

## PRESS RELEASE

**DENISON ANNOUNCES RAMP-UP OF  
WHEELER RIVER EVALUATION ACTIVITIES IN 2021**

**Toronto, ON – February 8, 2021. Denison Mines Corp.** (“Denison” or the “Company”) (DML: TSX, DNN: NYSE American) is pleased to announce its 2021 evaluation program plans for the Company’s 90% owned Wheeler River Uranium Project (“Wheeler River” or the “Project”), including additional field testing activities to support the further de-risking of the application of the In-Situ Recovery (“ISR”) mining method at the high-grade Phoenix uranium deposit (“Phoenix”).

The Wheeler River Joint Venture (“WRJV”) has adopted an approach to advancing the Project whereby completion of a formal Feasibility Study (“FS”) would be coordinated with the submission of a final Environmental Impact Statement (“EIS”). This approach respects the interactive nature of the Environmental Assessment (“EA”) consultation process, allowing for the integration of outcomes from environmental assessment, community consultation, and project design efforts. Our current objectives target initiation of the formal FS process in late 2021 and the submission of a draft EIS in early 2022.

In support of these objectives, the WRJV approved a \$24.0 million evaluation budget for 2021 (100% basis), which is highlighted by the resumption of the EA process, as well as the advancement of engineering studies, metallurgical testing, and field programs. Denison’s share of the 2021 evaluation budget for Wheeler River, net of operator fee recoveries, is \$19.4 million.

*This press release constitutes a "designated news release" for the purposes of the Company's prospectus supplement dated November 13, 2020 to its short form base shelf prospectus dated June 2, 2020.*

**Highlights from Wheeler River 2021 Evaluation Program**

- **Resumption of EA process:** Activities planned to support the EA process in 2021 include the progression of engagement activities, adapted to reflect COVID-19 protocols, to facilitate information sharing with interested parties. Advancing the EA process is also expected to involve the completion of various third-party technical studies and Provincial and Federal regulatory engagement ahead of the submission of a draft EIS, which is currently targeted for early 2022. Significant work programs in support of the EA process resumed in January.
- **Advancement of ISR field programs:** The installation of a 5-spot Test Pattern (“Test Pattern”), consisting of commercial-scale wells (“CSWs”), is planned for Phoenix. The Test Pattern is expected to allow for the further evaluation and confirmation of the ore body’s hydrogeological characteristics. Installation of the Test Pattern is also expected to support the finalization of the production well design pattern, confirm cost estimates and designs for the CSWs, validate permeability enhancement options, and provide the necessary datasets for permitting and set-up of a lixiviant test in 2022. The lixiviant test is expected to be a key de-risking milestone for the Project – as it is intended to confirm technical feasibility, as well as verify the permeability, leachability, and containment parameters needed for the successful application of the ISR mining method at Phoenix. The 2021 field program is fully permitted, with all approvals received from the provincial government to commence work on site.
- **Continuation of detailed ISR metallurgical testing:** Extensive laboratory studies replicating the ISR process flowsheet are planned to test and optimize the mineral processing aspects of the Phoenix operation. Studies are expected to include additional core leach tests followed by uranium-bearing solution (“UBS”) preparation, through column leaching, to allow for bench-scale tests planned to simulate each unit of operation in the process plant.

- **Progression of engineering activities:** Desktop and field investigations are planned to finalize specific Project details necessary for the EA and engineering inputs required to formally initiate the FS. Areas of investigation are expected to include site layout design and earthworks updates, electrical power studies, borrow pit investigation, geotechnical analysis, final ISR well designs and decommissioning plans.

David Cates, Denison's President & CEO, commented, ***“Our Saskatoon-based technical team has made considerable progress towards de-risking the use of the ISR mining method at Phoenix since the Pre-Feasibility Study for Wheeler River was released in late 2018. The Company is well-funded for 2021, and has developed an ambitious evaluation program, which reflects a significant ramp-up of our technical and environmental activities. Our 2021 plans are focused on achieving Denison’s goals of initiating a formal FS by late 2021 and submitting a draft EIS in early 2022 – the completion of which are both important steps necessary for the Company to make a future development decision for Phoenix.”***

David Bronkhorst, Denison's Vice President Operations, added, ***“Despite the challenges of the COVID-19 Pandemic, Denison’s technical team made significant progress de-risking critical elements of the Phoenix ISR project in 2020 – notably through the independent confirmation of ‘proof of concept’, completion of another productive ISR field program, and the decision to adopt a freeze wall design for ISR mining at Phoenix. Building on these successes, we have developed a plan for 2021 that is designed to result in significant progress towards further de-risking the ISR mine plan for Phoenix – including the installation of a 5-spot Test Pattern, and the completion of various detailed engineering and metallurgical test work programs.”***

### **Resumption of Environmental Assessment process**

The Environmental Assessment is a key element of the Project's critical path. EA related activities are expected to include technical assessments and reviews associated with the preparation of the draft EIS. The technical assessments will evaluate the significance of the Project's potential effects on the biophysical environment, as well as human health and cultural heritage. Furthermore, a major component of the EIS will address both the beneficial and potentially adverse socio-economic and land use effects of the Project.

