

PRESS RELEASE

Denison Announces Intersection of Additional High-Grade Uranium Mineralization at Waterfound

Toronto, ON – September 14, 2022. Denison Mines Corp. (“Denison” or the “Company”) (TSX: DML; NYSE American: DNN) is pleased to report that drill hole WF-74A intersected **4.75% eU₃O₈ over 13.3 metres** (0.05% eU₃O₈ cut-off), including a sub-interval grading **25.23% eU₃O₈ over 0.5 m**, as part of the recently completed summer exploration program at the Waterfound River property (“Waterfound”).

Uranium mineralization was encountered in three of the seven drill holes completed during the summer exploration program, following up on the winter 2022 discovery of high-grade mineralization approximately 800 metres to the west of the Alligator Zone. The discovery from the winter 2022 program was highlighted by drill hole WF-68, which returned a mineralized interval of **5.91% eU₃O₈ over 3.9 metres** (see press release dated March 29, 2022). Figure 1 and Figure 2 depict the location of the Alligator Zone and the 2022 summer drilling, respectively.

Andy Yackulic, P. Geo., Denison’s Director, Exploration, commented, ***“The mineralized intersection from WF-74A represents the best mineralized hole drilled on the Waterfound property to date, and highlights the potential for the discovery of additional high-grade uranium mineralization further along strike to the west of the Alligator Zone. The mineralization in WF-74A appears to be offset to the north when compared to the interpreted location of mineralization previously discovered in WF-68. This offset is notable, as it potentially indicates that a later, cross-cutting fault may be present between WF-74A and WF-68. The area to the west of WF-74A is sparsely drilled, thus leaving several kilometres of the fertile La Rocque conductive corridor open for follow up.”***

Denison has an effective 24.68% ownership interest in the Waterfound River Joint Venture (“Waterfound JV”) to which each of Orano Canada Inc. (“Orano Canada”), Denison, and JCU (Canada) Exploration Company, Limited (“JCU”) are participants. Orano Canada has a 62.42% interest in the Waterfound JV and is the project operator.

2022 Waterfound River Summer Exploration Program Highlights

Drill hole WF-74A was completed approximately 40 metres west of WF-68 and intersected a broad zone of uranium mineralization grading 4.75% eU₃O₈ over 13.3 metres (0.05% eU₃O₈ cut-off), hosted within faulted Athabasca sandstone. The mineralization in WF-74A represents the best mineralized intersection drilled to date on the Waterfound property, and is highlighted by multiple narrow intervals of high-grade uranium hosted within fault strands, interpreted to represent the brittle reactivation of the D-1 conductor.

At the conclusion of the summer drill program, the mineralization intersected in WF-74A remains open along strike to the west and across strike in both directions. Additional drilling is required in this area to resolve the structural controls on the high-grade mineralization in WF-74A.

Drill holes WF-73 and WF-73-1 were drilled to test the D-1 conductor approximately 300 m along strike to the east of high-grade mineralization discovered during the 2022 winter drilling program in drill hole WF-68. WF-73 intersected perched uranium mineralization approximately 5 metres above the unconformity, grading 0.09% eU₃O₈ over 0.2 metres. The follow up hole, WF-73-1, successfully intersected uranium mineralization (0.34% eU₃O₈ over 1.6 metres) located immediately above the unconformity contact.

The mineralized intersections from the 2022 summer exploration drilling program are illustrated in Figure 2 and summarized in Table 1 below.

Table 1 – 2022 Waterfound River Summer Exploration Drilling Highlights

Drill Hole	Orientation (azi./dip)	From (m)	To (m)	Length (m) ⁽¹⁾	eU ₃ O ₈ (%) ⁽²⁾
WF-73 ⁽³⁾	158°/-69°	461.7	461.9	0.2	0.09
WF-73-1 ⁽³⁾	158°/-67°	470.1	471.7	1.6	0.34
WF-74A ⁽³⁾	155°/-69°	479.2	492.5	13.3	4.75
<i>including</i> ⁽⁴⁾	-	484.0	484.5	0.5	25.23
<i>and</i> ⁽⁴⁾	-	487.7	488.6	0.9	14.35
<i>and</i> ⁽⁴⁾	-	490.2	490.5	0.3	16.30
<i>and</i> ⁽⁴⁾	-	491.8	492.0	0.2	17.52

Notes: (1) Lengths indicated represent the down-hole length of mineralized intersections.
(2) Radiometric equivalent U₃O₈ ("eU₃O₈") derived from a calibrated gamma downhole probe.
(3) Mineralized interval is composited above a cut-off grade of 0.05% eU₃O₈.
(4) Mineralized interval is composited above a cut-off grade of 10.0% eU₃O₈.

