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

PRESS RELEASE

DENISON ANNOUNCES 22.1 METRES OF HIGH-GRADE MINERALIZATION FROM GRYPHON D SERIES AS WINTER DRILLING WRAPS UP AT WHEELER RIVER

Toronto, ON – April 20, 2017 Denison Mines Corp. ("Denison" or the "Company") (DML: TSX, DNN: NYSE MKT) is pleased to report additional high-grade intersections from the Gryphon D series lenses of mineralization, which remain outside of the resources estimated for the Gryphon deposit in late 2015. The Gryphon deposit accompanies the Phoenix deposit on the Company's 60% owned Wheeler River project, which is the largest undeveloped high-grade uranium project in the infrastructure rich eastern portion of the Athabasca Basin. In addition, the Company is pleased to report radiometric equivalent grade results ("eU_3O_8") from the final drill holes completed during the winter 2017 drill program at Wheeler River.

Drill hole WR-633D3 intersected **high-grade mineralization over a cumulative interval of 22.1 metres within the position of the D series lenses.** The result was highlighted by two mineralized intervals, as follows:

- **18.7 metres at 1.9% eU_3O_8** (including 13.2 metres at 2.5% eU_3O_8), and
- **3.4 metres at 3.1% eU_3O_8**

The mineralized intervals occur approximately 26 metres down-dip of the 11.0 metre interval grading 5.3% U_3O_8 previously reported in drill hole WR-641 (see Denison's Press Release dated May 26, 2016). The mineralized intervals in WR-633D3 are also located approximately 43 metres down-dip of the 1.2 metre interval grading 7.50% eU_3O_8 and 1.7 metre interval grading 2.90% eU_3O_8 in drill hole WR-689 (see Denison's Press Release dated March 29, 2017).

Infill drilling within the Gryphon deposit's A, B and C series lenses has continued as part of the winter 2017 program, with a further 4 drill holes having been completed prior to the completion of winter drilling activities. The radiometric equivalent grade results continue to confirm continuity and high-grades of the Gryphon deposit lenses. Highlight intersections for the further 4 infill holes completed include:

- **3.9% eU_3O_8 over 7.1 metres** (including 6.1% eU_3O_8 over 4.4 metres), and
- **3.8% eU_3O_8 over 4.0 metres** (including 4.4% eU_3O_8 over 3.4 metres) in drill hole WR-567D1
- **5.9% eU_3O_8 over 6.2 metres** (including 8.7% eU_3O_8 over 4.1 metres), and
- **2.1% eU_3O_8 over 3.6 metres** (including 2.6% eU_3O_8 over 2.8 metres) in drill hole WR-567D2
- **2.7% eU_3O_8 over 5.3 metres** (including 9.4% eU_3O_8 over 1.3 metres) in drill hole WR-688D3
- **2.0% eU_3O_8 over 4.6 metres** (including 4.1% eU_3O_8 over 1.9 metres) in drill hole WR-606D2

Denison's President & CEO, David Cates, commented *"We are pleased to have completed another safe and successful drill season at Wheeler River this winter. Our Saskatoon based exploration team has delivered another productive season of drilling, with results in the vicinity of the Gryphon deposit demonstrating the potential for meaningful additional resources – particularly with some notable intersections in the D series lenses, which are situated outside of the existing resources estimated for the deposit. As we work towards increasing the confidence for the existing resources at the Gryphon deposit, from inferred to indicated, the infill drill program has produced a solid set of results confirming thicknesses and high-grades. The team is eagerly awaiting chemical assay results over the coming weeks, and is looking forward to commencing the summer drill program towards the end of May".*

Exploration Drilling Outside of the Gryphon Resource

A further two exploration drill holes, WR-633D3 and WR-690, were completed to test the continuity of the D series lenses between previous exploration holes completed on an approximate 50 x 50 metre spacing. Drill hole WR-633D3 tested for D series mineralization approximately 26 metres down-dip to the southeast of drill hole WR-641, and returned high-grade mineralization over a cumulative interval of 22.1 metres within the position of the D series lenses.

Drill hole WR-690 tested for D series mineralization approximately 26 metres down plunge to the northeast of drill hole WR-641. The drill hole intersected moderate mineralization in positions of the B, C and D series lenses.

The D series lenses are not included in the current resource estimate for the Gryphon deposit and occur footwall, and within 200 metres to the north and northwest, of the A, B and C series lenses. Mineralization amongst the D series lenses remains open along strike to the northeast and southwest. Radiometric equivalent grade results for drill holes WR-633D3 and WR-690 are provided in Table 1 and locations illustrated in Figures 1 to 5.

