Denison Announces Positive Initial Results from ISR Field Test Program at Phoenix Test Area 1

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TORONTO, Aug. 27, 2019 - Denison Mines Corp. ("Denison" or the "Company") (DML: TSX, DNN: NYSE American) is
announce positive initial test results from Test Area 1, as part of the ongoing In-Situ Recovery ("ISR") field test program
Company's 90% owned Wheeler River Uranium Project ("Wheeler River") in northern Saskatchewan, Canada.

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As outlined within the Company's Pre-Feasibility Study ("PFS") for Wheeler River, which was completed in late 2018, a
field work is required to increase the confidence and reduce the risks associated with the application of ISR mining at th
deposit. The field testing program (outlined in Denison's press release dated June 26, 2019, and summarized below) is
in-situ testing within the Phoenix orebody, using water to evaluate hydrologic conditions that can be used to assess the
connection and potential mining solution flow between a series of test wells. The information collected through this proc
expected to increase the overall confidence of the application of ISR mining and to facilitate detailed mine planning as p
Feasibility Study ("FS") process.

Importantly, the initial test results reported within this release have confirmed hydraulic connectivity between multiple te
completed in Test Area 1 of the Phoenix deposit – providing significant preliminary indications of the suitability o
1 for the application of ISR mining.

David Cates, President and CEO of Denison, commented, "We are very pleased with the initial results from Test Area 1
the ongoing ISR field test program. The program is the first-of-its-kind for the Athabasca Basin – assessing the s
the ISR mining method to the unique Phoenix deposit. The initial results from Test Area 1 are quite encouraging &ndas
initial pump and injection tests confirming hydraulic connectivity between all of the test wells within the ore zone. We ar
forward to further results from Test Area 1 and Test Area 2, as well as the results from two large-diameter commercial s
planned for these Test Areas later this summer."

Well Installations

As part of the ISR field test program, two Pump/Injection ("P/I") wells and nine Observation wells were successfully inst
Test Area 1 at Phoenix Zone A, as shown in Figures 1 and 2 and summarized in the table below.

Location	Test Well	Type	Test Formation
Test Area 1	GWR-001	Pump/Injection	Ore Zone
	GWR-002	Observation	Overlying Sandstone
	GWR-004	Observation	Underlying Basement
	GWR-010	Pump/Injection	Ore Zone
	GWR-011	Observation	Overlying Sandstone
	GWR-013	Observation	Overlying Sandstone
	GWR-015	Observation	Ore Zone
	GWR-016	Observation	Ore Zone
	GWR-017	Observation	Adjacent Sandstone
	GWR-020	Observation	Multiple (VWP)
	GWR-024	Observation	Ore Zone

The P/I wells were completed at an approximate spacing of 10 metres apart using PQ sized diamond drill holes allowin

installation of 2.5 inch diameter PVC pipe with a slotted well-screen set at the targeted depth within the ore zone. The C wells were completed using HQ sized diamond drill holes, allowing for the installation of 1.5 inch diameter PVC pipe wit well-screen set at targeted depths within the ore zone, overlying sandstone, adjacent sandstone, or underlying baseme GWR-020 contains a Vibrating Wire Piezometer ("VWP"), equipped with pressure transducers at five different depth loc – including the overburden (1 transducer), overlying sandstone (2 transducers), ore zone (1 transducer), and un basement (1 transducer). The four ore zone Observation wells (including GWR-020 VWP) are located either along stril strike, in relation to the ore zone, from the P/I wells at a spacing of between 10 and 23 metres from either of the P/I wel and Observation wells, apart from GWR-020, were completed with inflatable packer systems installed directly above th well-screens to ensure isolation of the test formation being evaluated.

The larger diameter P/I wells allow for the completion of various pump and injection tests within the Test Area, while the Observation wells allow for the collection of important hydrologic data during the pump and injection tests.

Positive Initial Test Results from Test Area 1

Initial pump and injection tests were completed by Petrotek Corporation ("Petrotek") by pumping water from, or injecting the P/I wells installed within Test Area 1. In each of the tests completed, a hydraulic response has been observed at th well and at all four Observation wells located within the ore zone test formation (GWR-015, GWR-016, GWR-020 and G Taken together, hydraulic responses have been observed over the entire 34 metres of strike length associated with the formation within Test Area 1 (from GWR-024 to GWR-016 and GWR-020 VWP) – representing the maximum str response possible in Test Area 1 given the design of the field test (see Figure 2).

