Denison Mines Corp.
1100 – 40 University Ave
Toronto, ON M5J 1T1
www.denisonmines.com

PRESS RELEASE

Denison Announces Expansion of High-Grade Uranium Mineralization at McClean Lake South

Toronto, ON – September 8, 2022. Denison Mines Corp. ("Denison" or the "Company") (DML: TSX, DNN: NYSE American) is pleased to report that assays recently received from exploration drilling completed at the Company's 22.5% owned McClean Lake Joint Venture ("McClean Lake" or "MLJV"), during the winter of 2022, have resulted in a significant expansion of the "new" high-grade unconformity-hosted zone of uranium mineralization discovered in 2021 between the McClean South 8W and 8E pods (see Denison's news release dated April 14, 2021).

Ten drill holes completed during 2022 by Orano Canada Inc. ("Orano Canada"), 77.5% owner and operator of the MLJV, returned notable uranium mineralization, including drill hole MCS-58, which returned **2.96% U_3O_8 over 15.5 metres,** including **24.49% U_3O_8 over 1.5 metres,** located approximately 54 metres to the southeast of drill hole MCS-34, which was completed in 2021 and returned a mineralized interval of 8.67% U_3O_8 over 13.5 metres.

Overall, the results from 2022 have successfully expanded the footprint of the "new" mineralized zone to approximately 180 metres in strike length (see Figure 1 and Figure 2).

Andy Yackulic, P.Geo., Denison's Director, Exploration, commented, ***"We are pleased with the exploration success produced by Orano Canada as operator of the MLJV – including a significant expansion of the footprint of high-grade uranium mineralization discovered in 2021 between the McClean South 8W and 8E pods. Based on the results of the 14 mineralized holes drilled in this area during 2021 and 2022, a third mineralized pod with a strike length of roughly 180 metres has now been interpreted in the McClean South area. Given the complex structural framework controlling the mineralization of this "new" pod, and the fact that mineralization remains open across strike on several fences, additional exploration drilling is warranted."***

David Cates, Denison's President & CEO, added ***"The emergence of a 'new' mineralized pod in the McClean Lake South area is quite encouraging for the MLJV. Taken together with the successful field test of the SABRE mining method completed in 2021, the excess licensed capacity at the McClean Lake mill, and the approval of the McClean tailings management facility ('TMF') expansion earlier in 2021, the delineation of meaningful new uranium mineralization on the McClean Lake property has the potential to translate into an important source of future mill feed and ultimately considerable value for the MLJV and its owners."***

2022 McClean South Exploration Highlights

A diamond drilling program consisting of 23 drill holes totalling 5,682 metres was completed at McClean South during 2022. The program was designed to test for the potential expansion of a 'new' pod of high-grade mineralization discovered in 2021 between the 8W and 8E pods along the McClean South conductor, as well as to test for additional mineralization in the surrounding area (see Figure 2).

Uranium mineralization grading greater than 0.05% U_3O_8 was intersected in 10 of 23 holes completed at McClean South during the winter of 2022, successfully expanding the footprint of the 'new' mineralized pod to a strike length of approximately 180 metres. The best mineralized intersection from the 2022 program was encountered in hole MCS-58, grading **2.96% U_3O_8 over 15.5 metres** from 153.1 metres to 168.6 m, located 54 metres southeast of high-grade mineralization discovered during 2021 in MCS-34. Follow-up drilling approximately 8 metres to the north of MCS-58 identified further unconformity-associated mineralization, grading **0.34% eU_3O_8 over 9.5 metres** in MCS-59A. Mineralization remains open to the north of MCS-59A.

MCS-57, drilled approximately 28 metres along strike to the east of MCS-58, also identified unconformity-associated uranium mineralization, grading **0.35% U_3O_8 over 8.8 metres**. This represents the eastern-most mineralized intersection of the 'new' mineralized pod and remains open further to the east for approximately 50 metres, where it appears to have been cut off by historical drilling that has defined the western extent of the 8E pod.

MCS-38, the first hole drilled during the 2022 drilling program, intersected unconformity-associated uranium mineralization grading **1.17% U_3O_8 over 12.0 metres**, approximately 12 metres along strike to the west of the mineralized intersection in MCS-34.

