

## PRESS RELEASE

**DENISON ANNOUNCES DISCOVERY OF HIGH-GRADE URANIUM MINERALIZATION FOUR KILOMETRES NORTHWEST OF PHOENIX**

**Toronto, ON – Jan. 28, 2021. Denison Mines Corp.** (“Denison” or the “Company”) (DML: TSX, DNN: NYSE American) is pleased to report the results from the 2020 regional exploration program at the Company’s 90% owned Wheeler River Uranium Project (“Wheeler River”), including the discovery of new high-grade unconformity-hosted uranium mineralization up to 7.66% U<sub>3</sub>O<sub>8</sub>. Drill hole WR-741AD2, which was completed along the K West conductive trend on the western side of the Wheeler River property, intersected high-grade uranium mineralization approximately 4 kilometres north northwest of the Phoenix uranium deposit (“Phoenix”).

Similar to Phoenix, uranium mineralization discovered in WR-741AD2 is interpreted to straddle the unconformity contact of the underlying basement rocks and the overlying Athabasca Basin sandstone. In addition to high-grade uranium, the assay results from WR-741AD2 are highlighted by the presence of high-grade nickel:

- **2.14% U<sub>3</sub>O<sub>8</sub> over 4.0 metres** (including 7.66% U<sub>3</sub>O<sub>8</sub> over 1 metre) from 640.3 to 644.3 metres; and
- **4.29% Nickel over 6.5 metres** (including grades of up to 19.1% nickel) from 637.8 to 644.3 metres.

David Cates, Denison’s President & CEO, commented, ***“Regional exploration at Wheeler River in 2020 delivered on our objective to identify additional high-grade uranium mineralization that could produce a satellite deposit for the planned Phoenix In-Situ Recovery (‘ISR’) operation, which is currently advancing through the environmental assessment (‘EA’) process. Our Saskatoon-based exploration team has a tremendous track record of making high-grade uranium discoveries – transforming the Wheeler River project into the largest undeveloped uranium project in the infrastructure rich eastern portion of the Athabasca Basin.”***

Andy Yackulic, P. Geo., Denison’s Director, Exploration, added, ***“The new high-grade mineralization at K West was discovered with our second last drill hole of the season. As a result, there remains potential for us to delineate a broader mineralized zone, as the new mineralized intersection is open on section to the footwall side of WR-741AD2 and for several hundred metres along strike in both directions. The exploration team is also very interested in the presence of high-grade nickel mineralization along the margins of the uranium mineralization – as this type of zonation presents very similarly to other well-known and sizeable high-grade unconformity uranium deposits in the Athabasca Basin, including Cigar Lake, Fox Lake, Tamarack, and Key Lake.”***

*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 April 2, 2020.*

**K-West**

K West is located in the northwest portion of the Wheeler River property. The K West fault is the primary exploration target in this area, which lies within the K West conductive trend, at or near the contact between a graphitic pelite and underlying Archean granite. The K West fault has been drill-defined over a strike length of approximately 15 km, on both the Wheeler River property and on adjacent properties located to the north of Wheeler River, where several zones of high-grade unconformity-hosted mineralization have been identified (including on Denison’s 30% owned Mann Lake property). Historical drilling at K-West, which has been interpreted to have intersected the unconformity anywhere from 30 to 100 metres hangingwall of the K West fault, has defined a broad zone of anomalous uranium pathfinder geochemistry, specifically copper, nickel, and cobalt.

A total of 6 drill holes were completed at K-West as part of the 2020 exploration program, including drill hole WR-741AD1, which was designed to test the up-dip projection of the K West fault intersected in 2018 by drill hole WR-741A. WR-741AD1, drilled at an azimuth of 295.7° and an inclination of -71.0°, intersected weak mineralization hosted within a narrow breccia approximately 3 metres below the unconformity, located at the upper contact of the K-West fault. In addition, composite sandstone samples from WR-741AD1 returned highly anomalous copper and nickel concentrations over the lower 310 metres of the sandstone column.

