



## Uranium Development & Exploration

The Athabasca Basin, Northern Saskatchewan

March 2020 | PDAC Corporate Presentation Forum for Investors - Uranium



# Cautionary Statements & References

This presentation and the information contained herein is designed to help you understand management's current views, and may not be appropriate for other purposes. This presentation contains information relating to other companies and provincial infrastructure, and the plans and availability thereof, derived from third-party publications and reports which Denison believes are reliable but have not been independently verified by the Company.

**Certain information contained in this presentation 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 presentation contains forward-looking information pertaining to the results of, and estimates, assumptions and projections provided in, the PFS, including future development methods and plans, market prices, costs and capital expenditures; assumptions regarding Denison's ability to obtain all necessary regulatory approvals to commence development; Denison's percentage interest in its projects and its agreements with its joint venture partners; and the availability of services to be provided by third parties. Statements relating to "mineral resources" are deemed to be forward-looking information, as they involve the implied assessment, based on certain estimates and assumptions that the mineral resources described can be profitably produced in the future.

**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 faces certain risks, including the inability to permit or develop the project as currently planned, the unpredictability of market prices, the use of mining methods which are novel and untested in the Athabasca basin, events that could materially increase costs, changes in the regulatory environment governing the project lands, and unanticipated claims against title and rights to the project. 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 27, 2018 available under its profile at [www.sedar.com](http://www.sedar.com) and its Form 40-F available at [www.sec.gov/edgar.shtml](http://www.sec.gov/edgar.shtml). These factors are not, and should not be construed as being exhaustive.

**Readers should not place undue reliance on forward-looking statements.** The forward-looking information contained in this presentation 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 the September 24, 2018 press release to which this presentation relates. Denison does not undertake any obligation to publicly update or revise any forward-looking information after such date 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 presentation 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.**

## Qualified Persons

The disclosure of a scientific or technical nature within this presentation, including the disclosure of mineral resources and reserves and PFS results, was reviewed and approved by Dale Verran, MSc, P.Geo., Pr.Sci.Nat., Denison's Vice President Exploration, who is a Qualified Person in accordance with the requirements of NI 43-101.

## Wheeler River Technical Reports

For further details regarding the Wheeler River project, please refer to the Company's press release dated September 24, 2018 and the technical report titled "Prefeasibility Study for the Wheeler River Uranium Project, Saskatchewan, Canada" with an effective date of September 24, 2018. For a description of the data verification, assay procedures and the quality assurance program and quality control measures applied by Denison, please see Denison's Annual Information Form dated March 12, 2019. Copies of the foregoing are 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).



# Diversified Athabasca Basin Asset Base with Superior Development Leverage

## Strategic Asset Portfolio:

- 90% interest in Flagship **Wheeler River** project
  - Development stage project
  - Largest undeveloped uranium project in the infrastructure rich eastern Athabasca Basin
  - Environmental Assessment (“EA”) initiated
- 22.5% interest in **McClean Lake Uranium Mill**
  - Processing +12% of global uranium production
  - Excess licensed capacity
- Additional leverage to the uranium price from interests in undeveloped uranium resources at **McClean Lake, Midwest, and Waterbury Lake**
- ~**280,000 hectares** of prospective exploration ground in the Athabasca Basin
- Internal sources of **Cash Flow**
  - Uranium Participation Corp. (TSX-U)
  - Closed mine care & maintenance (formerly Denison Environmental Services)





## ~280,000 Hectares of Prospective Exploration & Development Ground Focused in the Infrastructure Rich Eastern Athabasca Basin



# Flagship Wheeler River Development Project<sup>(1)</sup>

## 90% Denison Owned (10% JCU):

- Host to two high-grade uranium deposits
- NI 43-101 compliant Pre-Feasibility Study (“PFS”) considers staged development plan
- **Phoenix** estimated to potentially have lowest costs of any undeveloped uranium deposit
  - **In-Situ Recovery (“ISR”) mining method**
  - On-site processing to finished yellow cake
  - Initiation of EA approved by Board & JV
  - All-in costs of **US\$8.90/lb U<sub>3</sub>O<sub>8</sub>**
  - Operating costs of **US\$3.33/lb U<sub>3</sub>O<sub>8</sub>**
- **Gryphon** contributes additional low-cost pounds
  - Conventional underground mining approach
  - Assumes toll-milling at McClean Lake mill
  - All-in cost of **US\$22.82/lb U<sub>3</sub>O<sub>8</sub>**
  - Operating costs of **US\$11.70/lb U<sub>3</sub>O<sub>8</sub>**
- Combined **109.4M lbs U<sub>3</sub>O<sub>8</sub>** Probable Reserves
- Combined **14 year** mine life
- Initial CAPEX (Phoenix) of **\$322.5M** (100%)