Table 1: Mineralized intersections from drill holes WR-633D3 and WR-690 completed during winter 2017

Section	Drill Hole	From (m)	To (m)	Length (m)[5]	eU3O8 (%)[1][2][4]	Lens Designation
5200GP	WR-633D3	674.6	675.6	1.0	0.12	B Series
	and	742.8	743.8	1.0	0.11	D Series
	and[3]	**753.2**	**771.9**	**18.7**	**1.9**	**D Series**
	including	**753.3**	**756.4**	**3.1**	**0.75**	**D Series**
	including	**758.6**	**771.8**	**13.2**	**2.5**	**D Series**
	and	**774.3**	**777.7**	**3.4**	**3.1**	**D Series**
5225GP	WR-690	585.9	587.0	1.1	0.18	B Series
	and	593.0	594.0	1.0	0.74	B Series
	and	654.5	655.5	1.0	0.70	C Series
	and	722.3	723.3	1.0	0.23	D Series
	and	726.1	727.1	1.0	0.18	D Series

Notes:

1. eU_3O_8 is radiometric equivalent U_3O_8 from a calibrated total gamma downhole probe. eU_3O_8 results are preliminary in nature and all mineralized intervals will be sampled and submitted for chemical U_3O_8 assay.
2. Intersection interval is composited above a cut-off grade of 0.1% eU_3O_8 unless otherwise indicated.
3. Intersection interval is composited above a cut-off grade of 0.05% eU_3O_8.
4. Composites are compiled using 1.0 metre minimum ore thickness and 2.0 metres maximum waste.
5. As the drill holes are oriented steeply toward the northwest and the basement mineralization is interpreted to dip moderately to the southeast, the true thickness of the mineralization is expected to be approximately 75% of the intersection lengths.

Infill and Delineation Drilling of the Gryphon Resource

The infill and delineation drilling program is designed to upgrade the current inferred resources of the Gryphon deposit to an indicated level of confidence by increasing the previous 50 x 50 metre drill spacing to an approximate 25 x 25 metre spacing. The program commenced in 2016, with the completion of an initial five drill holes. A further 17 drill holes, totaling approximately 8,402 metres, have been completed as part of the winter 2017 program, with a further 18 drill holes planned to be completed during the summer 2017 program.

Radiometric equivalent grade results for the latest four infill drill holes completed as part of the winter 2017 program are provided in Table 2, and locations shown in Figures 1 to 4. The results are largely consistent with the inferred grade model and confirm continuity and high-grades of the Gryphon deposit A, B and C mineralized lenses.

Table 2: Mineralized intersections from infill drill holes WR-567D1, WR-567D2, WR-688D3 and WR-606D2 completed during winter 2017

Section	Drill Hole	From (m)	To (m)	Length (m)[5]	eU3O8 (%)[1][2][4]	Lens Designation
4975GP	WR-567D1	674.3	675.9	1.6	0.33	A Series
	and	689.8	690.8	1.0	0.66	A Series
	and	694.9	696.9	2.0	1.3	A Series
	including[3]	695.0	696.0	1.0	2.4	A Series
	and	**700.0**	**707.1**	**7.1**	**3.9**	**A Series**
	including[3]	**701.1**	**705.5**	**4.4**	**6.1**	**A Series**
	and	**723.1**	**727.1**	**4.0**	**3.8**	**B Series**
	including[3]	**723.4**	**726.8**	**3.4**	**4.4**	**B Series**
	WR-567D2	664.5	665.6	1.1	0.42	A Series
	and	670.1	671.1	1.0	0.89	A Series
	and	691.2	692.2	1.0	1.2	A Series
	and	694.3	695.7	1.4	0.71	A Series
	and	**698.4**	**704.6**	**6.2**	**5.9**	**A Series**
	including[3]	**700.2**	**704.3**	**4.1**	**8.7**	**A Series**
	and	713.5	714.9	1.4	0.22	B Series
	and	**732.8**	**736.4**	**3.6**	**2.1**	**B Series**
	including[3]	**733.0**	**735.8**	**2.8**	**2.6**	**B Series**
	and	739.0	740.0	1.0	0.40	B Series
	and	744.75	747.35	2.6	0.28	B Series
5100GP	WR-688D3	758.1	759.1	1.0	0.24	A Series
	and	**762.4**	**767.7**	**5.3**	**2.7**	**A Series**
	including[3]	**764.4**	**765.7**	**1.3**	**9.4**	**A Series**
	including[3]	766.5	767.5	1.0	1.3	A Series
	and	775.2	776.2	1.0	0.12	B Series
	and	779.1	780.1	1.0	0.11	B Series
	and	780.4	781.4	1.0	0.10	B Series
	and	782.2	785.1	2.9	0.71	B Series
	including[3]	783.5	784.5	1.0	1.57	B Series
	and	793.1	794.2	1.1	5.4	C Series
	including[3]	793.2	794.2	1.0	5.9	C Series
	WR-606D2	764.3	765.3	1.0	0.11	A Series
	and	785.4	786.4	1.0	0.15	A Series
	and	792.4	793.4	1.0	0.11	A Series
	and	**794.2**	**798.8**	**4.6**	**2.0**	**A Series**
	including[3]	**795.9**	**797.8**	**1.9**	**4.1**	**A Series**
	and	803.5	808.1	4.6	0.5	B Series
	including[3]	804.6	805.6	1.0	1.5	B Series