WR-741AD2 was drilled 10 metres to the northwest of WR-741AD1, at an azimuth of 294.3° and an inclination of -63.0°, to test the extents of the mineralization identified below the unconformity. As noted above, WR-741AD2 intersected high-grade uranium mineralization that is interpreted to straddle the unconformity contact. In addition, low grade mineralization was also encountered straddling the unconformity in WR-775, drilled at an azimuth of 282.0° and an inclination of -74.0°, located approximately 400 metres to the south of WR-741AD2. See Table 1 below for the applicable assay results, Figure 1 for a property map of Wheeler River and Figure 2 for a map of K West illustrating the location of the 2020 drilling.

**Table 1 – K West Zone Mineralized Intersections**

Hole-ID	From (m)	To (m)	Length (m) <sup>3</sup>	U <sub>3</sub> O <sub>8</sub> (%)
WR-741AD1 <sup>1</sup>	644.8	647.8	3.0	0.42
WR-741AD2 <sup>1</sup>	640.3	644.3	4.0	2.14
(includes) <sup>2</sup>	643.3	644.3	1.0	7.66
WR-775 <sup>1</sup>	594.4	595.4	1.0	0.30

Notes: (1) Intersection interval is composited above a cut-off grade of 0.1% U<sub>3</sub>O<sub>8</sub>  
 (2) Intersection interval is composited above a cut-off grade of 1.0% U<sub>3</sub>O<sub>8</sub>  
 (3) Lengths indicated are the down-hole length and do not represent the true thickness of mineralization

## M Zone

Regional exploration drilling was also completed at the M Zone target area during the 2020 Wheeler River exploration program. M Zone is located approximately 5.5 kilometres east of Phoenix and lies roughly 700 metres from the McArthur River – Key Lake haul road. Denison’s exploration team conducted a core-relogging program in 2018 and identified several historical drill holes at M Zone that encountered indicative structure, alteration, elevated radioactivity, or anomalous pathfinder geochemistry worthy of follow-up.

A total of 4 drill holes were completed at M Zone as part of the 2020 exploration program, including drill hole WR-778, which was designed to test the subcrop of a graphitic fault at the sub-Athabasca unconformity that was previously intersected at depth in DDH ZM-17. WR-778, drilled at an azimuth of 304° and an inclination of -80.0°, intersected a wide reverse fault zone in the lower sandstone, highlighted by multiple basement wedges, intense hydrothermal alteration, and a broad interval of weak uranium mineralization.

The presence of basement wedges in WR-778 and an interpreted unconformity elevation offset of 25 metres indicates that the broad zone of weak mineralization is controlled by a large reverse fault. See Figure 1 for a property map of Wheeler River and Figure 3 for a map illustrating the location of the 2020 M Zone drilling.

Weak uranium mineralization was returned along the nose of basement wedges within a broad reverse fault zone, as summarized in Table 2 below. The mineralized intervals are reported as the radiometric equivalent uranium derived from a total gamma down-hole probe (“eU<sub>3</sub>O<sub>8</sub>”) due to extensive core loss. Taken together, the results from WR-778 present a model that may be similar to Zone 4 at McArthur River. While the mineralization at M Zone is significantly lower grade than McArthur, there are many similarities and future exploration drilling is expected to test if the area is analogous to Zone 4 at McArthur River.

**Table 2 – M Zone Mineralized Intersection**

Hole-ID	From (m)	To (m)	Length (m) <sup>3</sup>	eU <sub>3</sub> O <sub>8</sub> (%) <sup>1</sup>
WR-778 <sup>2</sup>	397.1	407.3	10.2	0.08
And	411.2	414.2	3.0	0.08

Notes: (1) Due to core loss, the interval is reported as radiometric equivalent U<sub>3</sub>O<sub>8</sub> ("eU<sub>3</sub>O<sub>8</sub>") derived from a calibrated total gamma downhole probe  
(2) Intersection interval is composited above -a cut-off grade of 0.1% eU<sub>3</sub>O<sub>8</sub>  
(3) Lengths indicates are the down-hole length and do not represent the true thickness of mineralization