In connection with advancing the EA process, activities in 2021 are also planned to include the progression of engagement efforts (adapted to reflect COVID-19 protocols) to facilitate information sharing with interested parties, and the continued collection of specific baseline environmental data to provide added continuity and integrity to the information collected through each phase of the project.

### **Advancement of ISR field programs**

Additional field and laboratory work is planned in 2021 to further increase confidence and reduce risk in the application of the ISR mining method at Phoenix. The main objectives of the 2021 ISR field program are to further evaluate, confirm and model the hydrogeological characteristics of the Phoenix ore body, finalize the production well design pattern, confirm cost estimates and designs for CSWs, validate permeability enhancement options, and provide the necessary datasets for the permitting and preparation of a lixiviant test in 2022. The lixiviant test is expected to be a key milestone in the de-risking process – intended to confirm technical feasibility and verify the permeability, leachability and containment parameters needed for the successful application of the ISR mining method at Phoenix. The 2021 field program is fully permitted, with all approvals received from the provincial government to commence work.

The 2021 ISR field program is expected to have the following key components and objectives:

- **Test Pattern:** Installation of a 5-spot Test Pattern in the area identified as Phase 1 of the planned development sequence for Phoenix (see Denison's news release dated Dec. 1, 2020). The Test Pattern will consist of five new CSWs and is designed to evaluate hydraulic conductivities and connections between wells (including GWR-032) spaced from 5 to 30 meters apart (see Figure 1). Permeability enhancement tools will be utilized to engineer a minimum level of hydrogeologic conductivity between the variably spaced wells. Subsequent conductivity will depend on the natural permeability of the ore body via the fracture/structure network. The variable spacing approach will provide valuable data that will allow for the continued evaluation of the natural hydrogeological

conditions of the deposit and our ability to effectively engineer minimum levels of hydraulic conductivity, at different well spacing distances, using permeability enhancement tools. The data will be critical in optimizing the final wellfield design. Additionally, the Test Pattern will help finalize construction sequencing, cost estimates, and schedule for the installation of CSWs at Phoenix.

Based on current designs, the Company estimates approximately 6.6 million pounds  $U_3O_8$  (7,717 tonnes at 39.2%  $U_3O_8$ , above a cut-off grade of 0.8%  $U_3O_8$ ) in Probable mineral reserves are contained within the expected operating perimeter of the Test Pattern (see Figure 1). These mineral reserves represent approximately 30% of the approximately 22.2 million pounds  $U_3O_8$  (37,242 tonnes at 27.1%  $U_3O_8$ , above a cut-off grade of 0.8%  $U_3O_8$ ) in Probable mineral reserves estimated within the boundaries of Phase 1. These estimates are derived as a direct subset of those reported in the Technical Report titled "Pre-feasibility Study for the Wheeler River Uranium Project, Saskatchewan, Canada" dated October 30, 2018 with an effective date of September 24, 2018. The key assumptions, parameters and methods used to estimate the mineral reserves herein remain unchanged.

- **Hydrogeological Tests:** Hydrogeological pump and injection tests will occur before and after each CSW installation and will evaluate the effectiveness of permeability enhancement on an individual well basis within the deposit test area. After the hydrogeological tests are completed on individual wells, multi-day pump and injection tests and additional hydrogeological tests will be performed on the collective Test Pattern. These tests are intended to assess the Test Pattern's total permeability, and support an ongoing assessment of the ability of various permeability enhancement tools to normalize the varying levels of permeability associated with the natural fracture/structure network of the deposit. A full-scale tracer test is also planned for 2021, which is expected to support an assessment of the arrival time from a centre well ("injection well") to the outer ring wells ("recovery wells"). The test is expected to establish breakthrough times for each CSW and confirm sub-surface pathways, allowing for a more complete understanding of the hydrogeologic elements expected throughout Phase 1. All test work in 2021 will be conducted using site groundwater. Following the field tests, detailed hydrogeological and geochemical modelling of the test data will be carried out by various Qualified Persons ("QPs").

The hydrogeologic test work planned for 2021 is also expected to provide the necessary datasets for the design and permitting of a lixiviant test in 2022, which is expected to make use of the same Test Pattern installed during 2021.