Notes:

1. eU_3O_8 is radiometric equivalent U_3O_8 from a calibrated total gamma downhole probe. eU_3O_8 results are preliminary in nature and all mineralized intervals will be sampled and submitted for chemical U_3O_8 assay.
2. Intersection interval is composited above a cut-off grade of 0.1% eU_3O_8 unless otherwise indicated.
3. Intersection interval is composited above a cut-off grade of 1% eU_3O_8.
4. Composites are compiled using 1.0 metre minimum ore thickness and 2.0 metres maximum waste.
5. As the drill holes are oriented steeply toward the northwest and the basement mineralization is interpreted to dip moderately to the southeast, the true thickness of the mineralization is expected to be approximately 75% of the intersection lengths.

Illustrative Figures & Further Details

A plan map of the northeast plunging Gryphon mineralized lenses, projected up to the simplified basement geology at the sub-Athabasca unconformity, is provided in Figure 1. The plan map shows the location of the A, B, C and D series lenses interpreted to the end of 2016 with the winter 2017 mineralized pierce points shown as orange or yellow stars. The inset on Figure 1 shows a schematic cross section of the A, B, C and D series lenses and their respective inclined longitudinal section windows (as shaded rectangles). Figures 2 to 5 provide inclined longitudinal sections of the Gryphon A, B, C and D series lenses respectively. Shown on the inclined longitudinal sections are the various mineralized lenses projected to their respective planes and drill hole pierce points. Drill hole pierce points prior to the winter 2017 program are shown as black circles whereas winter 2017 pierce points are shown as either orange stars (mineralized – previously reported intersection), yellow stars (mineralized – new intersection) or grey circles (not significantly mineralized).

It should be noted for Figures 1 to 5 that mineralized lenses are designated either A, B, C or D series, and coloured accordingly, based on the interpreted stratigraphic planes in which they occur (i.e. their position relative to the different geological units and fault structures identified). In Press Releases from 2016, all new lenses defined outside of the Gryphon deposit's A, B and C series lenses, which constitutes the current inferred resource estimate, were designated D series lenses. Further geological data from 2017 drilling and an improved geological model has allowed Denison to re-classify some of the previously modelled D series mineralized lenses into new A, B or C series lenses based on their stratigraphic position ahead of future resource estimation. The modelled mineralized lenses shown in Figures 1 to 5 are defined using a 0.05% U_3O_8 or eU_3O_8 grade shell and minimum thickness of two metres. There is no certainty that the modelled mineralized lenses shown will constitute future mineral resources and they may be subject to modifications as further drilling data becomes available.

Further details regarding the Gryphon deposit and the current mineral resource estimates are provided in the NI 43-101 Technical Report for the Wheeler River project titled "Preliminary Economic Assessment for the Wheeler River Uranium Project, Saskatchewan, Canada" dated April 8, 2016 with an effective date of March 31, 2016. A copy of this report is available on Denison's website and under its profile on SEDAR at www.sedar.com and on EDGAR at www.sec.gov/edgar.shtml.

Qualified Persons

Dale Verran, MSc, Pr.Sci.Nat., Denison's Vice President, Exploration, who is a Qualified Person in accordance with the requirements of NI 43-101 has reviewed and approved the technical information contained in this release. For a description of the assay procedures and the quality assurance program and quality control measures applied by Denison, please see Denison's Annual Information Form dated March 24, 2016 filed under the Company's profile on SEDAR (www.sedar.com).

About Wheeler River

Wheeler River is the largest undeveloped high-grade uranium project in the infrastructure rich eastern portion of the Athabasca Basin region, in northern Saskatchewan. The project is a joint venture between Denison (60% and operator), Cameco Corp. ("Cameco") (30%), and JCU (Canada) Exploration Company Limited ("JCU") (10%), and is host to the high-grade Gryphon and Phoenix uranium deposits discovered by Denison in 2014 and 2008, respectively. The Gryphon deposit is hosted in basement rock and is currently estimated to contain inferred resources of 43.0 million pounds U_3O_8 (above a cut-off grade of 0.2% U_3O_8) based on 834,000 tonnes of mineralization at an average grade of 2.3% U_3O_8. The Phoenix unconformity deposit is located approximately 3 kilometres to the southeast of Gryphon and is estimated

to include indicated resources of 70.2 million pounds U_3O_8 (above a cut-off grade of 0.8% U_3O_8) based on 166,000 tonnes of mineralization at an average grade of 19.1% U_3O_8, and is the highest grade undeveloped known uranium deposit in the world.

