuths of 152° to 157° and dips of -73° to -75.5°. The Athabasca Group sandstones are approximately 200 metres thick, unconformably overlying a moderately north dipping package of basement rocks dominated by pelitic to semi-pelitic gneisses. Mineralization in the four holes completed has been intersected at depths of 70 to 130 metres vertically below the unconformity in variably graphitic pelitic gneisses and associated with a wide envelope of strong hematite alteration, quartz flooding, bleaching and faulting – features typical of basement-hosted uranium mineralization within the Athabasca Basin. The true thickness of the mineralization is yet to be determined.

Waterbury summer drilling program to be increased by 50%

As a result of the successful follow-up results from drill hole WAT17-446A, which returned a significant increase in the thickness and grades from the initial results reported from drill hole WAT17-443, Denison has decided to increase the scope of the summer 2017 drilling program at Waterbury Lake from 6 holes (2,650 metres), as originally planned, to 9 holes (3,850 metres).

Waterbury Lake Property

The Waterbury Lake property consists of multiple claims covering 40,256 hectares, and is located in the infrastructure rich eastern portion of the Athabasca Basin region in northern Saskatchewan. The property is jointly owned by Denison (63.63%) and Korea Waterbury Uranium Limited Partnership (“KWULP”) (36.37%) through the Waterbury Lake Uranium Limited Partnership (“WLULP”). KWULP consists of a consortium of investors in which Korea Hydro & Nuclear Power (“KHNP”) holds a majority position. KWULP has elected not to fund the 2017 exploration program and, as a result, will incur dilution of its ownership interest in the WLULP. KHNP is also a significant shareholder in Denison, holding 58,284,000 common shares of Denison, which represents approximately 10.42% of the Company’s issued and outstanding common shares.

For more information on the J Zone deposit, please refer to the Technical Report on the Mineral Resource Estimate on the J Zone Uranium Deposit, Waterbury Lake Property dated September 6, 2013 by Allan Armitage, Ph. D., P. Geo, and Alan Sexton, M.Sc., P. Geo, of GeoVector Management Inc. available on Denison’s website and under the Company’s profile on SEDAR (www.sedar.com). For further details on the Roughrider deposit, prior to acquisition by Rio Tinto in 2012, please refer to the Preliminary Economic Assessment Technical Report for the East and West Zones Roughrider Uranium Project, Saskatchewan dated September 2013, 2011 by SRK Consulting (Canada) Inc. available on SEDAR.

Qualified Persons and Data Quality

Dale Verran, MSc, P. Geo, Pr. Sci. Nat., Denison’s Vice President, Exploration, who is a Qualified Person in accordance with the requirements of NI 43-101 has reviewed and approved the technical information contained in this release. The Company currently reports preliminary radiometric equivalent grades (“eU₃O₈”), derived from a calibrated downhole total gamma probe, during its exploration programs and subsequently reports definitive assay grades following sampling and chemical analysis of the mineralized drill core. Radiometric equivalent probe results are subject to verification procedures by qualified persons employed by Denison prior to disclosure. For further details on the total gamma downhole probe methods employed by Denison, QA/QC procedures and data verification procedures please see Denison’s Annual Information Form dated March 23, 2017 filed under the Company’s profile on SEDAR.

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 60% owned Wheeler River project, which hosts the high grade Phoenix and Gryphon uranium deposits, Denison’s exploration portfolio consists of numerous projects covering approximately 359,000 hectares in the Athabasca Basin region, including 340,000 hectares in the infrastructure rich eastern portion of the Athabasca Basin. 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 currently processing ore from the Cigar Lake mine under a toll milling agreement, plus a 25.17% interest in the Midwest deposit and a 63.63% interest in the J Zone deposit on the Waterbury Lake property. Both the Midwest and J Zone deposits 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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Cautionary Statement Regarding Forward-Looking Statements

Certain information contained in this press release constitutes "forward-looking information", within the meaning of the United States Private Securities Litigation Reform Act of 1995 and similar 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: exploration (including drilling) and evaluation activities, plans and objectives, and Denison's percentage in its properties and its plans and agreements with its joint venture partners, as applicable. 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 forward-looking statements. 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 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 23, 2017 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.