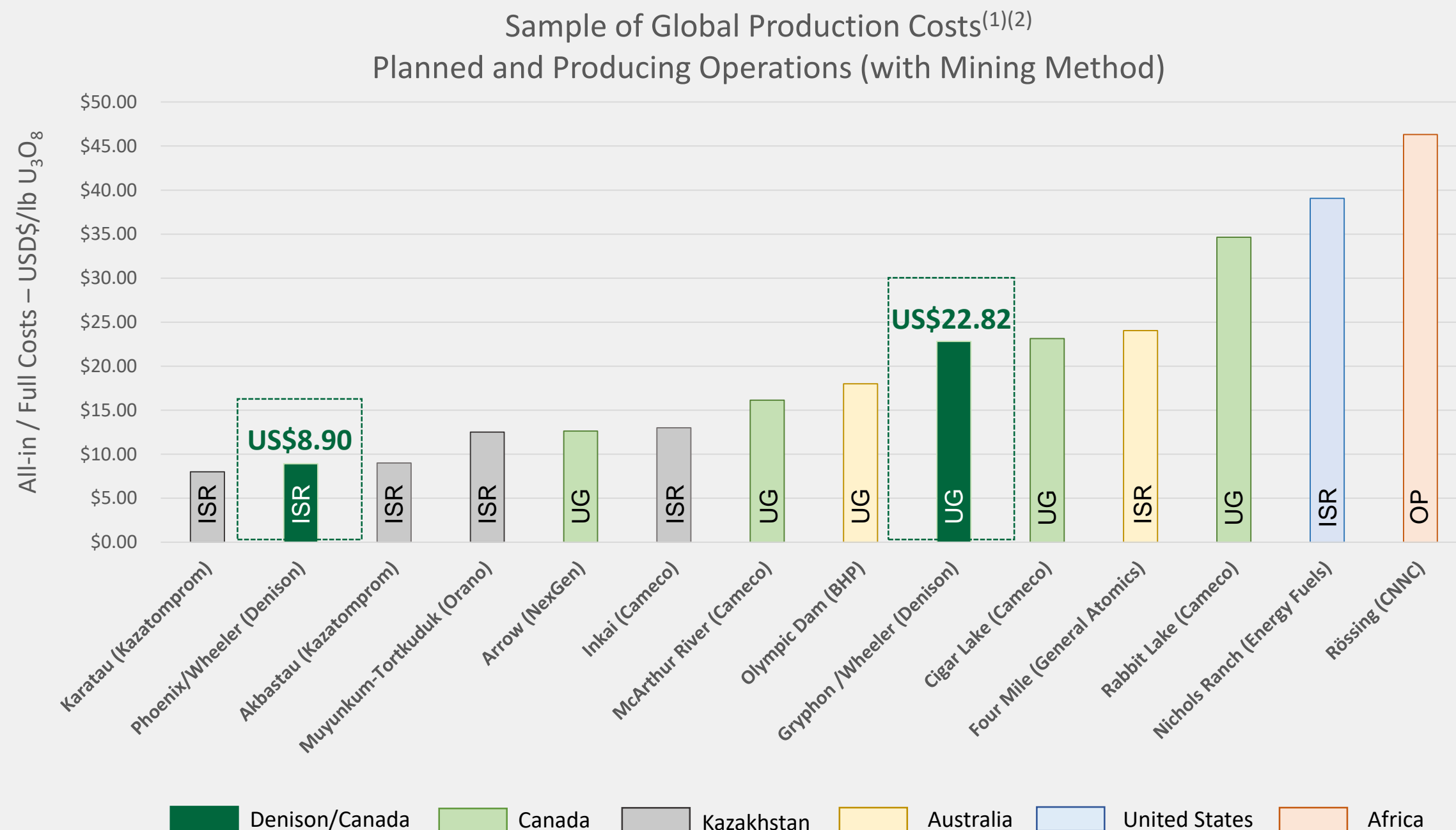


**NOTES:** (1) Refer to the Wheeler River Technical Report titled “Pre-feasibility Study Report for the Wheeler River Uranium Project, Saskatchewan, Canada” dated September 24, 2018;