- **Monitoring Wells:** The field program includes the installation of 11 monitoring wells ("MWs") in the Phase 1 area (see Figure 1). The MWs will surround the Test Pattern on all sides and above the ore zone. Sensors installed at varying depths, from 30 to 450 meters, will monitor pressure changes and the distribution of fluid flow above, along strike, and below the ore body during the various hydrogeological tests, pump and injection tests, and during the full-scale Test Pattern tracer test. The MWs will also help to define sub-aquifers and confirm the basement units as suitable aquitards for the purposes of finalizing the freeze wall design.

### **Continuation of detailed ISR metallurgical testing**

As the Project advances towards the FS and as the EA progresses, advanced metallurgical work will be conducted to verify and optimize the metallurgical processing elements proposed for the Phoenix ISR mining operation. This work will support plant designs for the FS, and the technical assessments required for the EA, by providing accurate process flow diagrams, mass balance and waste stream information for all unit operations.

Studies are expected to include additional core leach tests (see Denison news release dated Feb. 19, 2020) to verify the ISR mining process and the overall rate of recovery expected from the deposit. The tests involve the use of undisturbed core samples to assess metallurgical recovery while simulating in-ground conditions. The results of these tests are intended to confirm the lixiviant characteristics and the UBS head grade anticipated for Phoenix, thus facilitating the definition of the lixiviant composition required for the future lixiviant test and informing the anticipated UBS characteristics.

Following the core leach tests, up to 3,000 litres of UBS will be generated through column leaching – with the resulting solution utilized for a bench-scale testing program that is expected to consist of laboratory tests where each unit operation expected in the process plant will be simulated.

### **Progression of engineering activities**

Numerous engineering activities are planned for 2021 – focusing on obtaining and finalizing the specific project details necessary to support the EA process and the formal initiation of the FS. These studies include overall site layout and earthworks updates, electrical power studies to inform back-up generator and switchgear selection, borrow pit location selection, geotechnical analyses, final ISR well design, and decommissioning plans.

The results of the 2021 field program are expected to inform a decision from the WRJV regarding the formal initiation of a FS during the second half of 2021. If approved, transitioning into the FS will mark the initiation of further engineering work in the areas of surface infrastructure, plant design, and ground freezing.

### **About Wheeler River**

*Wheeler River is the largest undeveloped uranium project in the infrastructure rich eastern portion of the Athabasca Basin region, in northern Saskatchewan – including combined Indicated Mineral Resources of 132.1 million pounds  $U_3O_8$  (1,809,000 tonnes 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 tonnes at an average grade of 1.7%  $U_3O_8$ ). The project is host to the high-grade Phoenix and Gryphon uranium deposits, discovered by Denison in 2008 and 2014, respectively, and is a joint venture between Denison (90% and operator) and JCU (Canada) Exploration Company Limited (10%).*

*A PFS was completed for Wheeler River in late 2018, considering the potential economic merit of developing the Phoenix deposit as an ISR operation and the Gryphon deposit as a conventional underground mining operation. Taken together, the project is 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 of \$1.31 billion (8% discount rate), Internal Rate of Return ("IRR") of 38.7%, and initial pre-production capital expenditures of \$322.5 million. The Phoenix ISR operation is estimated to have a stand-alone base case pre-tax NPV of \$930.4 million (8% discount rate), IRR of 43.3%, initial pre-production capital expenditures of \$322.5 million, and industry leading average operating costs of US\$3.33/lb  $U_3O_8$ . The PFS is prepared on a project (100% ownership) and pre-tax basis, as each of the partners to the Wheeler River Joint 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 attributable to Denison's ownership interest, are described in greater detail in the NI 43-101 Technical Report titled "Pre-feasibility Study for the Wheeler River Uranium Project, Saskatchewan, Canada" dated October 30, 2018 with an effective date of September 24, 2018. A copy of this report is available on Denison's website and under its profile on SEDAR at [www.sedar.com](http://www.sedar.com) and on EDGAR at [www.sec.gov/edgar.shtml](http://www.sec.gov/edgar.shtml).*

*Denison suspended certain activities at Wheeler River during 2020, including the EA process, which is on the critical path to achieving the project development schedule outlined in the PFS. While the EA process has resumed, the Company is not currently able to estimate the impact to the project development schedule outlined in the PFS, and users are cautioned against relying on the estimates provided therein regarding the start of pre-production activities in 2021 and first production in 2024.*

### **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 the Wheeler River project, Denison's Athabasca Basin exploration portfolio consists of numerous projects covering over 250,000 hectares. Denison's interests in the Athabasca Basin 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 and Midwest A deposits, and a 66.9% interest in the J Zone and Huskie deposits on the Waterbury*

Lake property. Each of Midwest, Midwest A, J Zone and Huskie are located within 20 kilometres of the McClean Lake mill.

Denison is engaged in mine decommissioning and environmental services through its Closed Mines group (formerly Denison Environmental Services), which manages Denison's Elliot Lake reclamation projects and provides post-closure mine care and maintenance services to a variety of industry and government clients.

