



Uranium Development & Exploration

The Athabasca Basin, Northern Saskatchewan

January 2019 | Investor Update



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 and its Form 40-F available at www.sec.gov/edgar.shtml. These factors are not, and should not be construed as being exhaustive.

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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 the results of the PFS contained in this presentation was prepared and approved by Peter Longo, P. Eng, MBA, PMP, Denison's Vice-President, Project Development, who is a Qualified Person in accordance with the requirements of NI 43-101.

The disclosure of a scientific or technical nature regarding the Phoenix and Gryphon deposits, including the resources and reserves thereof, contained in this presentation 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.

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 27, 2018. Copies of the foregoing are available on Denison's website and under its profile on SEDAR at www.sedar.com and on EDGAR at www.sec.gov/edgar.shtml.

~320,000 Hectares of Prospective Exploration & Development Ground Focused in the Infrastructure Rich Eastern Athabasca Basin



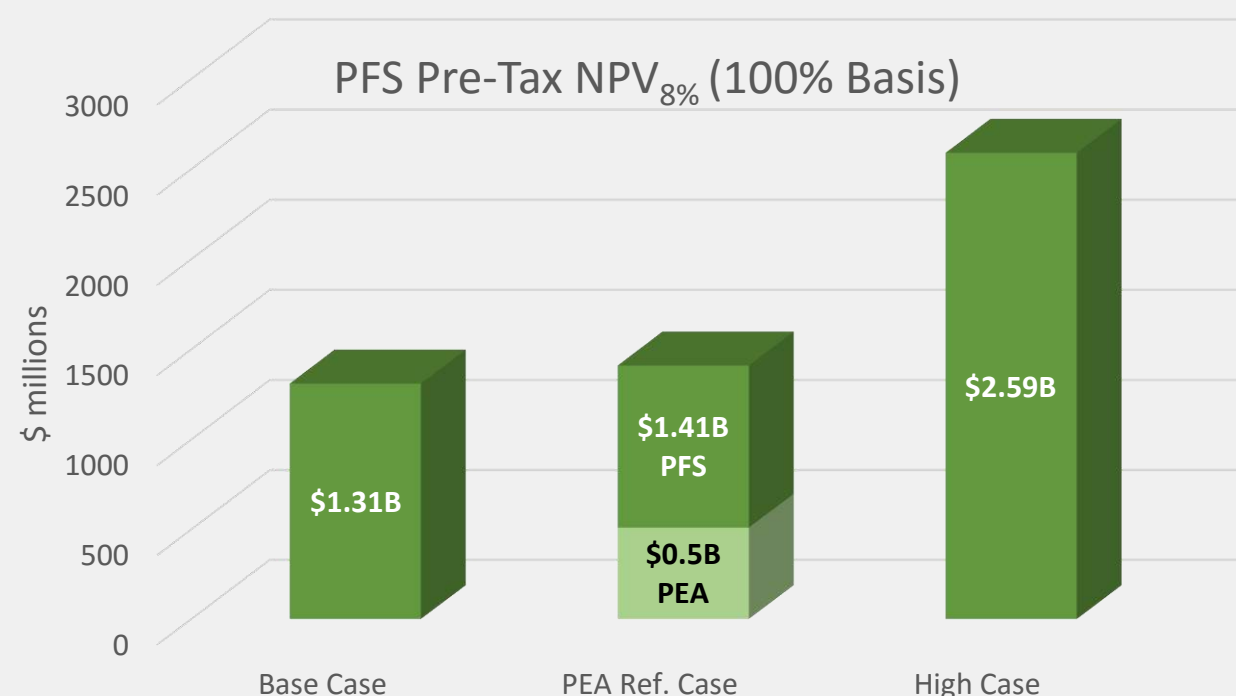
Wheeler River Project Advancing to Permitting⁽¹⁾

Highlights:

- PFS included selection of **In-Situ Recovery (“ISR”) mining method** for Phoenix with onsite processing at Wheeler River²
- **Phoenix** estimated to have exceptionally low operating costs for an undeveloped uranium deposit globally – **US\$3.33/lb U₃O₈**
- Conventional UG **Gryphon** contributes additional low cost pounds – **US\$11.70/lb U₃O₈**
- **109.4M** lbs U₃O₈ Probable Reserves
- **14** year mine life (7.8m lbs U₃O₈/year on avg.)
- Base-case pre-tax NPV_{8%} (100%) of **\$1.31B**
- Base-case pre-tax IRR of **38.7%**
- Initial CAPEX of **\$322.5M** (100%)

✓ **Ownership: 90% Denison, 10% JCU⁽²⁾**

Wheeler River PFS: Ownership, uranium price assumptions, and sensitivities



Base Case Price Assumptions:

- **Phoenix Operation:**
 - ~US\$29/lb U₃O₈ to US\$45/lb U₃O₈
 - UxC Spot price forecast
 - “Composite Midpoint” scenario
 - Stated in “constant” 2018 dollars
- **Gryphon Operation:**
 - US\$50/lb U₃O₈ fixed price