Overall, the 2022 summer exploration program consisted of seven completed diamond drill holes totalling 3,902.6 metres. Each of the holes completed during the summer drilling program intersected indicative alteration and structural disruption related to brittle-ductile deformation along the D-1 conductor trend. In addition, each of the holes encountered elevated radioactivity in the basal Athabasca sandstone, although only holes WF-73, WF-73-1, and WF-74A returned radiometric equivalent uranium grades exceeding 0.05% eU₃O₈.

Radiometric Equivalent Grades, Sampling, Analysis and Data Verification

Following the completion of a drill hole, the hole is radiometrically logged using a downhole slimline gamma probe, which collects continuous readings of radioactivity along the length of the drill hole. Probe results are then calibrated using an algorithm calculated from the comparison of probe results against geochemical analyses in the area. The gamma-log results provide an immediate radiometric equivalent uranium value (eU%, then converted to eU₃O₈%) for the hole, which, except in very high-grade zones, is reasonably accurate. The Company typically reports eU₃O₈, as a preliminary result and subsequently reports definitive assay grades following sampling and chemical analysis of the mineralized drill core.

Assay sample intervals are generally 50 centimetres long, except where higher or lower grade mineralization boundaries fall within the interval. In that case, two 25 centimetre samples are collected. Flank samples of 1.0 metre are always collected where mineralization is located. Systematic geochemistry samples are collected every 10 metres down the hole.

All assayed core is split in half, with one half retained and the other sent to the SRC Geoanalytical Laboratory in Saskatoon for analysis. Control samples are routinely assayed with each batch of core samples analyzed.

About Waterfound River

The Waterfound River property is located within the eastern portion of the Athabasca Basin region of northern Saskatchewan, approximately 40 kilometres northwest of Denison's 22.5% owned McClean Lake mill. The Waterfound JV is an unincorporated contractual arrangement between Orano Canada (62.4223%), Denison Mines Inc. (11.7767%), and JCU (Canada) Exploration Company, Limited ("JCU") (25.8010%). Denison holds an effective 24.6772% ownership interest in the Waterfound JV through its direct interest in the joint venture and its 50% ownership of JCU.

About Denison

Denison is a uranium exploration and development company with interests focused in the Athabasca Basin region of northern Saskatchewan, Canada. The Company has an effective 95% interest in its flagship 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 the Athabasca Basin also include a 22.5% ownership interest in the McClean Lake joint venture, which includes several uranium deposits and the McClean Lake uranium mill that is contracted to process the ore from the Cigar Lake mine under a toll milling agreement, plus a 25.17% interest in the Midwest Main and Midwest A deposits, and a 67.01% interest in the Tthe Heldeth Tùé ("THT", formerly J Zone) and Huskie deposits on the Waterbury Lake property. The Midwest Main, Midwest A, THT and Huskie deposits are each located within 20 kilometres of the McClean Lake mill.

Through its 50% ownership of JCU, Denison holds additional interests in various uranium project joint ventures in Canada, including the Millennium project (JCU 30.099%), the Kiggavik project (JCU 33.8118%) and Christie Lake (JCU 34.4508%). Denison's exploration portfolio includes further interests in properties covering ~300,000 hectares in the Athabasca Basin region.

Denison is also engaged in post-closure mine care and maintenance services through its Closed Mines group, which manages Denison's reclaimed mine sites in the Elliot Lake region and provides related services to certain third-party projects.

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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 to the following: the interpretation of exploration results and expectations with respect thereto, including the interpretation of the results from the Waterfound River exploration program undertaken by Orano Canada, underlying assumptions and the Waterfound JV's intentions with respect thereto; exploration plans and objectives; 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 interpretation of results are based may not be maintained after further testing or be representative of actual conditions. 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 25, 2022 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.