A hydraulic response was also observed in one of the three overlying sandstone Observation wells (GWR-013) but was observed in the underlying basement well (GWR-004) or the adjacent sandstone well (GWR-017). The lack of respons GWR-004 is considered potentially indicative of low permeability conditions within the basement units below the Phoen – which is generally supportive of the Company's expectation that the basement units below the Phoenix deposi to provide containment of the ISR mining solution in conjunction with the planned freeze dome.

The primary purpose of the initial tests within Test Area 1 was to test for hydraulic connectivity between wells and colle preliminary data set. This information will be used to inform the location of a large-diameter (5 inch) commercial-scale w within the Test Area. The large-diameter well designs are expected to allow for the insertion of larger pumps and additi downhole equipment that will facilitate CSW pump and injection tests and the evaluation of certain permeability enhanc techniques as part of a comprehensive program of hydrological data collection within the Test Area.

Following the completion of various pump and injection tests, permeameter testing, hydraulic packer testing and downh geophysical logging within the Test Area; quantitative analysis and integration of data from the various tests will be use a hydrogeological model. The model will be used to simulate ground water flow and evaluate system sensitivity to key such as hydraulic conductivity, specific storage, dispersivity, porosity, as well as head and flow vectors. The model will important basis for detailed mine planning required as part of the FS process.

Additional Background on the ISR Field Test Program

Denison has engaged Petrotek to facilitate the design and implementation of ISR field testing at Phoenix. Petrotek spec technical evaluation and field operations regarding subsurface fluid flow and injection projects, with experience ranging feasibility studies to facility operation. The firm has more than 20 years of experience in the ISR uranium mining industr currently provides consulting services to each of the ISR uranium miners in the United States.

Petrotek and Denison have designed an ISR field testing program specific to the unique geological characteristics of th deposit. The testing program aims to provide hydrogeological testing across four Test Areas of Phoenix Zone A (see Fi covering approximately 65% of the Indicated Mineral Resource estimated for the deposit. The Test Areas have been se the objective of covering each of the various fluid flow domains, and combinations thereof, expected to exist within the The domains have been defined from detailed geological databases and associated models, with the intention that the are collectively representative of the deposit as a whole. Data acquired from the ISR field testing program will be utilize an integrated hydrogeological model, which will form the basis for ISR wellfield and freeze dome design necessary for t to support the environmental assessment process.

The summer 2019 program is designed to assess Test Area 1 and Test Area 2. The remaining Test Areas (Test Area 3 expected to be evaluated in future years to support the completion of a FS. The main objective within each Test Area is

efficiently establish the fundamental hydrogeologic characteristics of the orebody, the overlying sandstone and overbur formations, and the underlying basement rocks.

Additional supportive permeability and porosity tests are planned through the ore zone and are expected to include hyd conductivity tests (packer testing) and downhole geophysics (nuclear magnetic resonance and neutron), where boreho allow. Mineralized core samples from the ore zone, obtained in new holes or by wedging from existing boreholes, will b detailed onsite geological and geotechnical logging and permeability (permeameter) testing, and will be preserved to fa future planned laboratory-based metallurgical test work.

About Wheeler River

Wheeler River is the largest undeveloped uranium project in the infrastructure rich eastern portion of the Athabasca Ba northern Saskatchewan – including combined Indicated Mineral Resources of 132.1 million pounds U_3O_8 (1,809 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 tonn average grade of 1.7% U_3O_8). The project is host to the high-grade Phoenix and Gryphon uranium deposits, discovered Denison in 2008 and 2014, respectively, and is a joint venture between Denison (90% and operator) and JCU (Canada Company Limited (10%).

A PFS was completed for Wheeler River in late 2018, considering the potential economic merit of developing the Phoen as an ISR operation and the Gryphon deposit as a conventional underground mining operation. Taken together, the pr 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 billion (8% discount rate), Internal Rate of Return ("IRR") of 38.7%, and initial pre-production capital expenditures of $3 The Phoenix ISR operation is estimated to have a stand-alone base case pre-tax NPV of $930.4 million (8% discount ra 43.3%, initial pre-production capital expenditures of $322.5 million, and industry leading average operating costs of US$ O_8. The PFS is prepared on a project (100% ownership) and pre-tax basis, as each of the partners to the Wheeler Rive 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 at Denison's ownership interest, are described in greater detail in the NI 43-101 Technical Report titled "Pre-feasibility Stu Wheeler River Uranium Project, Saskatchewan, Canada" dated October 30, 2018 with an effective date of September 2 copy of this report is available on Denison's website and under its profile on SEDAR at www.sedar.com and on EDGAR www.sec.gov/edgar.shtml.