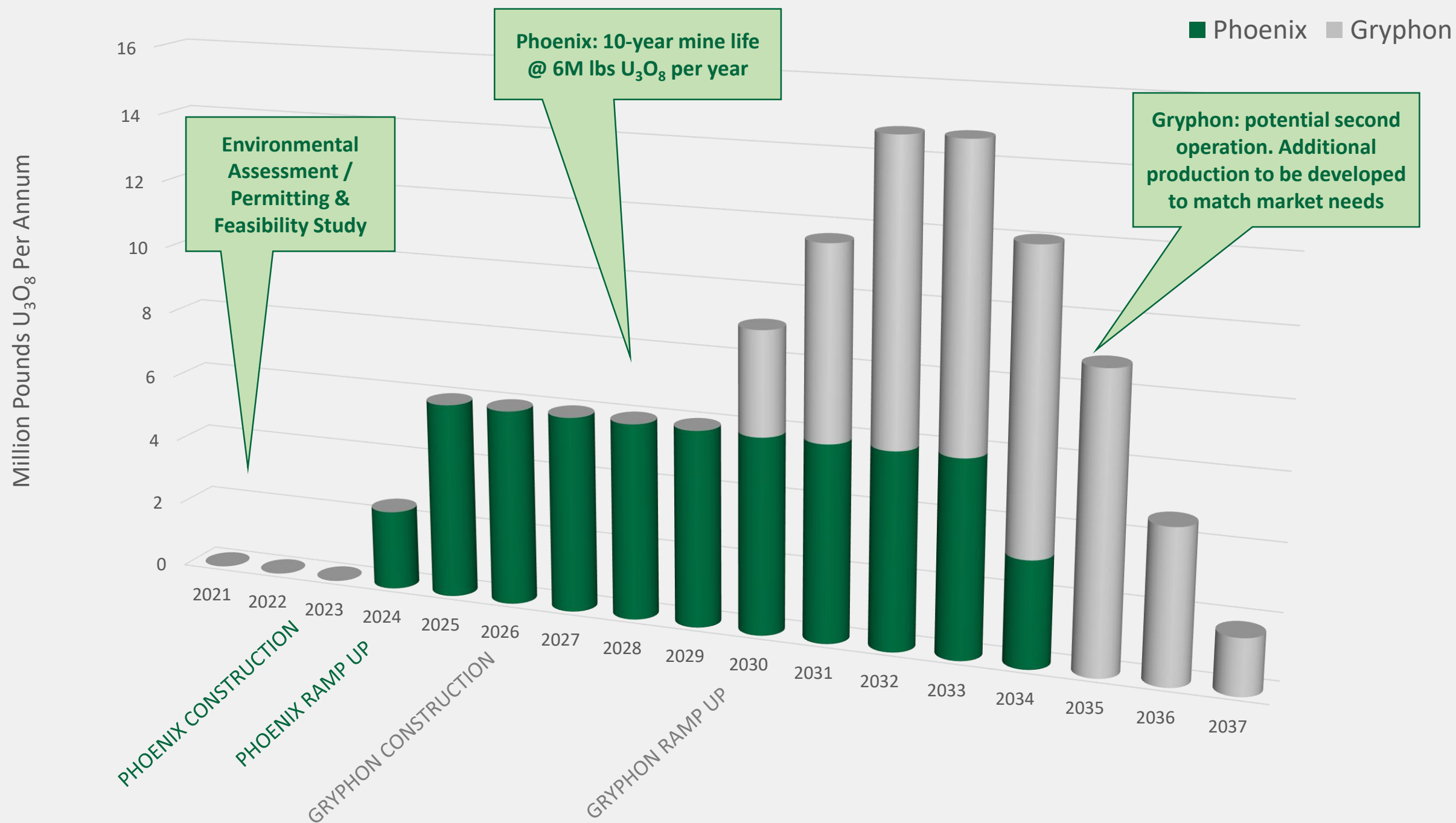




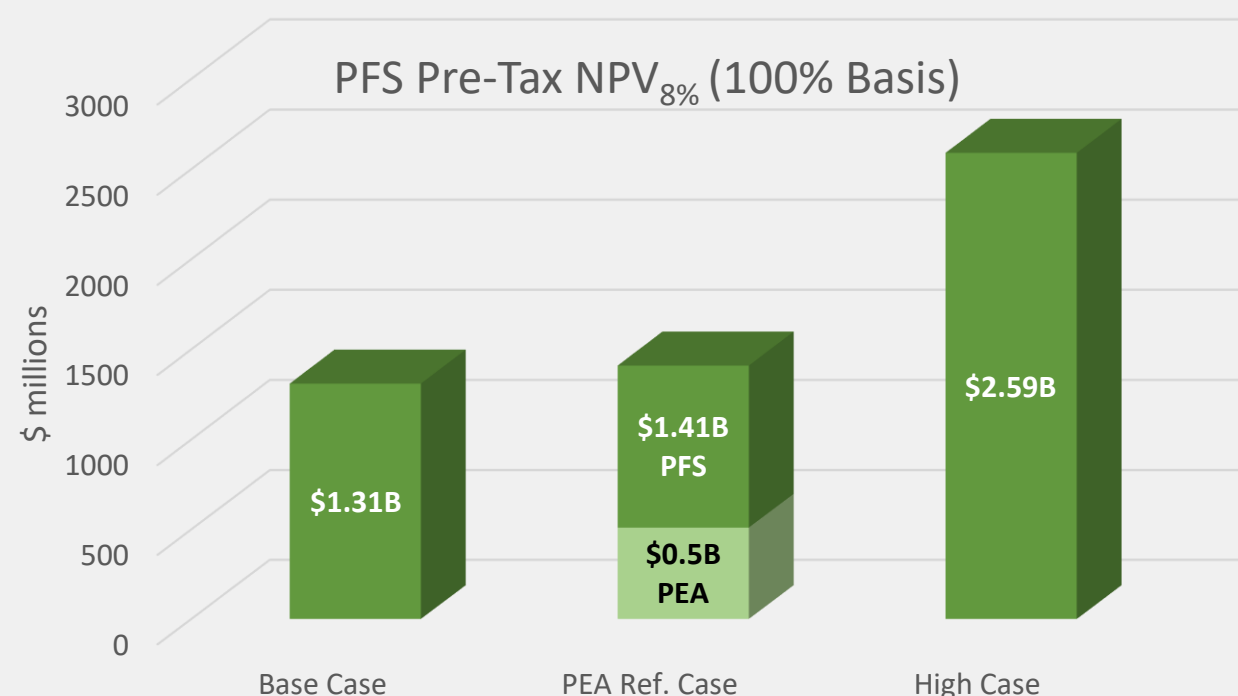
# Wheeler River PFS: Potential to be one of the lowest all-in cost uranium mining operations



## Wheeler River PFS: Staged development plan with combined 14-year mine life<sup>(1)</sup>



# Wheeler River PFS: Uranium price assumptions, commercial strategy, and sensitivities



Assumptions / Results <sup>(1)</sup>	Base Case	PEA Ref. Case	High Case
Uranium selling price	As above	US\$44/lb U <sub>3</sub> O <sub>8</sub>	US\$65/lb U <sub>3</sub> O <sub>8</sub>
Pre-tax NPV <sub>8%</sub> <sup>(2)</sup> (100% Basis)	<b>\$1.31 billion</b>	<b>\$1.41 billion</b>	<b>\$2.59 billion</b>
Pre-tax IRR <sup>(2)</sup>	38.7%	47.4%	67.4%
Pre-tax payback period <sup>(3)</sup>	~24 months	~ 15 months	~ 11 months

## Base Case Price Assumptions Reflect Commercial Strategy:

### • Phoenix Operation:

- Low all-in cost per lb U<sub>3</sub>O<sub>8</sub> suggests contract “base-loading” not required
- Uranium selling price based on UxC Spot price forecast (Q3’2018 UMO “Composite Midpoint” scenario)
- ~US\$29/lb U<sub>3</sub>O<sub>8</sub> to US\$45/lb U<sub>3</sub>O<sub>8</sub>
- Stated in “constant” 2018 dollars

### • Gryphon Operation:

- US\$50/lb U<sub>3</sub>O<sub>8</sub> fixed price
- Market support expected to be trigger for development

## Comparison to 2016 Preliminary Economic Assessment (“PEA”):

- 2016 PEA provided pre-tax project NPV<sub>8%</sub> of \$513 million at fixed uranium price of US\$44/lb U<sub>3</sub>O<sub>8</sub>
- PFS equivalent represents **+275% of pre-tax project NPV from PEA**



Phoenix Deposit:  
Combining the world's lowest-cost uranium mining method with the world's  
highest-grade undeveloped uranium deposit









Phoenix Deposit:  
Combining the world's lowest-cost uranium mining method with the world's  
highest-grade undeveloped uranium deposit