On April 4th, 2016, Denison announced the results of a Preliminary Economic Assessment ("PEA") for the Wheeler River Project, which considers the potential economic merit of co-developing the high-grade Gryphon and Phoenix deposits as a single underground mining operation. The PEA returned a base case pre-tax Internal Rate of Return ("IRR") of 20.4% based on the current long term contract price of uranium (US$44.00 per pound U_3O_8), and Denison's share of estimated initial capital expenditures ("CAPEX") of CAD$336M (CAD$560M on 100% ownership basis). Exploration results from the winter and summer 2016 drilling program have not been incorporated into the resource estimate or the PEA. The PEA is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized. Mineral resources are not mineral reserves and do not have demonstrated economic viability. On July 19th, 2016 Denison announced the initiation of a Pre-Feasibility Study ("PFS") for the Wheeler River property and the complimentary commencement of an infill drilling program at the Gryphon deposit to bring the inferred resources to an indicated level of confidence.

As previously announced on January 10, 2017, Denison has entered into an agreement with its Wheeler River Joint Venture partners, Cameco and JCU, to fund 75% of Joint Venture expenses in 2017 and 2018 (ordinarily 60%) in exchange for an increase in Denison's interest in the project to up to approximately 66%. Under the terms of the agreement, Cameco will fund 50% of its ordinary 30% share in 2017 and 2018, and JCU is expected to continue to fund its 10% interest in the project.

About Denison

Denison is a uranium exploration and development company with interests focused in the Athabasca Basin region of northern Saskatchewan. Including its 60% owned Wheeler River project, which hosts the high-grade Phoenix and Gryphon uranium deposits, Denison's exploration portfolio consists of numerous projects covering over 330,000 hectares in the infrastructure rich eastern Athabasca Basin. Denison's interests in Saskatchewan also include a 22.5% ownership interest in the McClean Lake joint venture, 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 deposit and a 63.01% interest in the J Zone deposit on the Waterbury Lake property. Both the Midwest and J Zone deposits are located within 20 kilometres of the McClean Lake mill.

Denison is also engaged in mine decommissioning and environmental services through its Denison Environmental Services division and is 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 (416) 979-1991 ext. 362
President and Chief Executive Officer

Sophia Shane (604) 689-7842
Investor Relations

Follow Denison on Twitter @DenisonMinesCo

Cautionary Statement Regarding Forward-Looking Statements

Certain information contained in this press release constitutes "forward-looking information", within the meaning of the United States Private Securities Litigation Reform Act of 1995 and similar 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 press release contains forward-looking

information pertaining to the following: exploration (including drilling) and evaluation activities, plans and objectives; potential mineralization of drill targets; the estimates of Denison's mineral resources and the results of its PEA.

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. Denison believes that the expectations reflected in this forward-looking information are reasonable but there can be no assurance that such statements will prove to be accurate and 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 "Risk Factors" in Denison's Annual Information Form dated March 24, 2016 available under its profile at www.sedar.com *and in its Form 40-F available at* www.sec.gov/edgar.shtml. *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 press release is expressly qualified by this cautionary statement. Denison does not undertake any obligation to publicly update or revise any forward-looking information after the date of this press release to conform such information to actual results or to changes in its expectations except as otherwise required by applicable legislation.

Cautionary Note to United States Investors Concerning Estimates of Measured, Indicated and Inferred Mineral Resources: *This press release may use the terms "measured", "indicated" and "inferred" mineral resources. United States investors are advised that while such terms are recognized and required by Canadian regulations, the United States Securities and Exchange Commission does not recognize them. "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.*