About Denison

Denison is a uranium exploration and development company with interests focused in the Athabasca Basin region of no Saskatchewan, Canada. In addition to the Wheeler River project, Denison's Athabasca Basin exploration portfolio cons numerous projects covering approximately 305,000 hectares. Denison's interests in the Athabasca Basin also include a ownership interest in the McClean Lake joint venture ("MLJV"), which includes several uranium deposits and the McCle uranium mill, which is currently processing ore from the Cigar Lake mine under a toll milling agreement, plus a 25.17% the Midwest and Midwest A deposits, and a 66.51% interest in the J Zone and Huskie deposits on the Waterbury Lake Each of Midwest, Midwest A, J Zone and Huskie are located within 20 kilometres of the McClean Lake mill.

Denison is also engaged in mine decommissioning and environmental services through its Denison Environmental Serv division and is the manager of Uranium Participation Corp., a publicly traded company which invests in uranium oxide a hexafluoride.

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Qualified Persons

The hydrogeological results and interpretations thereof contained in this release were prepared by Mr. Errol Lawrence, Hydrogeologist), and Mr. Aaron Payne, PG (Senior Hydrogeologist) at Petrotek, independent Qualified Persons in acco the requirements of NI 43-101.

The other technical information contained in this release has been reviewed and approved by Mr. Dale Verran, MSc, P.

Pr.Sci.Nat., Denison's Vice President, Exploration, a Qualified Person in accordance with the requirements of NI 43-10

Cautionary Statement Regarding Forward-Looking Statements

Certain information contained in this news release constitutes 'forward-looking information', within the meaning of the a United States and Canadian legislation concerning the business, operations and financial performance and condition o

Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as 'plans' 'budget', 'scheduled', 'estimates', 'forecasts', 'intends', 'anticipates', or 'believes', or the negatives and/or variations of su and phrases, or state that certain actions, events or results 'may', 'could', 'would', 'might' or 'will be taken', 'occur', 'be ac 'has the potential to'.

In particular, this news release contains forward-looking information pertaining to the following: the field test program (in drilling) and evaluation interpretations, activities, plans and objectives; the results of the PFS and expectations with resp development and expansion plans and objectives, including plans for a feasibility study and environmental assessment Wheeler River; and expectations regarding its joint venture ownership interests and the continuity of its agreements wit partners.

Forward looking statements are based on the opinions and estimates of management as of the date such statements a and they are subject to known and unknown risks, uncertainties and other factors that may cause the actual results, lev performance or achievements of Denison to be materially different from those expressed or implied by such forward-loo statements. Denison believes that the expectations reflected in this forward-looking information are reasonable but no a can be given that these expectations will prove to be accurate and results may differ materially from those anticipated in forward-looking information. For a discussion in respect of risks and other factors that could influence forward-looking e please refer to the factors discussed in Denison's Annual Information Form dated March 12, 2019 under the heading 'R 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 c this news release is expressly qualified by this cautionary statement. Any forward-looking information and the assumpti with respect thereto speaks only as of the date of this news release. Denison does not undertake any obligation to publ or revise any forward-looking information after the date of this news release to conform such information to actual resul 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 Resourc Probable Mineral Reserves: This news release may use the terms 'measured', 'indicated' and 'inferred' mineral resourc States investors are advised that while such terms have been prepared in accordance with the definition standards on r reserves of the Canadian Institute of Mining, Metallurgy and Petroleum referred to in Canadian National Instrument 43- Disclosure Standards ("NI 43-101") and are recognized and required by Canadian regulations, the United States Secur Exchange Commission ("SEC") does not recognize them. 'Inferred mineral resources' have a great amount of uncertain their existence, and as to their economic and legal feasibility. It cannot be assumed that all or any part of an inferred mi resource will ever be upgraded to a higher category. Under Canadian rules, estimates of inferred mineral resources ma the basis of feasibility or other economic studies. United States investors are cautioned not to assume that all or any pa measured or indicated mineral resources will ever be converted into mineral reserves. United States investors are also not to assume that all or any part of an inferred mineral resource exists, or is economically or legally mineable. The est mineral reserves in this news release have been prepared in accordance with NI 43-101. The definition of probable min reserves used in NI 43-101 differs from the definition used by the SEC in the SEC's Industry Guide 7. Under the requir the SEC, mineralization may not be classified as a "reserve" unless the determination has been made, pursuant to a "fi feasibility study that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made. Denison has not prepared a feasibility study for the purposes of NI 43-101 or the requirements Accordingly, Denison's probable mineral reserves disclosure may not be comparable to information from U.S. companie the reporting and disclosure requirements of the SEC.

Figure 1. Phoenix Zone A plan view showing Test Areas delineated for ISR field testing (Full Resolution)

Figure 2. Plan map and long section showing Pump/Injection and Observation wells completed for ISR field testing in T (Full Resolution)

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