*Installation of Commercial Scale Wells as part of ISR Field test work at Wheeler River Phoenix Deposit, Summer 2019*



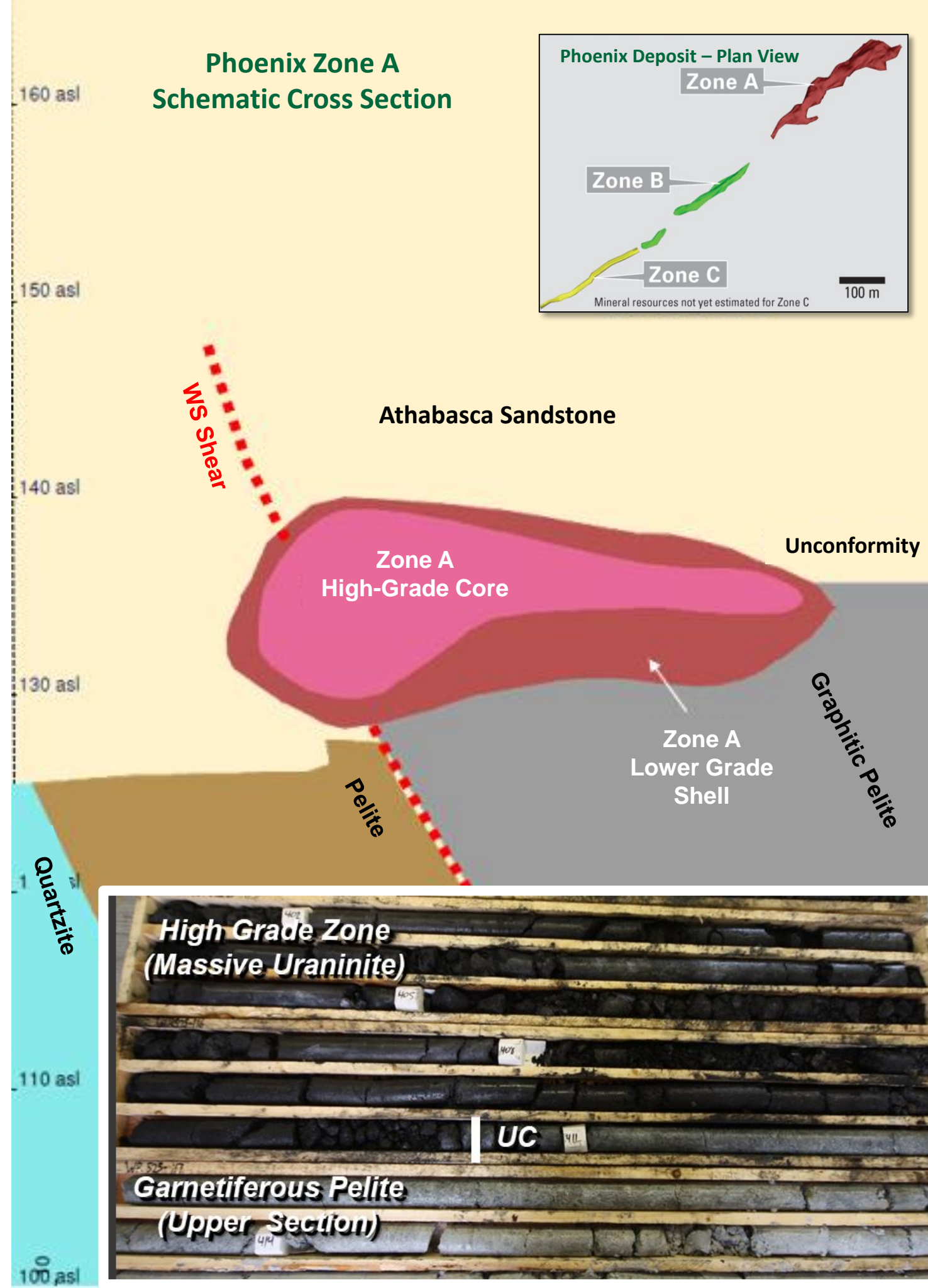
# Phoenix Geology: Unique uranium deposit with exceptionally high grades