### Sampling and Assay Procedures

Drill core with anomalous total gamma radioactivity (>300 counts per second using a RS-120 or RS-125 scintillometer) was sampled over 0.5 metre intervals. Sampling is undertaken on site by splitting the core in half, with one half submitted for analysis and the other half retained in the core box for future reference. Uranium chemical assays are performed by the Saskatchewan Research Council ("SRC") Geoanalytical Laboratories located in Saskatoon. Sample preparation involves crushing and pulverizing core samples to 90% passing -106 microns. Splits of the resultant pulps are initially submitted for multi-element ICP-MS analysis following partial (HNO<sub>3</sub>:HCl) and total (HF:HNO<sub>3</sub>:HClO<sub>4</sub>) digestions. Samples with ≥ 1,000 ppm U (partial digest) are re-assayed for U<sub>3</sub>O<sub>8</sub> using an ISO/IEC 17025:2005 accredited method for the determination of U<sub>3</sub>O<sub>8</sub> weight %. Pulp splits are digested using aqua-regia and the solution analyzed for U<sub>3</sub>O<sub>8</sub> weight % using ICP-OES. In addition to internal checks by SRC Geoanalytical Laboratories, the Company has rigorous quality assurance and quality control ("QAQC") procedures including the insertion of standard reference materials, blanks and field duplicates. The assay data is subject to verification procedures by qualified persons employed by Denison prior to disclosure. For further details on the assay, QAQC and data verification procedures please see Denison's Annual Information Form dated March 13, 2020 filed under the Company's profile on SEDAR ([www.sedar.com](http://www.sedar.com)).

### Use of Radiometric Equivalent Grades

The Company typically reports results as preliminary radiometric equivalent grades ("eU<sub>3</sub>O<sub>8</sub>"), derived from a calibrated downhole total gamma probe during active exploration programs, and subsequently reports definitive assay grades following sampling and chemical analysis of the mineralized drill core. In the case where core recovery within a mineralized intersection is less than 80%, radiometric grades are considered to be more representative of the mineralized intersection and may be reported in the place of assay grades. 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, QAQC procedures and data verification procedures please see Denison's Annual Information Form dated March 13, 2020 filed under the Company's profile on SEDAR ([www.sedar.com](http://www.sedar.com)).

### 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<sub>3</sub>O<sub>8</sub> (1,809,000 tonnes at an average grade of 3.3% U<sub>3</sub>O<sub>8</sub>), plus combined Inferred Mineral Resources of 3.0 million pounds U<sub>3</sub>O<sub>8</sub> (82,000 tonnes at an average grade of 1.7% U<sub>3</sub>O<sub>8</sub>). 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%).*

*The Wheeler River Pre-Feasibility Study ("PFS") was completed 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<sub>3</sub>O<sub>8</sub> 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<sub>3</sub>O<sub>8</sub>. 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 formal Environmental Assessment ("EA") process, which is on the critical path to achieving the project development schedule outlined in the PFS. On November 9, 2020, Denison announced its decision to resume the formal EA process for the Project in January 2021. 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 66.90% interest in the Tthe Heldeth Túé ("THT", formerly J Zone) and Huskie deposits on the Waterbury Lake property. Each of Midwest, Midwest A, THT 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**

David Cates  
President and Chief Executive Officer

(416) 979-1991 ext 362

Sophia Shane  
Investor Relations

(604) 689-7842

Follow Denison on Twitter

@DenisonMinesCo

### **Qualified Persons**

The technical information contained in this release has been reviewed and approved by Mr. Andrew Yackulic, P. Geo., Denison's Director, Exploration, 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: the interpretation of the results from the 2020 regional exploration program, underlying assumptions and the Company's intentions with respect thereto; the results of the PFS and expectations with respect thereto, including the duration and scope of impacts of the COVID-19 pandemic and affiliated operational adjustments; 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, areas of interest for further exploration selected based on interpretation of current and historic exploration may not result in findings of significance after further testing. 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 Mineral Resources and Mineral Reserves:** *This presentation may use terms such as "measured", "indicated" and/or "inferred" mineral resources and "proven" or "probable" mineral reserves, which are terms defined with reference to the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") CIM Definition Standards on Mineral Resources and Mineral Reserves ("CIM Standards"). The Company's descriptions of its projects using CIM Standards may not be comparable to similar information made public by U.S. companies subject to the reporting and disclosure requirements under the United States federal securities laws and the rules and regulations thereunder.*