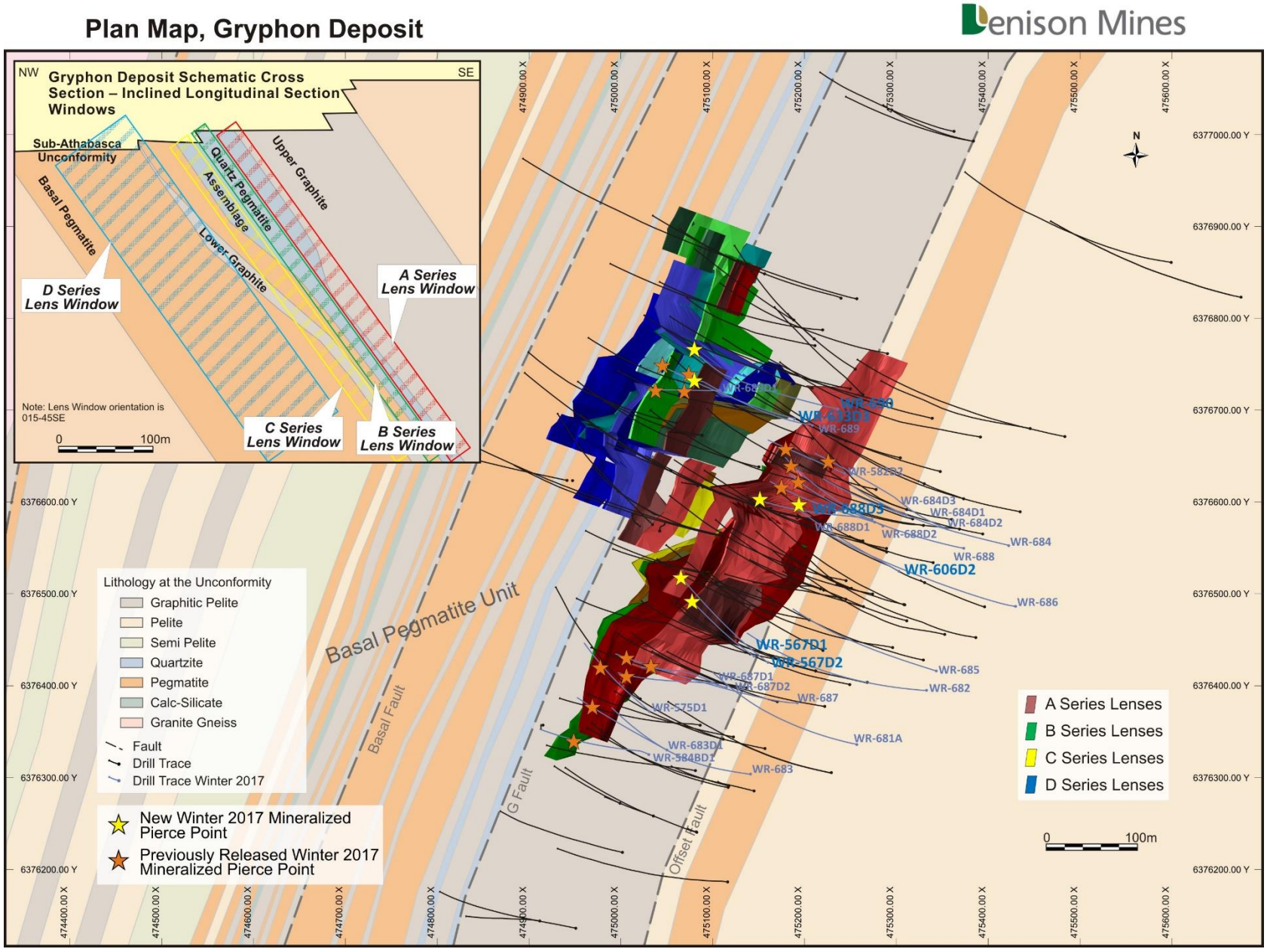

Figure 1: Plan map of the northeast plunging Gryphon mineralized lenses projected up to the simplified basement geology at the sub-Athabasca unconformity.