Comparison to 2016 PEA

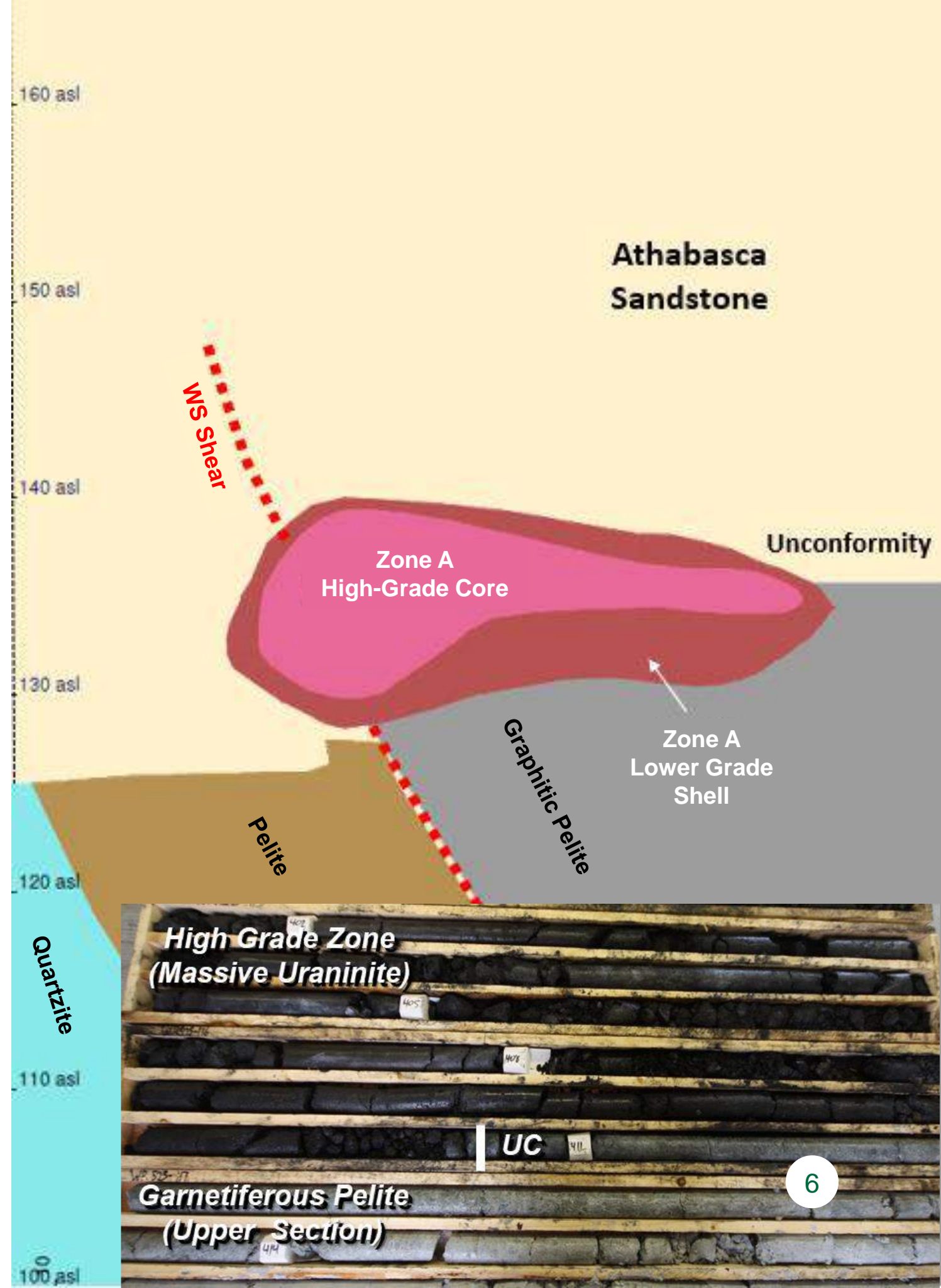
- 2016 PEA provided pre-tax project NPV_{8%} of \$513 million at fixed uranium price of US\$44/lb U₃O₈
 - PFS equivalent NPV_{8%} at US\$44/lb U₃O₈ (\$1.4 billion) represents **+275% of pre-tax project NPV from PEA**

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

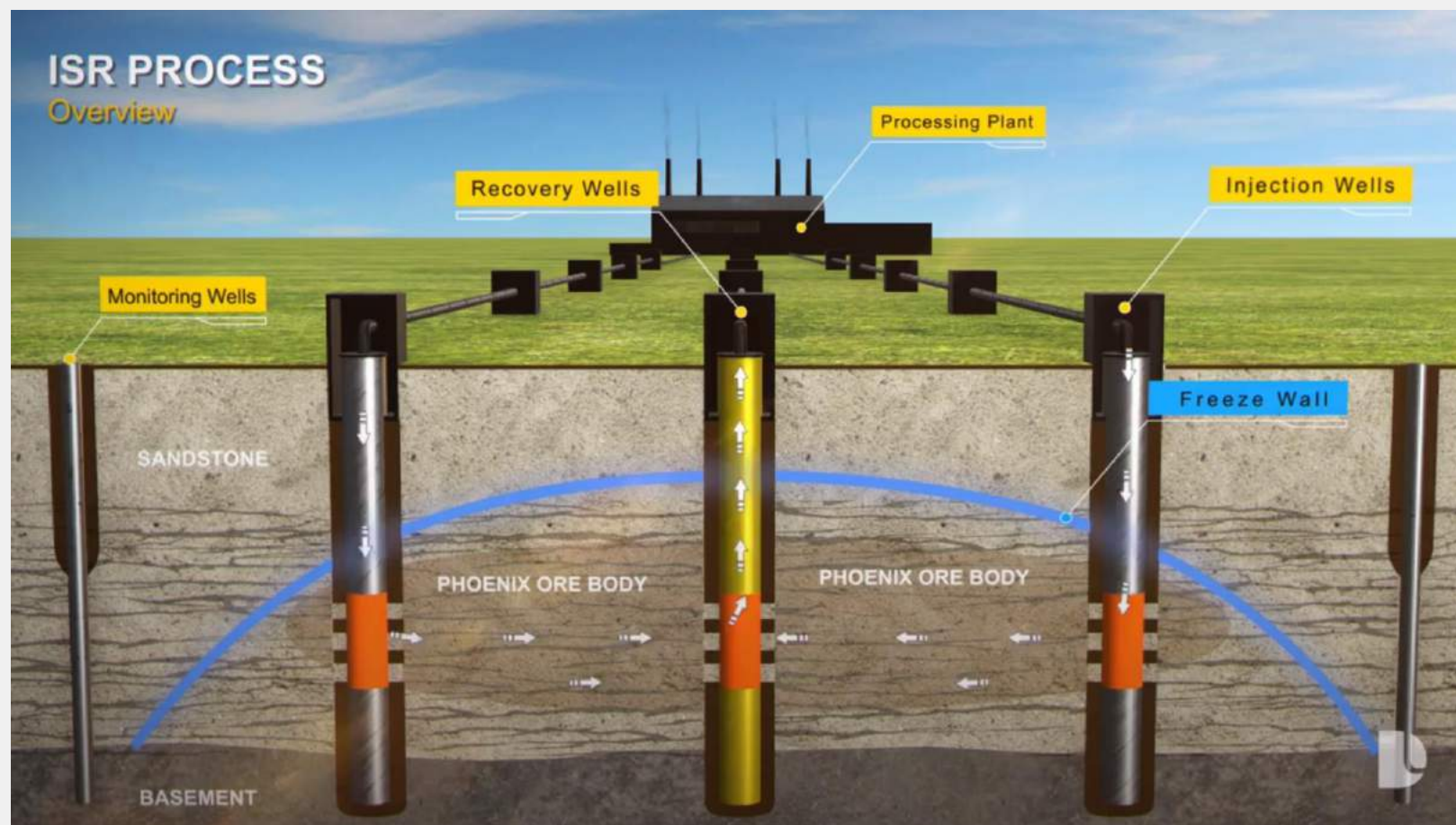
Phoenix Geology: Unique uranium deposit with exceptionally high grades