*This press release contains information relating to third parties derived from third-party publications and/or reports which Denison believes are reliable but have not been independently verified by the Company.*

Figure 1 – Wheeler River 2020 Regional Exploration

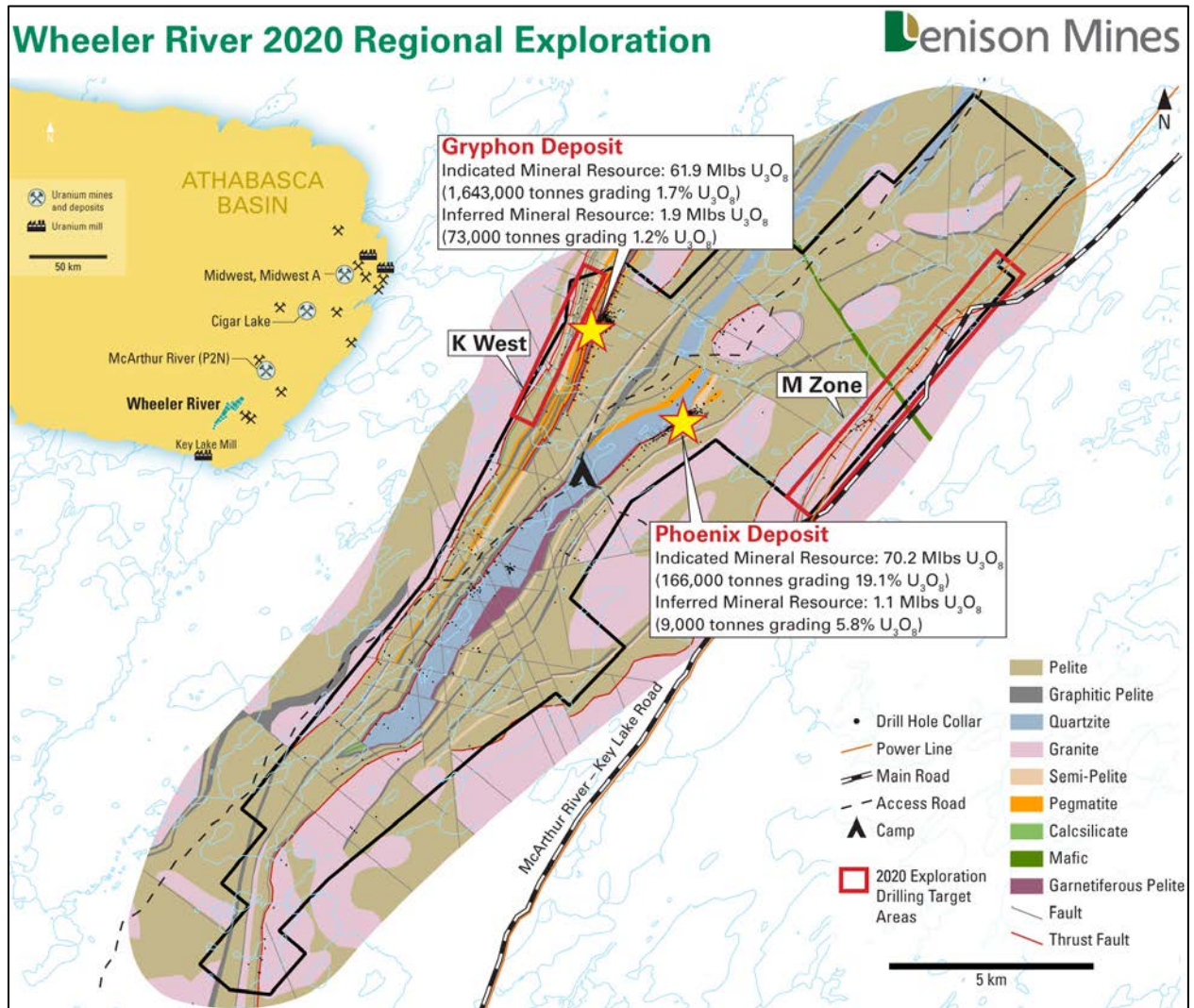


Figure 2 – K West Zone 2020 Drilling

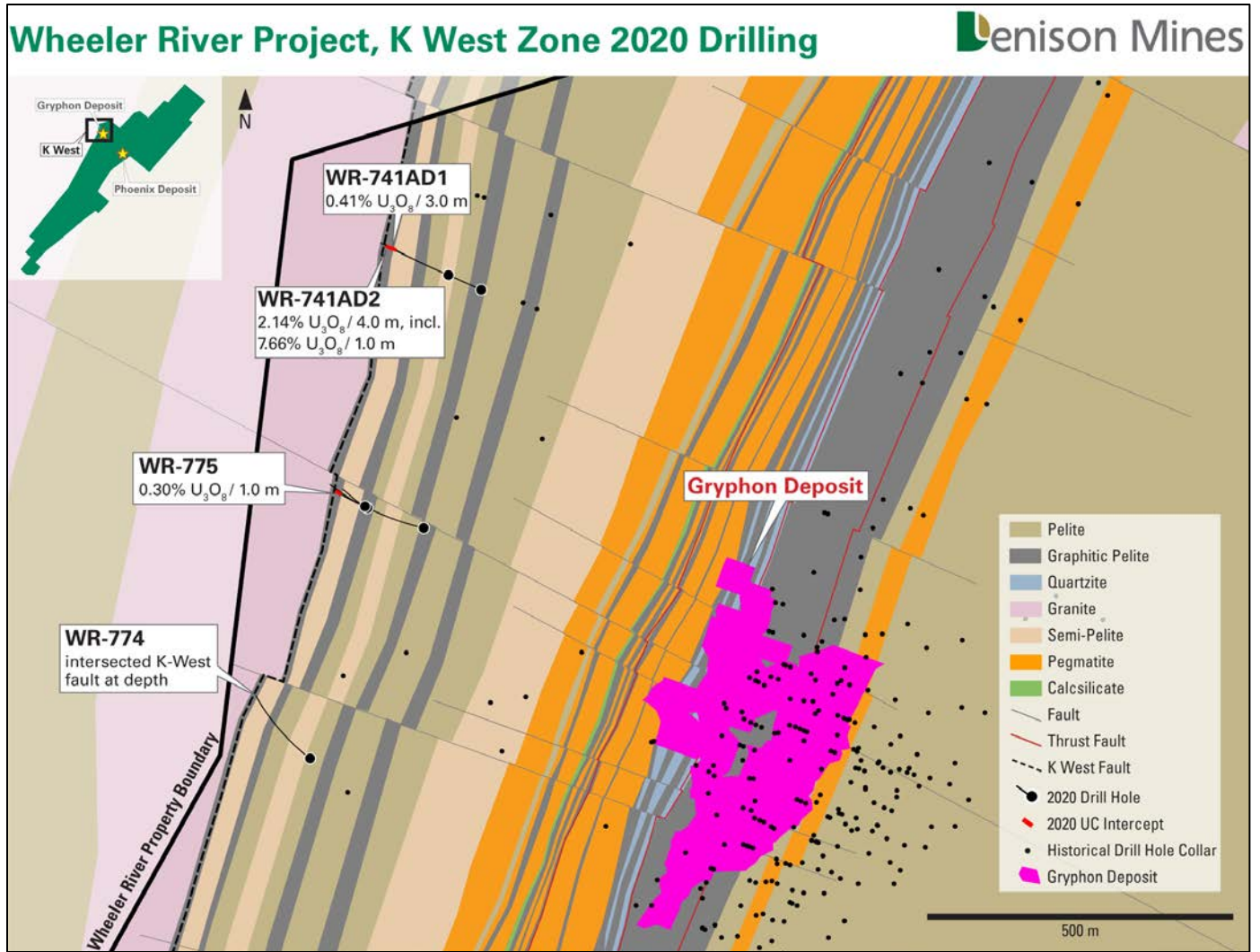


Figure 3 – M Zone 2020 Drilling