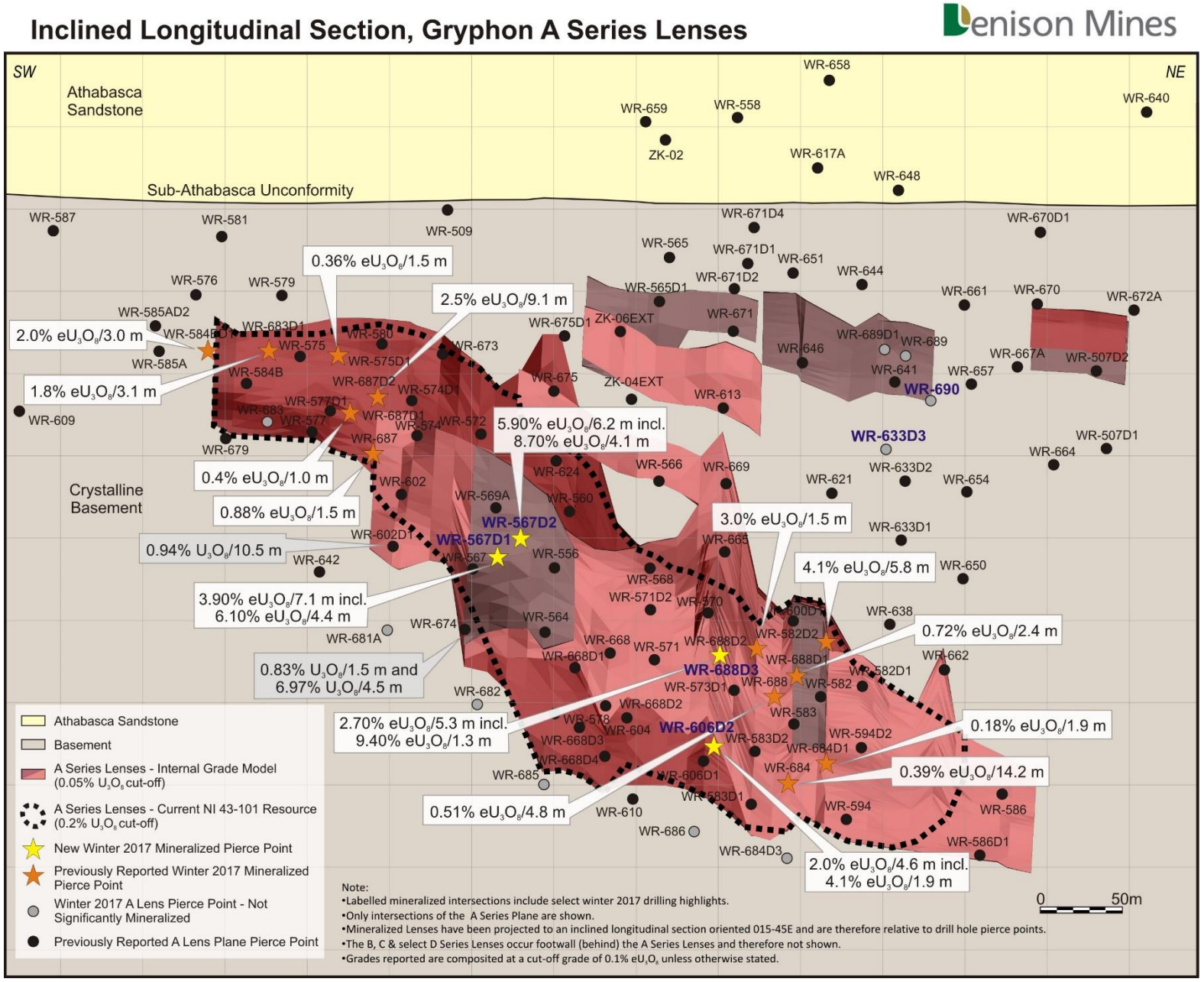

Figure 2: Inclined longitudinal section of the Gryphon A series lenses.