Highlights⁽¹⁾:

- Mineralization is situated at or immediately above the unconformity("UC")
- Two distinct zones – Phoenix A + B
- Approximately 400m below surface
- **70.2 million pounds U_3O_8 @ 19.14% U_3O_8**
Indicated mineral resources (166,400 tonnes)⁽²⁾
 - World's highest grade undeveloped uranium deposit
 - Cut-off grade of 0.8% U_3O_8
 - 1.1M lbs U_3O_8 in Inferred resources (8,600 tonnes @ 5.8% U_3O_8)⁽³⁾
- ✓ Geological setting is amenable to **ISR mining**



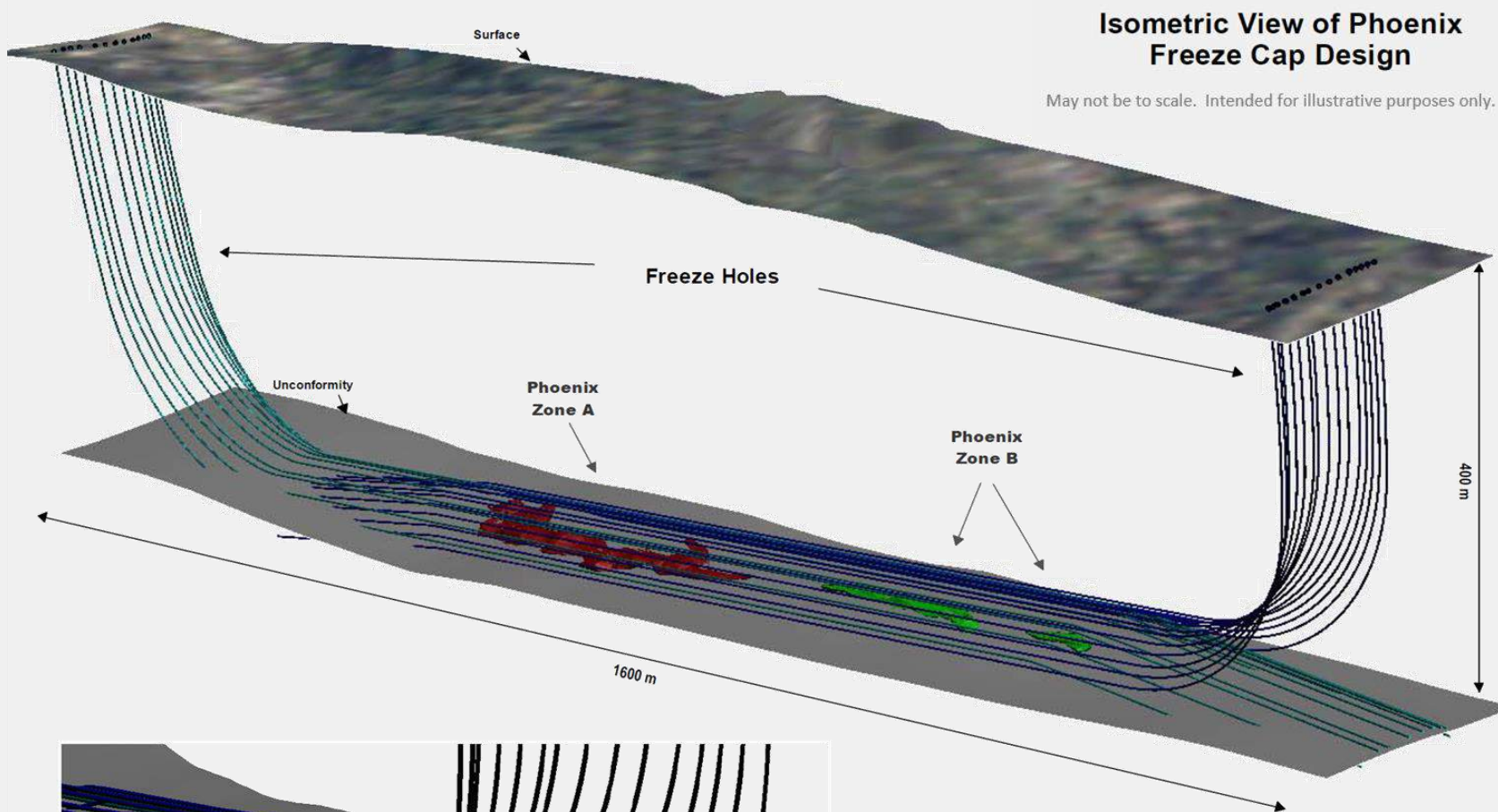
Phoenix Operation: Selection of ISR mining method



ISR Mining Process⁽¹⁾:

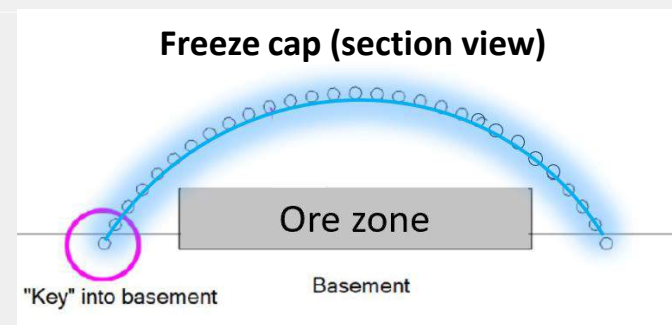
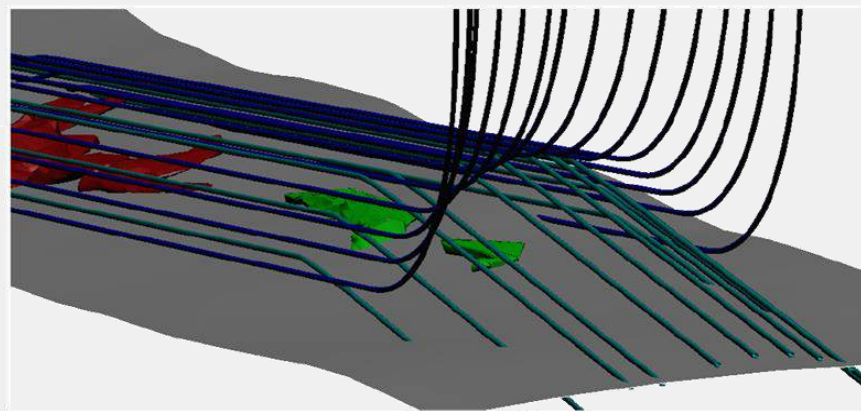
1. Mining solution (also known as “lixiviant”) is pumped through a permeable orebody via injection well;
2. Lixiviant dissolves the uranium as it travels through the orebody;
3. Uranium bearing mining solution (“UBS”) is pumped back to surface via recovery well;
4. UBS is sent to a processing plant on 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 lixiviant, using established technology



Artificial freeze cap replicates confining layer typically required for ISR mining operations⁽¹⁾

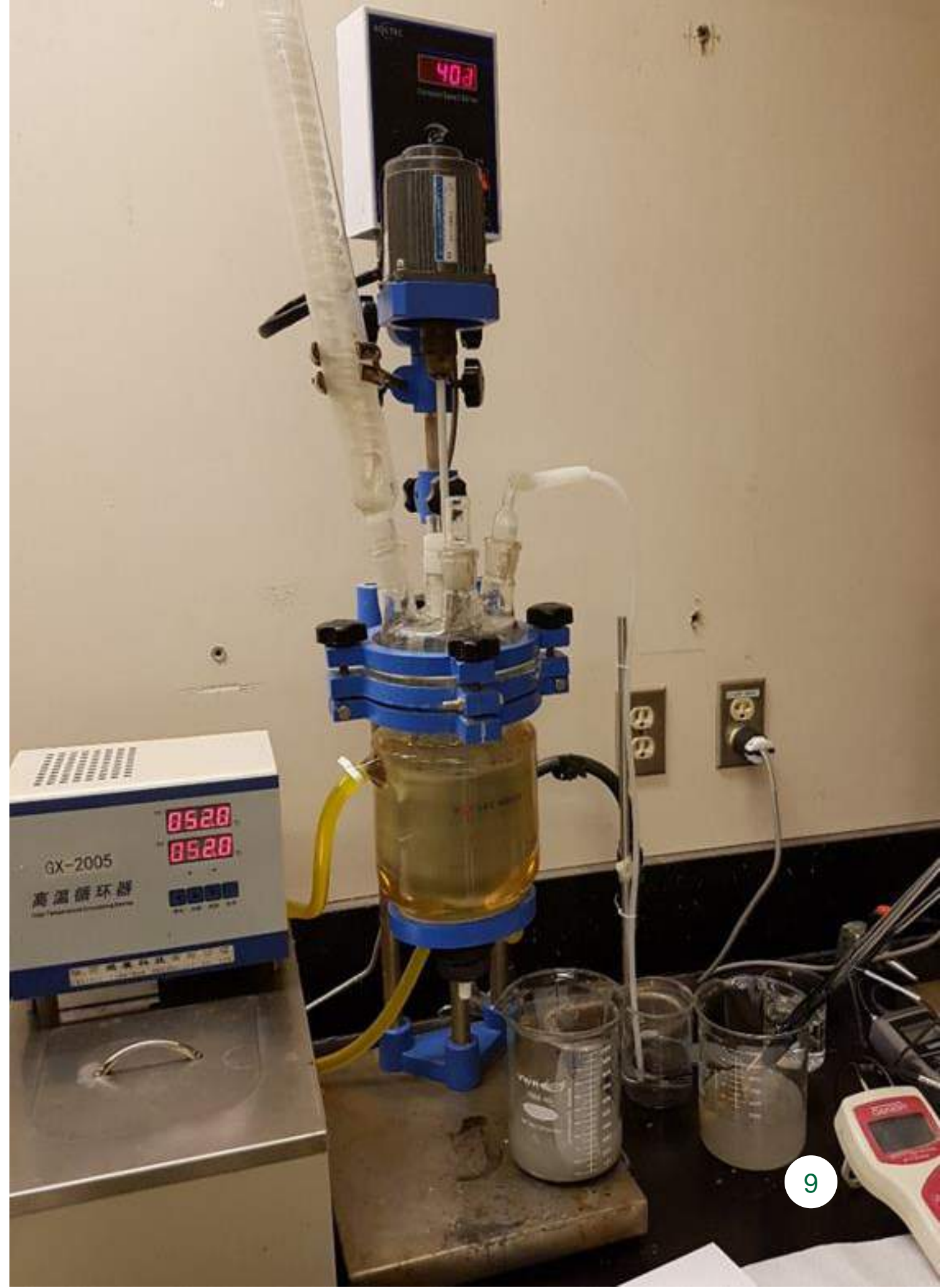
- Parallel cased holes drilled from surface and anchored into impermeable basement rock surrounding the Phoenix deposit
- Circulation of low-temperature brine solution through cased pipes will freeze groundwater in sandstone surrounding the deposit
- 10 metre thick freeze wall, together with basement rocks will encapsulate Phoenix deposit
- ✓ **Eliminates common environmental concerns with ISR mining and facilitates controlled reclamation**