## Highlights<sup>(1)</sup>:

- Mineralization is situated at or immediately above the unconformity (“UC”)
- Two distinct zones – Phoenix A + B
- Approximately 400m below surface
- World’s highest-grade undeveloped uranium deposit
- **70.2 million pounds  $U_3O_8$  @ 19.14%  $U_3O_8$**   
Indicated mineral resources (166,400 tonnes)<sup>(2)</sup>
  - Zone A High-Grade Core contains an estimated **59.9 M lbs  $U_3O_8$  @ 43.2%  $U_3O_8$**  (62,900 tonnes)
  - Cut-off grade of 0.8%  $U_3O_8$
  - 1.1M lbs  $U_3O_8$  in Inferred mineral resources (8,600 tonnes @ 5.8%  $U_3O_8$ )<sup>(3)</sup>
- ✓ Geological setting expected to be amenable to ISR mining, with ~90% of the mineral resource (contained metal) hosted in sandstone

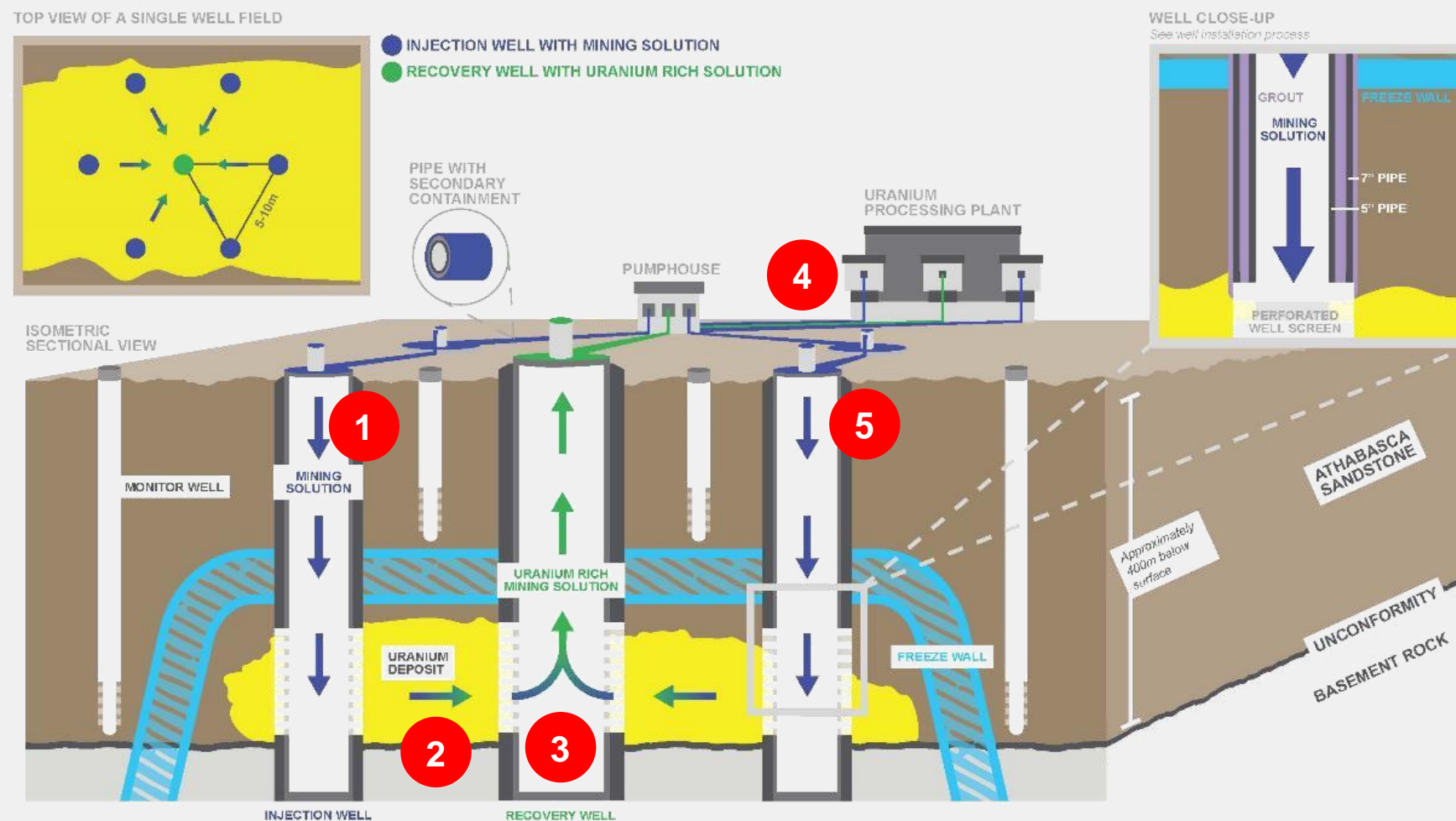


**NOTES:** (1) Refer to the Wheeler River Technical Report titled “Pre-feasibility Study Report for the Wheeler River Uranium Project, Saskatchewan, Canada” dated September 24, 2018; (2) Indicated resources are inclusive of Reserves; (3) The PFS does not include any economic analysis based on estimated Inferred resources.