Denison is also the manager of Uranium Participation Corp., a publicly traded company which invests in uranium oxide and uranium hexafluoride.

#### **For more information, please contact**

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#### **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 planned scope, elements, and objectives of the 2021 evaluation program, including the EA process, ISR field programs, metallurgical testing and engineering activities; the results of the PFS and expectations with respect thereto; development and expansion plans and objectives, including plans for a feasibility study; 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, the modelling and assumptions upon which the work plans are based may not be maintained after further testing or be representative of actual conditions within the Phoenix deposit. In addition, Denison may decide or otherwise be required to discontinue the 2021 Field Test or other testing, evaluation and development work at Wheeler River 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.

# Phoenix Deposit Phase 1 - Well Screen Location - Plan View

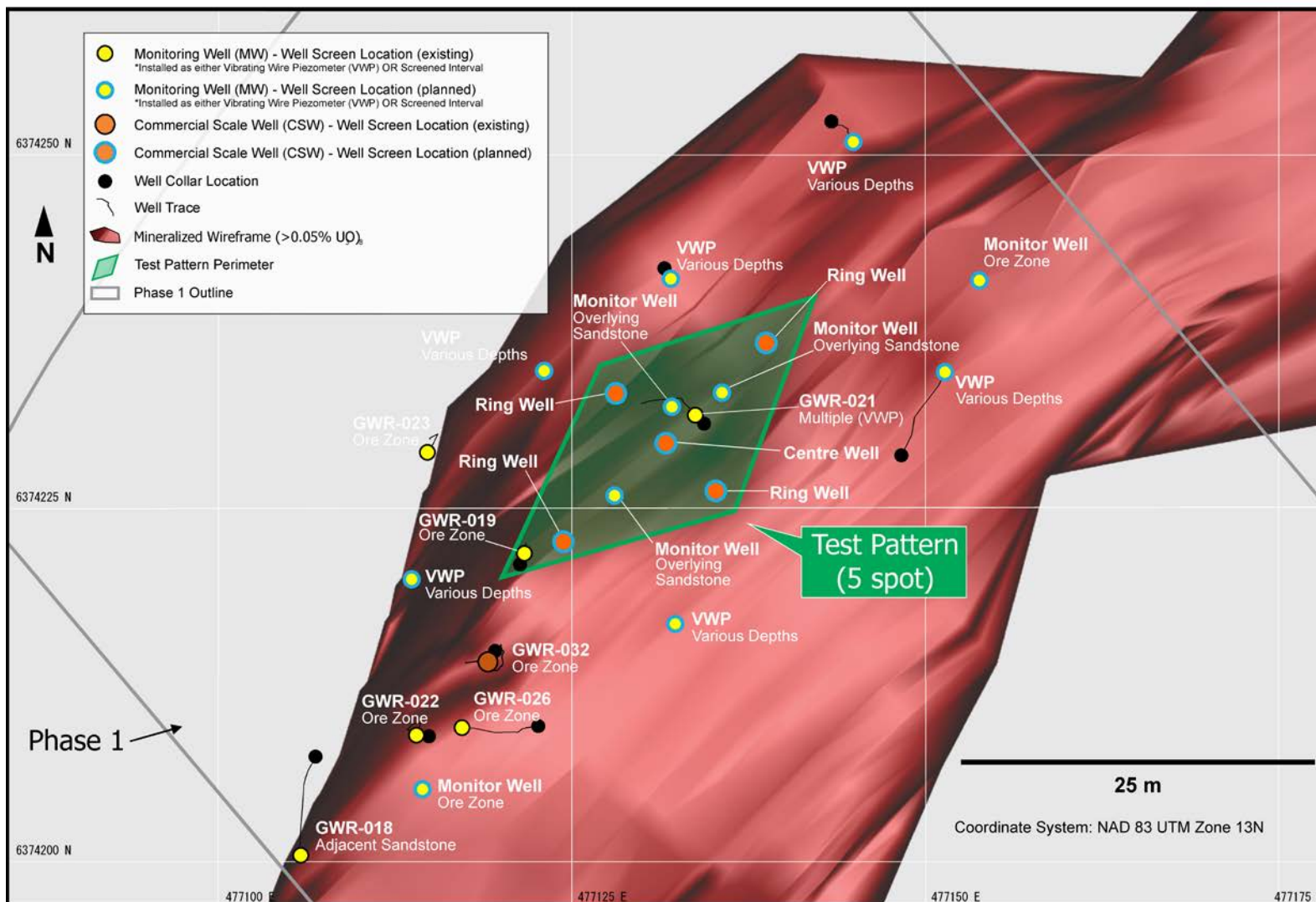


Figure 1: Plan Map Showing Location of Phoenix Deposit (Phase 1) – ISR Test Pattern