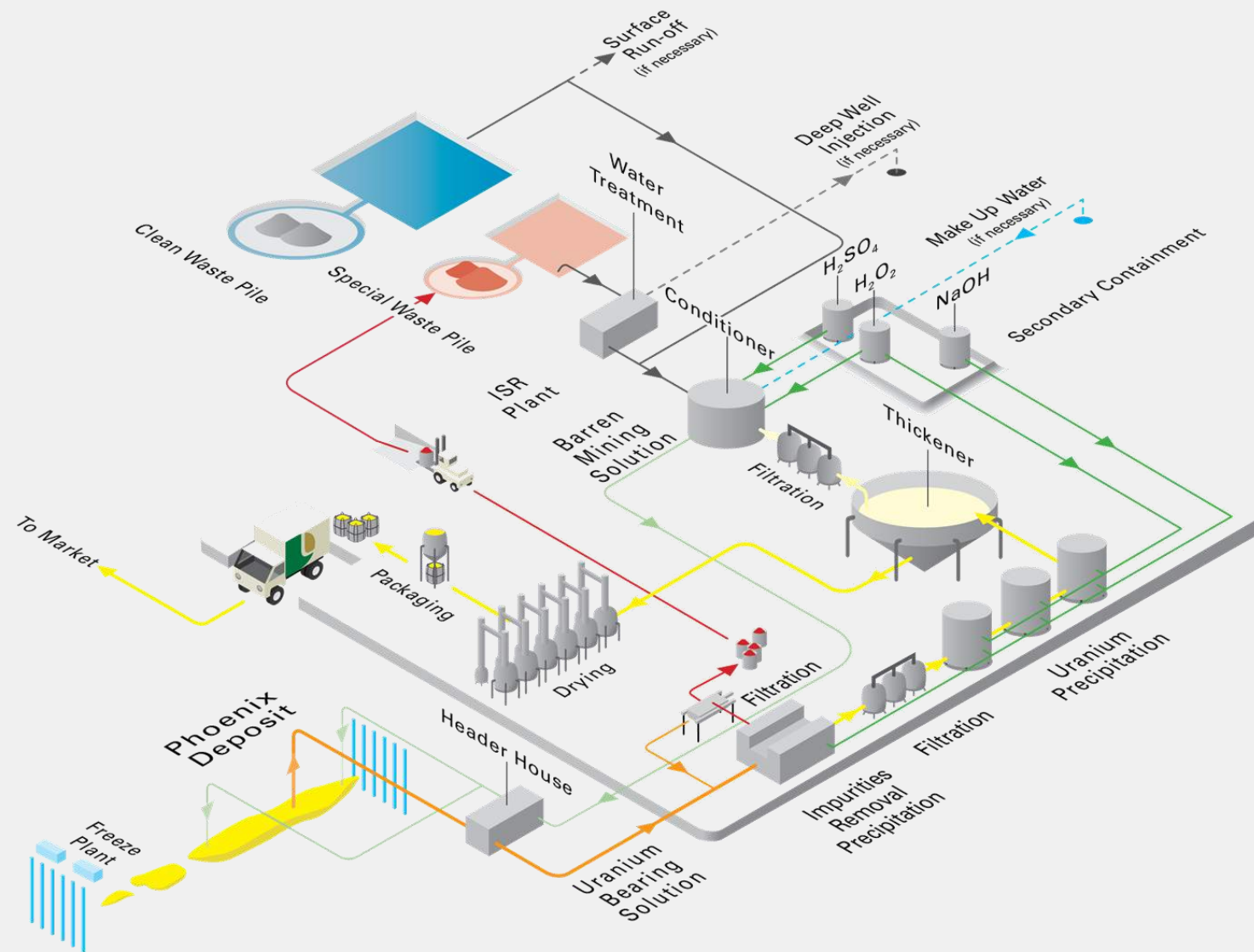
Phoenix Test Work⁽¹⁾: Confirms suitability of ISR mining method

Field and laboratory work included drill hole injection, permeability, metallurgical leach, agitated leach and column testing

- **Excellent Recoveries:** High rates of recovery in extraction (+90%) and processing (98.5%)
- **High Grade:** Agitated leach and column tests returned uranium concentrations of 12 to 20 grams per litre (g/L) – significantly higher than conventional low-grade ISR operations
- High uranium concentrations in the mining solution, plus low level of impurities (deleterious elements), allows for **direct precipitation of uranium**
- ✓ **No need for ion exchange or solvent extraction circuits = reduced costs**



Phoenix ISR Processing Plant:
Closed loop system and simplified plant design eliminates the need for discharge