Cautionary Note to United States Investors Concerning Estimates of Measured, Indicated and Inferred Mineral Resources: *This press release may use the terms "measured", "indicated" and "inferred" mineral resources. United States investors are advised that while such terms are recognized and required by Canadian regulations, the United States Securities and Exchange Commission 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.*

Waterbury Lake Property

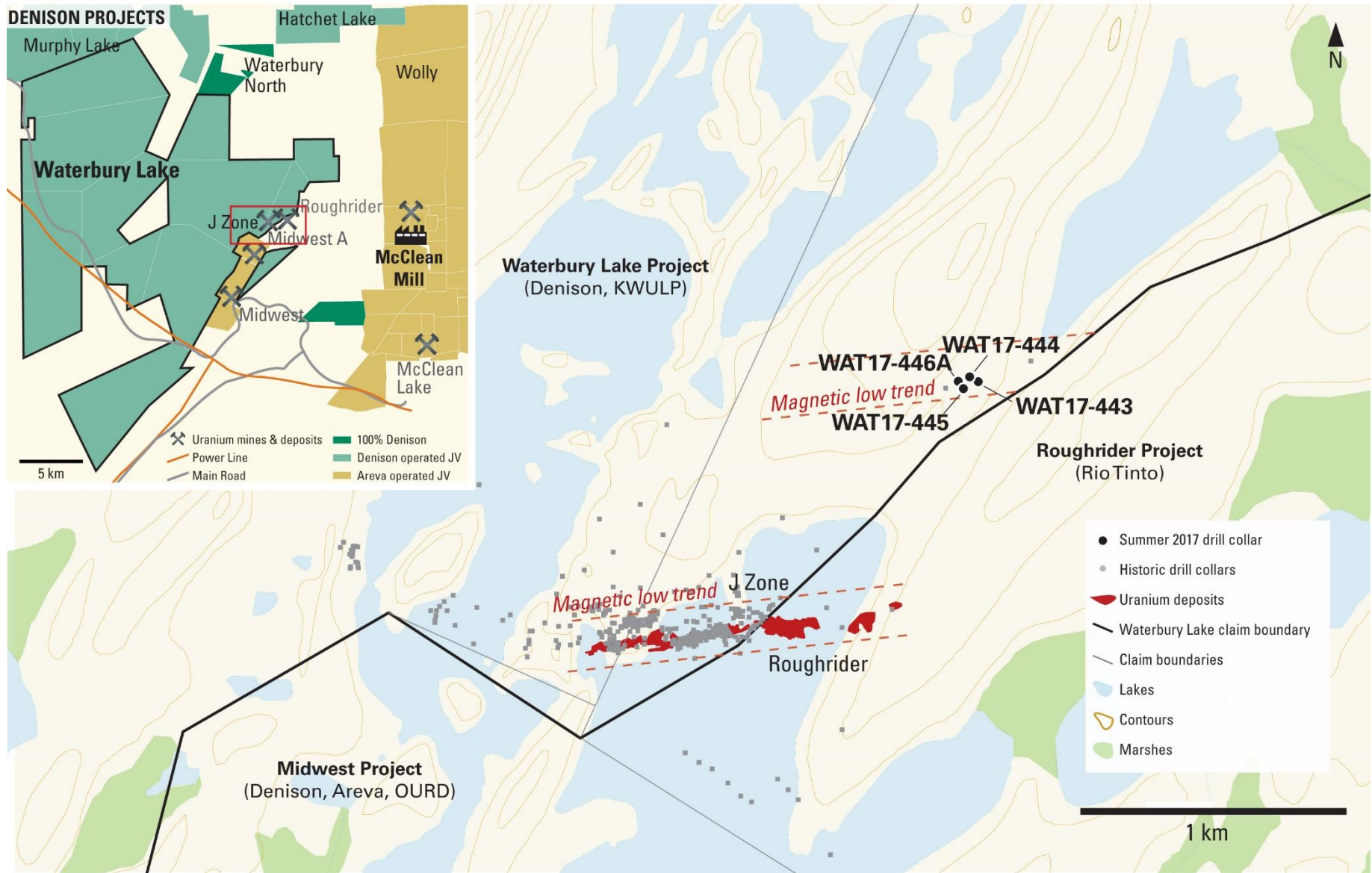


Figure 1: Location of summer 2017 drill collars on Denison's Waterbury Lake project.