# Phoenix Operation: Application of low-cost ISR mining method to high-grade Athabasca Basin

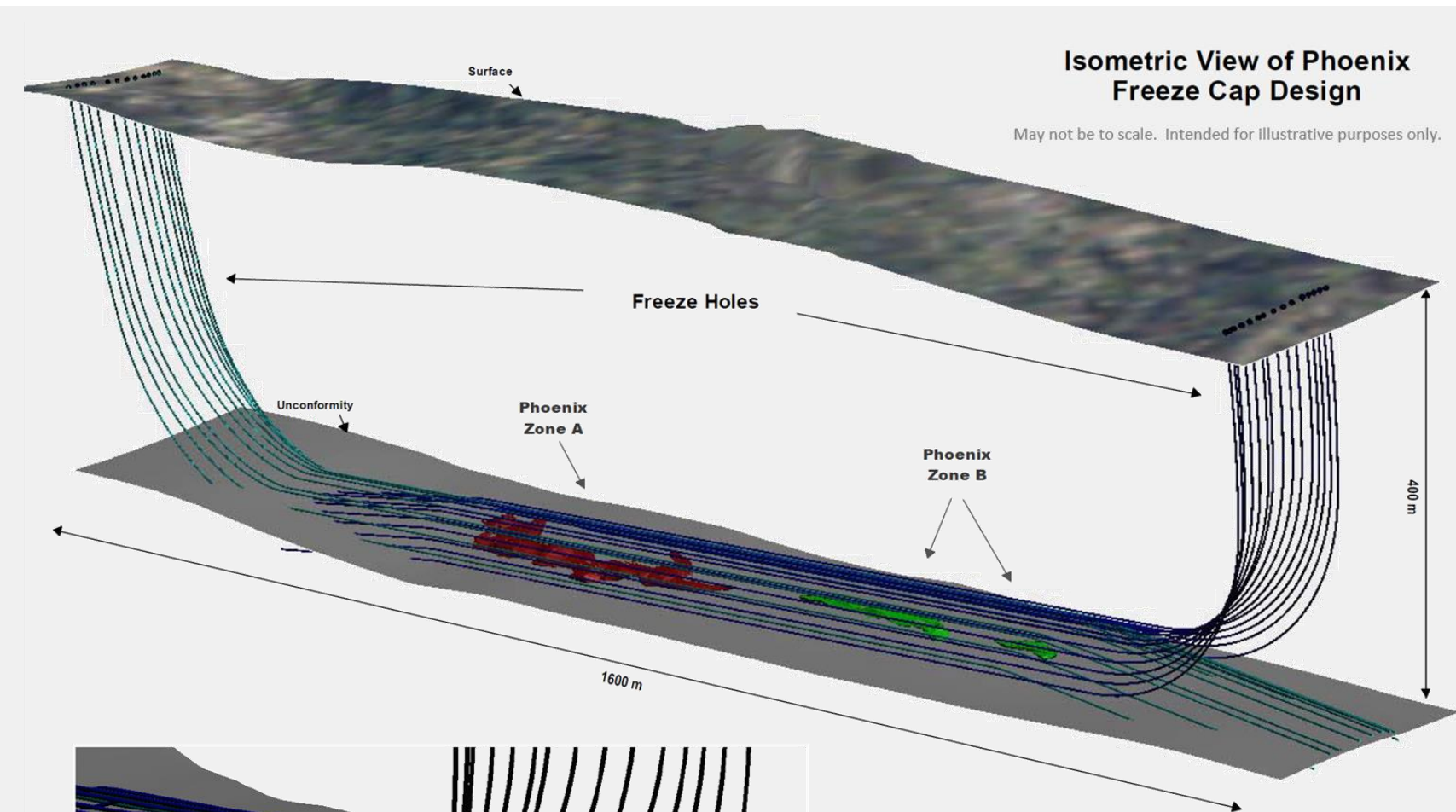


Schematic does not represent detailed engineering of the ISR well field and its components. Schematic not drawn to scale.