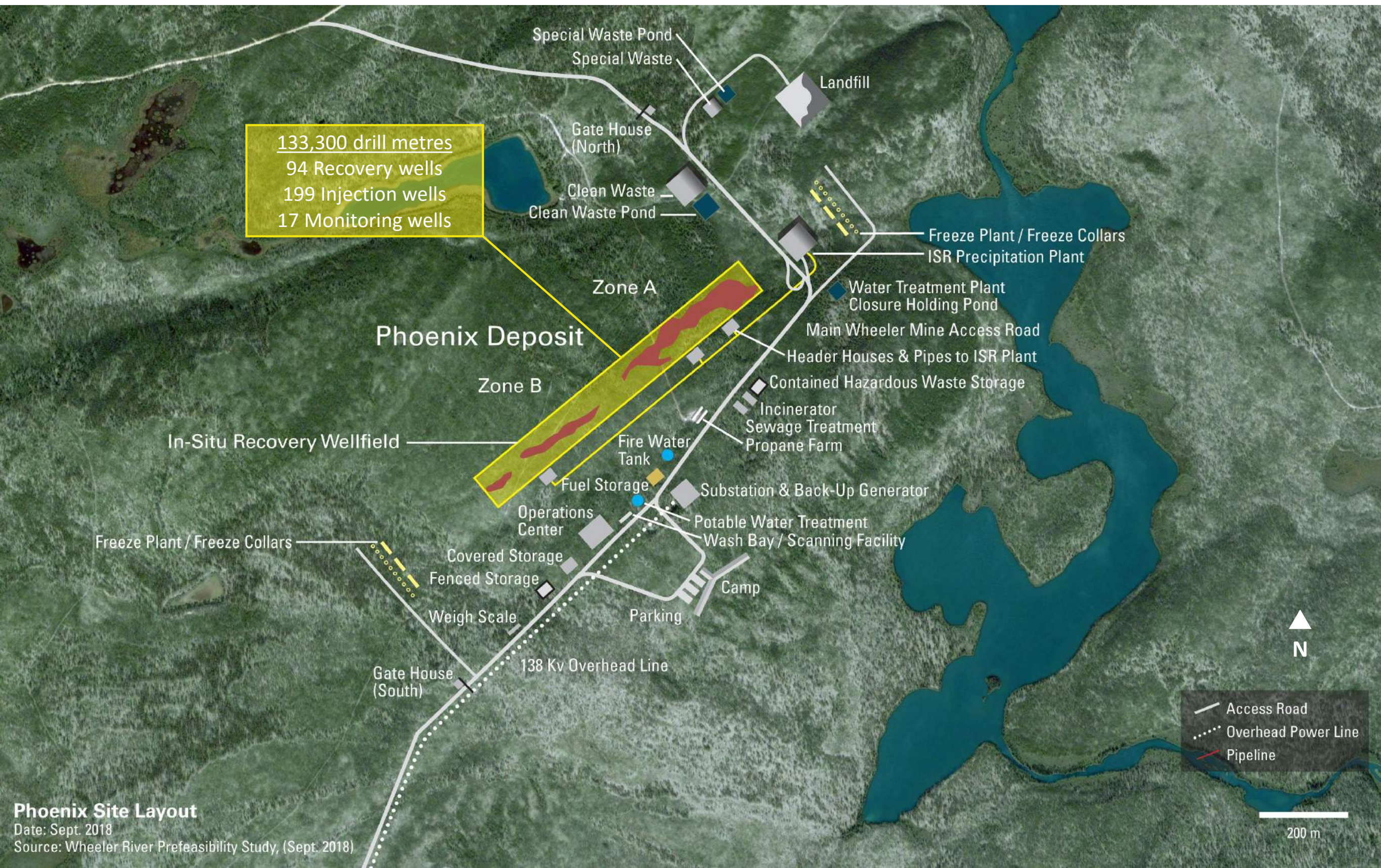
May not be to scale. Intended for illustrative purposes only.

On-Site Processing Plant⁽¹⁾

- Designed for UBS concentrations of 10 g/L
- Throughput of 500 litres per min
- Annual production of up to 6 million lbs U_3O_8
- Closed loop system recycles mining solution and eliminates need for discharge of effluent
- No ion exchange or solvent extraction circuits

- ✓ **Powered by Provincial power grid**

Phoenix Operation: Proposed site layout highlighting ISR wellfield



Phoenix Site Layout

Date: Sept. 2018

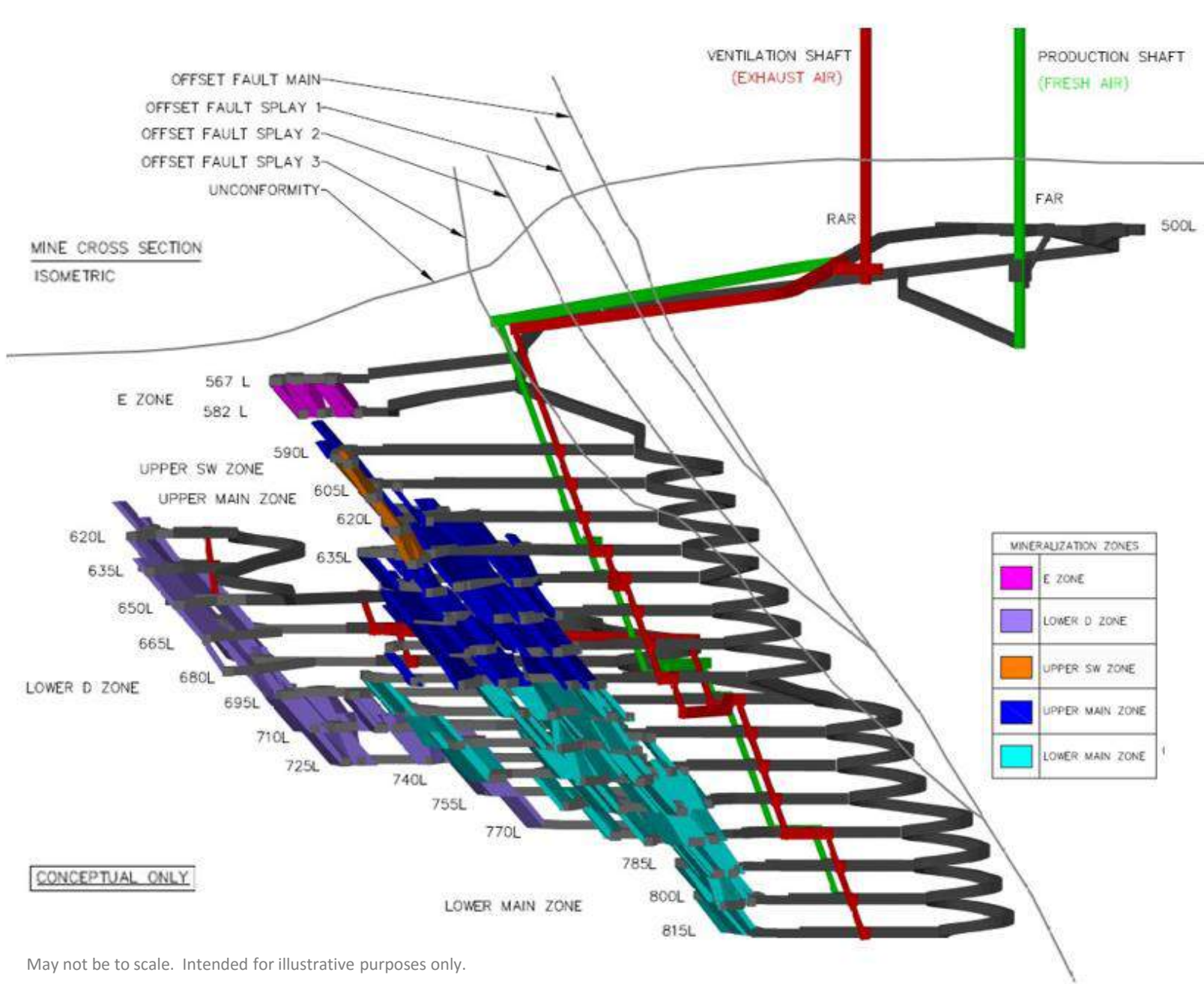
Source: Wheeler River Prefeasibility Study, (Sept. 2018)