Additionally, MCS-50 tested the unconformity approximately 65 metres along strike to the west of MCS-38 and encountered unconformity-associated mineralization that returned an interval grading **1.13% U_3O_8 over 8.0 metres**. Drill testing to the west of MCS-50 did not return any notable high-grade mineralization; however, further drill testing is required to determine if the mineralization discovered in MCS-50 can be extended to the west by following an interpreted structural offset to the south.

The results of the holes discussed above and the balance of mineralized drill holes completed at the McClean South target area during 2022 are outlined in Table 1, below, while drill hole locations and traces are depicted in Figure 2.

Table 1 – 2022 McLean Lake Exploration Drilling - Mineralized Intersections

Drill Hole	Orientation (azi./dip)	From (m)	To (m)	Length (m)[(1)]	U_3O_8 (%)[(2)]
MCS-38	345°/-80°	160.8	172.8	12.0	1.17
MCS-40	345°/-83°	173.1	175.1	2.0	0.06
MCS-44	345°/-80°	162.4	166.4	4.0	0.59
MCS-45	345°/-83°	166.1	167.6	1.5	0.75
MCS-48	345°/-70°	194.8	195.3	0.5	0.09
MCS-49	345°/-80°	172.7	174.2	1.5	0.06
MCS-50	345°/-80°	162.0	170.0	8.0	1.13
MCS-57	345°/-80°	157.1	165.9	8.8	0.35
MCS-58	345°/-87°	153.1	168.6	15.5	2.96
Including	-	*161.6*	*163.1*	*1.5*	*24.49[(3)]*
MCS-59A	345°/-83°	160.9	170.4	9.5	0.34

Notes: *(1) Lengths indicated represent the down-hole length of mineralized intersections.*
(2) Interval is composited above a cut-off grade of 0.05% U_3O_8, allowing for internal waste of up to 1.0 metre.
(3) Interval is composited above a cut-off grade of 5.0%

Sampling, Analysis and Data Verification

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.

For results from McClean Lake, Orano Canada has performed detailed QAQC and data verification, where possible, of all datasets. Denison has performed additional QAQC and data verification of the drilling database.

McClean South 8E and 8W Pods

The McClean South trend is located parallel to and approximately 500 metres south of the McClean North trend in the southwestern portion of the property (see Figure 1). The McClean South target area has been the subject of historic exploration drilling, resulting in the discovery and subsequent delineation of the 8W and 8E pods, which are situated along a N70° to 80° trend in close proximity to the McClean Lake granitic dome to the south (see Figure 2). The dip of the geology appears to range from 45° to 65° S in the 8W pod. In contrast, the dip within the 8E pod is steeper and undulating but is most commonly around 80° S. Several graphitic horizons of varying thickness are present in the McClean South target area and extend beyond and into other parts of the property.

Mineralization within the 8W pod is currently understood to be primarily hosted within the sandstone; however, it has also been locally encountered within the basement of the 8W pod. The mineralization within the sandstone can extend upwards of 50 metres above the unconformity. Mineralization within the 8E pod is currently understood to overlap the unconformity, with mineralization located both in the sandstone and within the upper basement.

No current resource estimate, prepared in accordance with NI 43-101, exists for the mineralization identified to date at the McClean South pods.

About McClean Lake

The McClean Lake property is located on the eastern edge of the Athabasca Basin in northern Saskatchewan, approximately 750 kilometres north of Saskatoon. Denison holds a 22.5% ownership interest in the MLJV and the McClean Lake uranium mill, one of the world's largest uranium processing facilities. The mill has licensed annual production capacity of 24.0 million pounds U_3O_8, and is currently operating under a 10-year license expiring in 2027. The mill is contracted to process the ore from the Cigar Lake mine under a toll milling agreement (up to 18.0 million pounds U_3O_8 per year). The MLJV is an unincorporated contractual arrangement between Orano Canada with a 77.5% interest and Denison with a 22.5% interest. Orano Canada is the operator of the project.

McClean Lake consists of nine known uranium deposits: JEB; Sue A, B, C, D and E; McClean North; McClean South; and Caribou. In 1995, the development of the McClean Lake project began. Mill construction commenced in 1995 and ore processing activities reached commercial production in November 1999. Mining operations commenced in 1996 and the following deposits have been mined out to date: JEB (1996 to 1997), Sue C (1997 to 2002), Sue A (2005 to 2006), Sue E (2005 to 2008) and Sue B (2007 to 2008).

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 Túé ("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 (Canada) Exploration Company, Limited ("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 (formerly Denison Environmental Services), which manages Denison's reclaimed mine sites in the Elliot Lake region and provides related services to certain third-party projects.