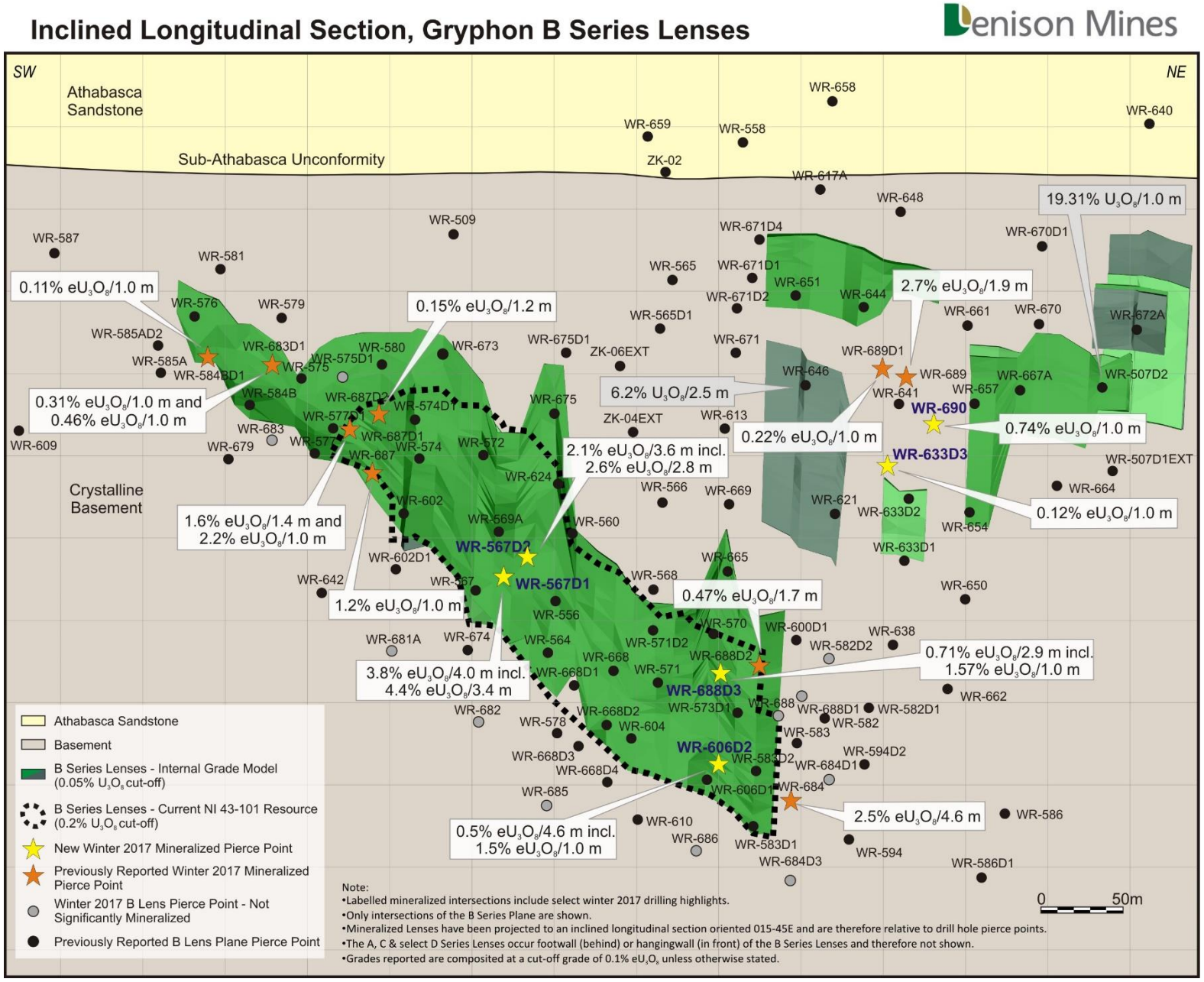

Figure 3: Inclined longitudinal section of the Gryphon B series lenses.