## ISR Mining Process<sup>(1)</sup>:

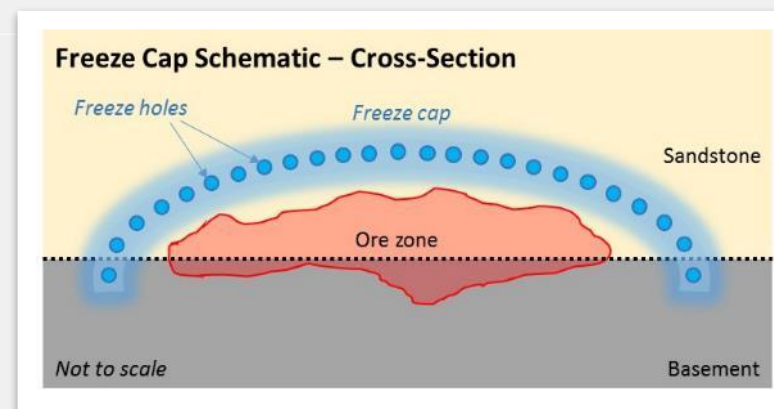
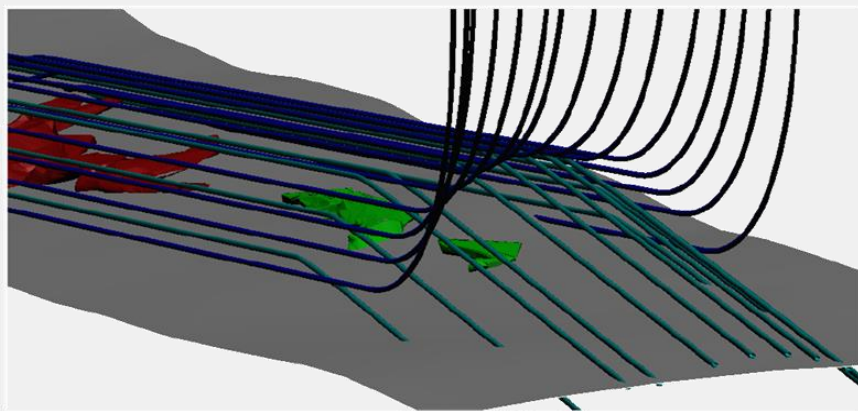
1. Mining solution (also known as "lixiviant") is pumped through a permeable orebody via injection well
2. Lixiviant dissolves the uranium as it travels through the orebody
3. Uranium bearing mining solution ("UBS") is pumped back to surface via recovery well
4. UBS is sent to a processing plant on surface for chemical separation of the uranium and reconditioning of lixiviant
5. Lixiviant is returned back to well field for further production

# Phoenix Freeze Cap: Novel concept to contain mining solution, using established technology



## Artificial freeze cap replicates confining layer typically required for ISR mining operations<sup>(1)</sup>

- Parallel cased holes drilled from surface and anchored into impermeable basement rock surrounding the Phoenix deposit
- Circulation of low-temperature brine solution through cased pipes will freeze groundwater in sandstone surrounding the deposit
- 10 metre thick freeze wall, together with basement rocks will encapsulate Phoenix deposit



- ✓ Eliminates common environmental concerns with ISR mining and facilitates controlled reclamation



# Capital Structure & Corporate Information



Market Summary <sup>(1)</sup>	
Exchanges	TSX: DML, NYSE MKT: DNN
Shares Outstanding	590.2 M
Warrants	1.7 M
Share Units	4.9 M
Options	13.7 M
Fully Diluted Shares	610.5 M
Market Cap – DML @ C\$0.49/share <sup>(2)</sup>	CAD \$290 M
Daily Trading Volume – DML <sup>(3)</sup>	0.76 M Shares
Market Cap – DNN @ U\$0.38/share <sup>(2)</sup>	USD\$222 M
Daily Trading Volume – DNN <sup>(3)</sup>	0.50 M Shares

## Management & Directors

- David Cates (President & CEO, Director)
- Mac McDonald (Exec. VP & CFO)
- Dave Bronkhorst (VP Operations)
- Tim Gabruch (VP Commercial)
- Dale Verran (VP Exploration)
- Catherine Stefan (Non-Executive Chair)
- W. Robert Dengler (Director)
- Brian D. Edgar (Director)
- Ron F. Hochstein (Director)
- Jack Lundin (Director)
- William A. Rand (Director)
- Geun Park (Director)
- Patricia M. Volker (Director)

Website: [www.denisonmines.com](http://www.denisonmines.com)

Email: [info@denisonmines.com](mailto:info@denisonmines.com)