For more information, please contact

David Cates (416) 979-1991 ext 362
President and Chief Executive Officer

Mac McDonald (416) 979-1991 ext 242
Exec. Vice President & Chief Financial Officer

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 to the following: the interpretation of exploration results and expectations with respect thereto, including the interpretation of the results from the McClean Lake JV exploration program undertaken by Orano Canada, underlying assumptions and the McClean Lake 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 - McClean Lake Project Claims

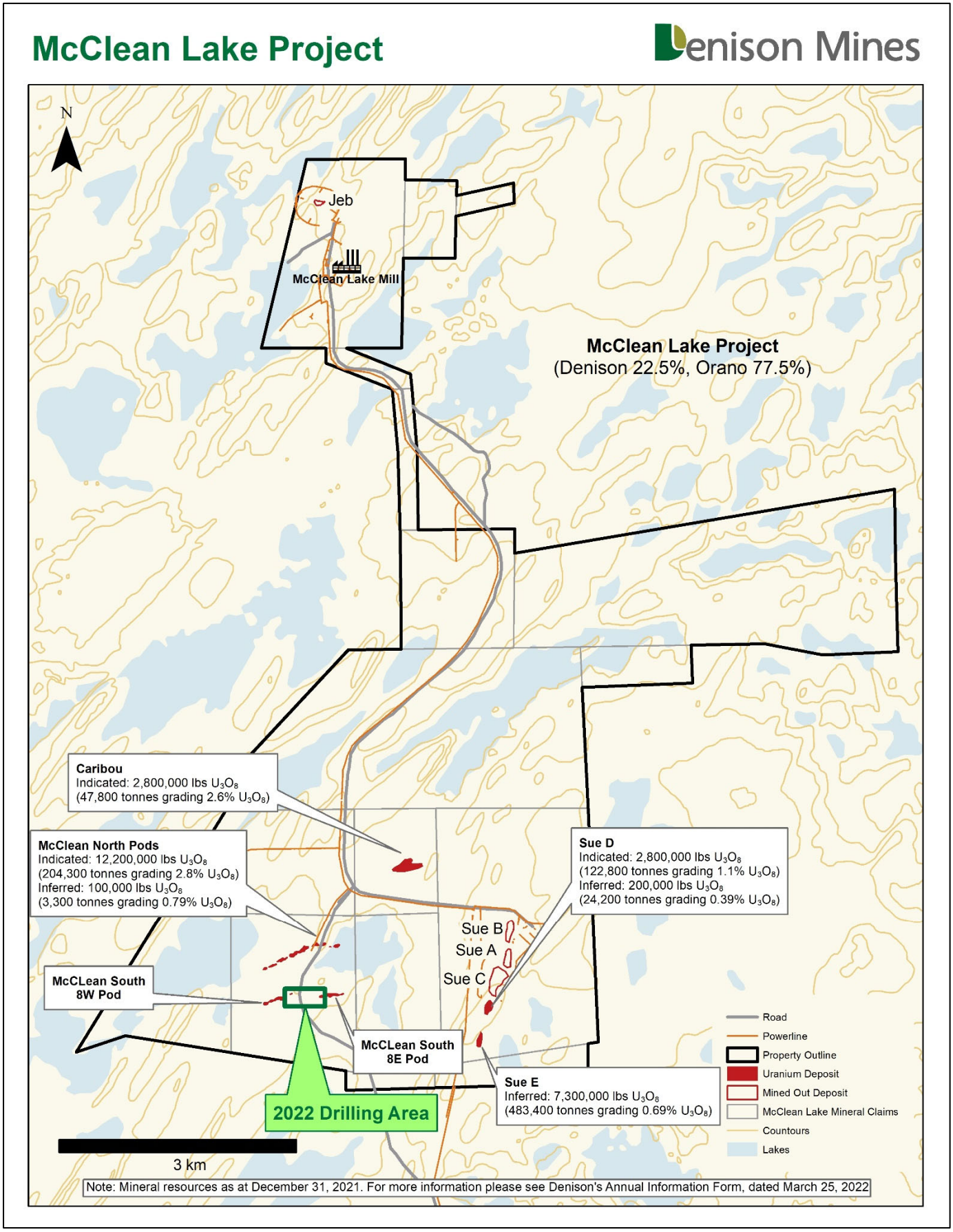

Figure 2 - McLean Lake South - 2022 Drilling