Phoenix Operation: ISR mining method delivers industry leading cost per pound U₃O₈

Phoenix Operation	PFS Result ⁽¹⁾
Mine life	10 years (6.0 million lbs U ₃ O ₈ per year on average)
Average cash operating costs	\$4.33 (US\$3.33) per lb U₃O₈
Initial capital costs (100% basis)	\$322.5 million
Operating margin ⁽⁴⁾	89.0% at US\$29/lb U ₃ O ₈
All-in cost ⁽²⁾	\$11.57 (US\$8.90) per lb U₃O₈

Assumptions / Results	Base Case	High Case
Uranium selling price	UxC Spot Price ⁽³⁾	US\$65/lb U ₃ O ₈
Operating margin ⁽⁴⁾	91.4%	95.0%
Pre-tax NPV _{8%} ⁽⁵⁾ (100%)	\$930.4 million	\$1.91 billion
Pre-tax IRR ⁽⁵⁾	43.3%	71.5%
Pre-tax payback period ⁽⁶⁾	~ 21 months	~ 11 months

Gryphon Operation: Additional low-cost production with conventional UG mining



Moderate grades and style of mineralization allows for conventional UG mining⁽¹⁾

- 61.9 million pounds U_3O_8 @ 1.7% U_3O_8 Indicated mineral resources (1,643,000 tonnes)⁽²⁾
 - 1.9M lbs U_3O_8 in Inferred resources (73,000 tonnes @ 1.2% U_3O_8)⁽³⁾
- Mineralization is hosted in basement rock, located 520 to 850 metres below surface – access via shaft and ramp
- Longitudinal retreat longhole stoping with 15 metre sub-level intervals
- 600 tonnes per day production
- Generally constrained by available capacity at McClean Lake mill

Gryphon Operation: Minimal site infrastructure owing to toll milling & Phoenix site



Gryphon Site Layout

Date: Sept. 2018

Source: Wheeler River Prefeasibility Study, (Sept. 2018)

Gryphon Operation: Assumes processing at 22.5% Denison owned McClean Lake mill⁽¹⁾

Processes +12% of global uranium production:

- Operating under 10-year license granted by Canadian Nuclear Safety Comm. in 2017
 - Licensed for 24M lbs U_3O_8 / year
- PFS assumes Cigar Lake production will decline to 15M lbs U_3O_8 /year (Phase 2) at time of co-processing with Gryphon
 - Up to 9M lbs U_3O_8 /year excess capacity
- **98.2% estimated recovery** from Gryphon under current McClean operating conditions
- **Required upgrades:** expansion of leaching circuit, addition of filtration system and tailings thickener, expansion of acid plant, various misc. upgrades, plus Highway 914 extension.
- ✓ **Ownership:** 22.5% Denison, 70% Orano (formerly “Areva”), 7.5% OURD