Figure 1 – Location – Waterfound River JV

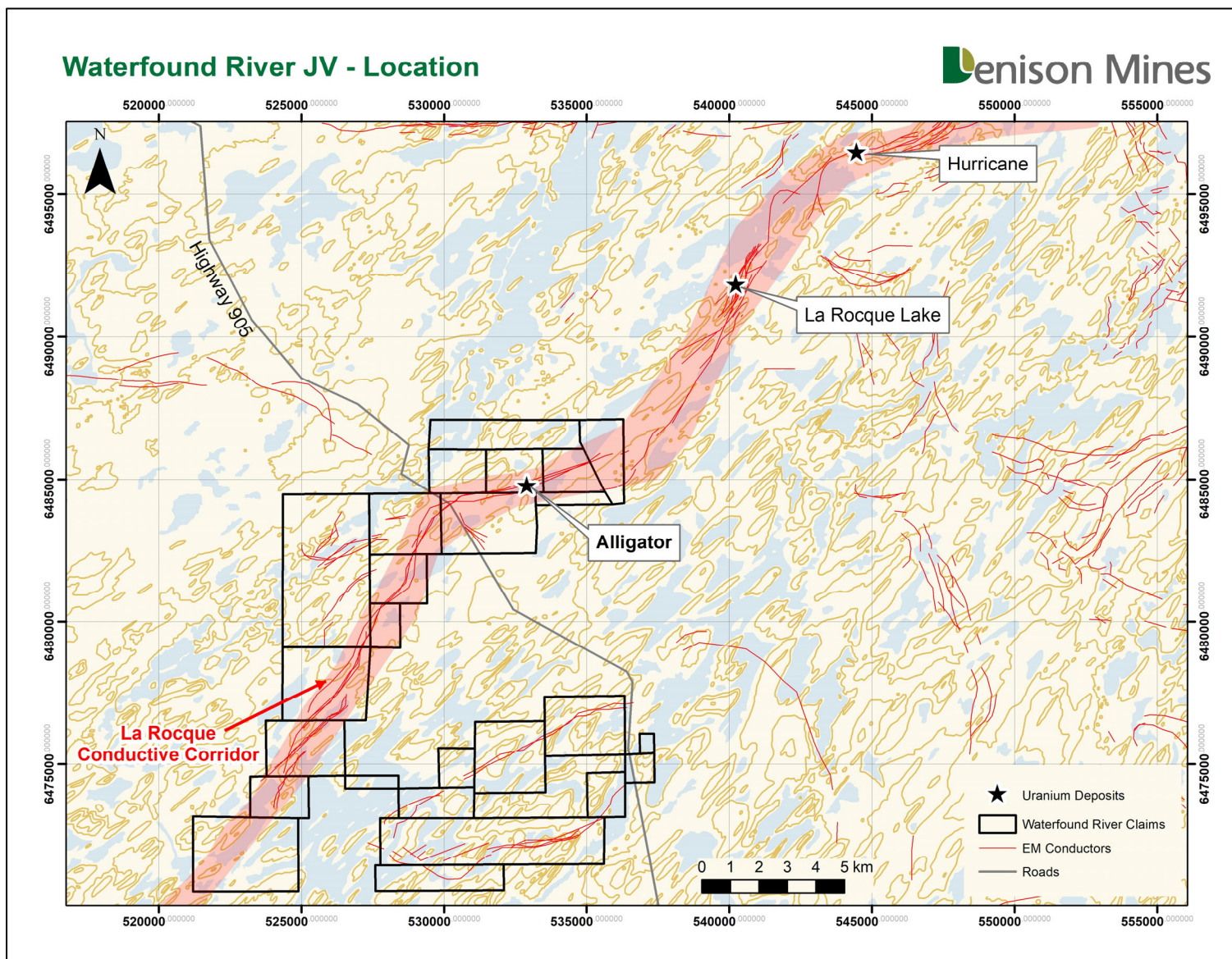


Figure 2 – 2022 Summer Exploration Drilling – Alligator Extension