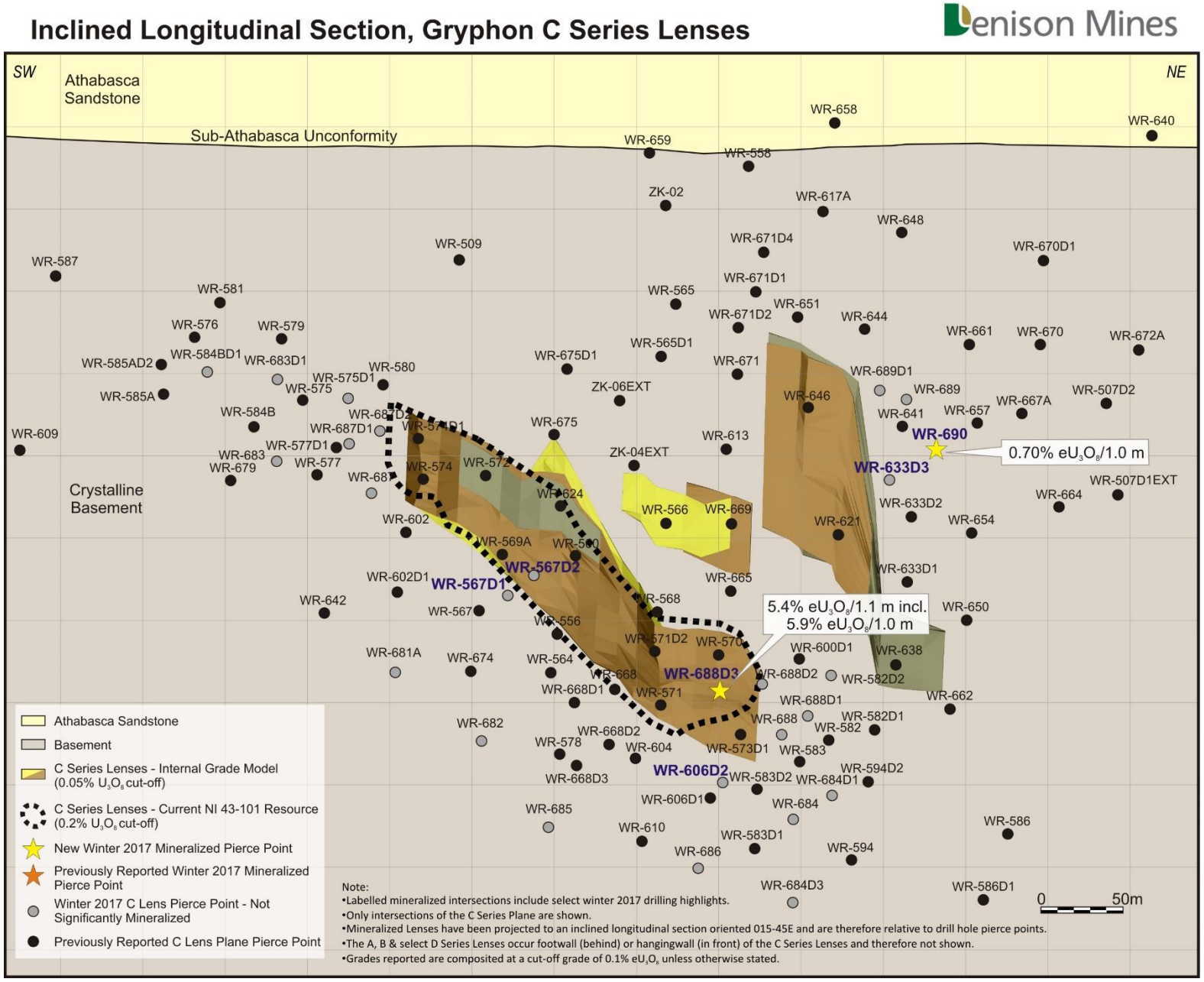

Figure 4: Inclined longitudinal section of the Gryphon C series lenses.

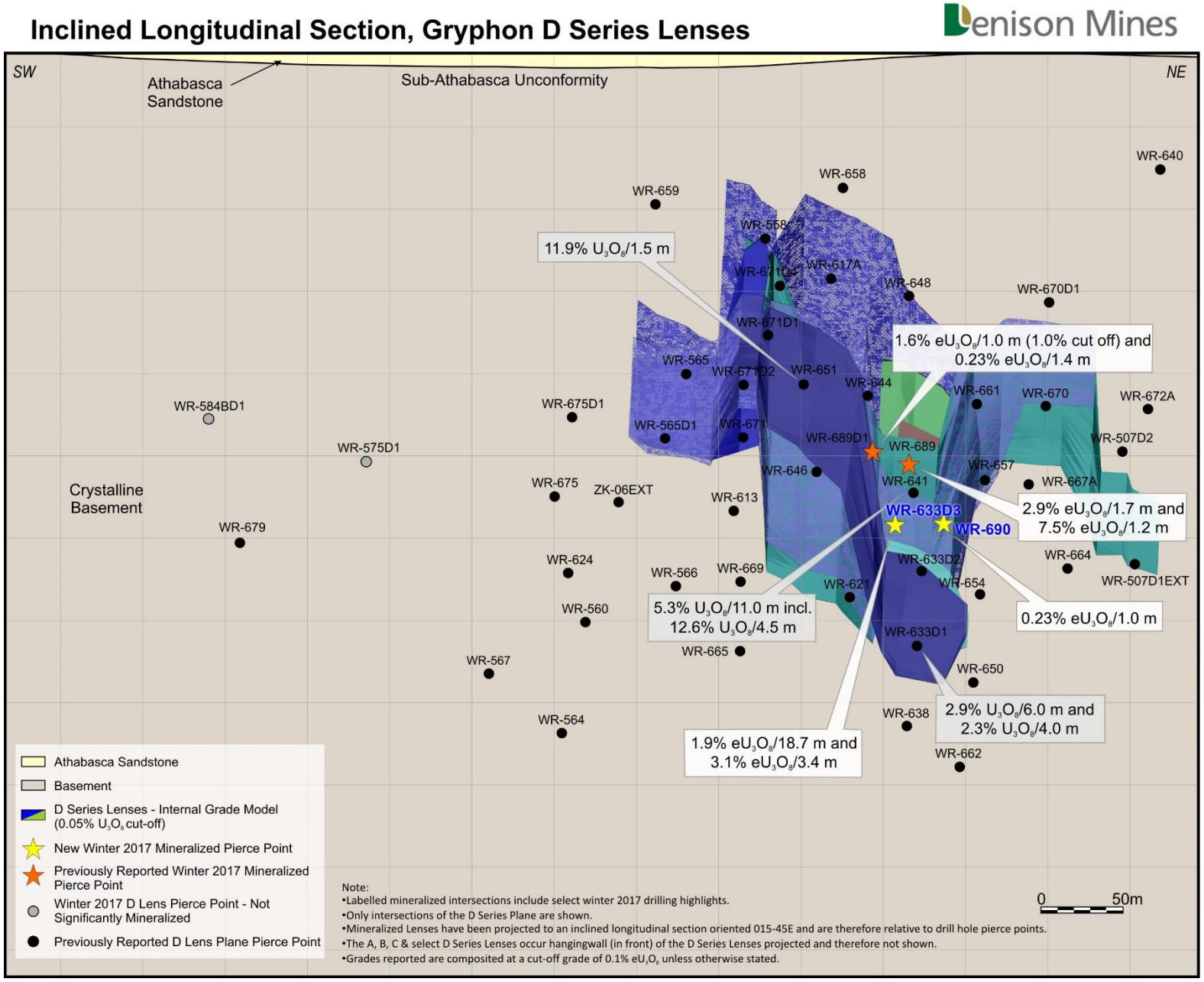

Figure 5: Inclined longitudinal section of the Gryphon D series lenses.