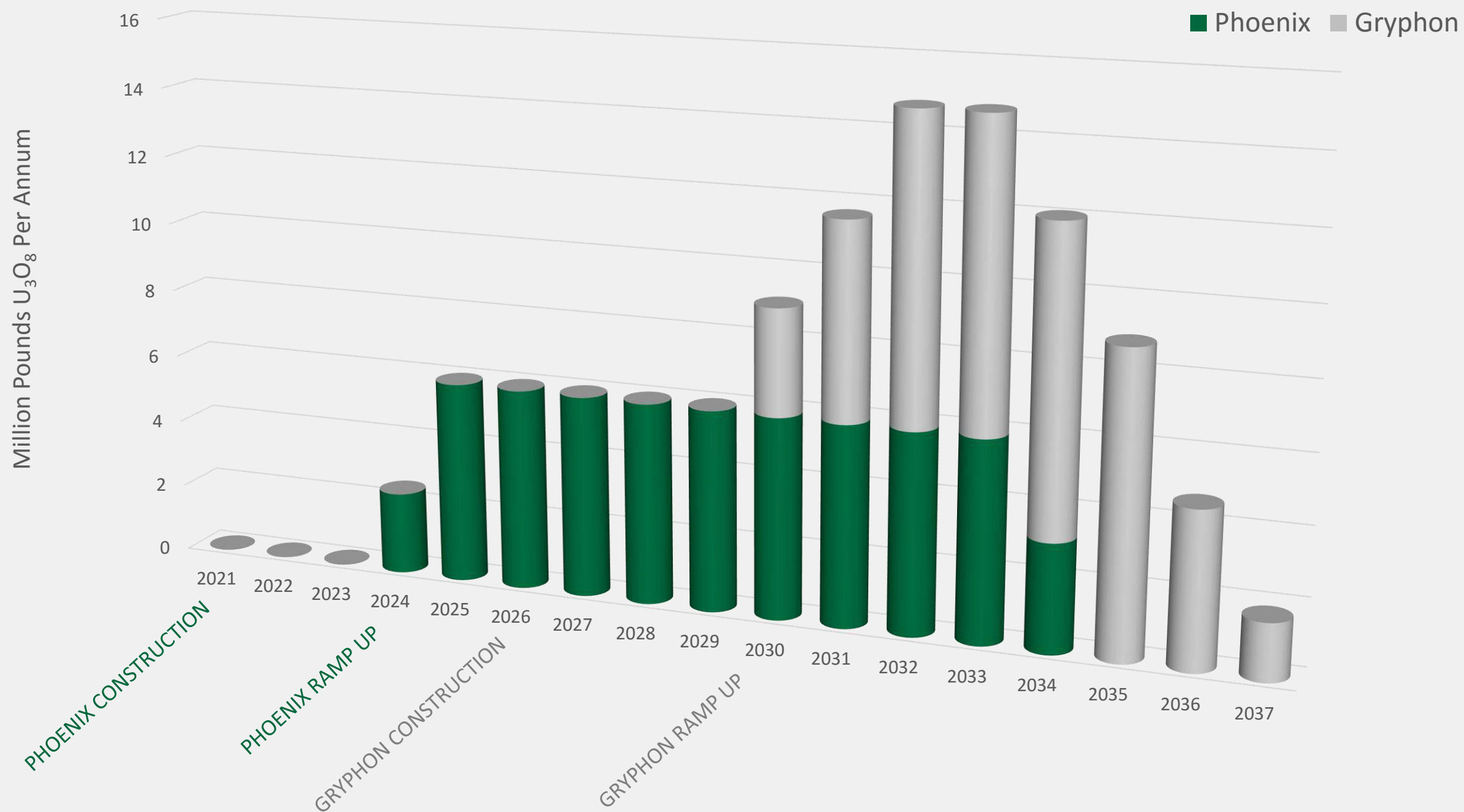


Gryphon Operation: Additional low-cost production with conventional UG mining

Gryphon Operation	PFS Result ⁽¹⁾
Mine life	6.5 years (7.6 million lbs U ₃ O ₈ per year on average)
Average cash operating costs	\$15.21 (US\$11.70) per lb U₃O₈
Initial capital costs (100% basis)	\$623.1 million
Operating margin ⁽³⁾	77.0% at US\$50/lb U ₃ O ₈
All-in cost ⁽²⁾	\$29.67 (US\$22.82) per lb U₃O₈

Assumptions / Results	Base Case	High Case
Uranium selling price	US\$50/lb U ₃ O ₈	US\$65/lb U ₃ O ₈
Operating margin ⁽³⁾	77.0%	82.3%
Pre-tax NPV _{8%} ⁽⁴⁾ (100%)	\$560.6 million	\$998.8 million
Pre-tax IRR ⁽⁴⁾	23.2%	31.0%
Pre-tax payback period ⁽⁵⁾	~ 37 months	~ 31 months

Wheeler River PFS: 14 year mine life producing +7.5M lbs U_3O_8 per year on average⁽¹⁾



Wheeler River PFS ⁽¹⁾ : Statement of Reserves and Denison indicative post-tax results

Reserves^(2, 3, 4, 7, 8)

Deposit	Class.	Tonnes	Grade	Lbs U ₃ O ₈	Denison (90%)
Phoenix ⁽⁵⁾	Probable	141,000	19.1% U ₃ O ₈	59.7M	53.7M
Gryphon ⁽⁶⁾	Probable	1,257,000	1.8% U ₃ O ₈	49.7M	44.7M
Total	Probable	1,398,000	3.5%	109.4M	98.4M

Indicative Denison post-tax results

Financial Results	Denison (90%)
Initial capital costs	\$290.3 million
Base case post-tax IRR ⁽⁹⁾	32.7%
Base case post-tax NPV _{8%} ⁽⁹⁾	\$755.9 million
Base case post-tax payback period ⁽¹⁰⁾	~ 26 months
High case post-tax IRR⁽⁹⁾	55.7%
High case post-tax NPV_{8%}⁽⁹⁾	\$1.48 billion
High case post-tax payback period⁽¹⁰⁾	~12 months

The Infrastructure Rich Eastern Athabasca Basin

Existing infrastructure supports mining operations in proximity of Wheeler River:

- 4 licensed uranium mines (Cigar Lake, McArthur River, Eagle Point, McClean) + 3 licensed uranium mills (McClean, Key, Rabbit)
 - Provincial power grid – reliable, cost efficient, ability to power operation without emissions from / reliance on diesel fuel generators
 - Existing Provincial highways / haul roads – allows for transport of supplies, personnel, mine production, and finished goods
 - Precedents set with local stakeholders
- ✓ **Reduced risk and expectation of shorter timelines for regulatory approval**



Diversified Athabasca Basin Asset Base with Superior Development Leverage

Strategic Project Portfolio:

- 90% interest in Flagship **Wheeler River** project⁽¹⁾ – largest undeveloped uranium project in infrastructure rich eastern Athabasca Basin
 - 22.5% interest in operating **McClean Lake Uranium Mill** – excess licensed capacity, +12% of global uranium production
 - Interests in uranium resources at McClean Lake, Midwest, and Waterbury Lake
 - ~320,000 hectares of prospective exploration ground in the Athabasca Basin
-
- ✓ Internal sources of **cash flow** from management services contract with Uranium Participation Corp. (TSX-U), and Denison Environmental Services (DES)



Appendix: Diversified Project Portfolio – Project Profiles



McClean Lake Uranium Project

Processing Plant Licensed for Annual Production of 24M lbs U₃O₈



“(the APG) financing allows Denison to benefit immediately from the cash flow expected to be produced from the McClean Lake mill over the next several years, without the overhang of a bullet payment or convert at the end of a debt, and without selling its stake in the mill”

David Cates, President & CEO

- Processing ~18M lbs U₃O₈/year from Cigar Lake mine
- Cigar Lake toll milling cash flows monetized in transaction with Anglo Pacific Group (“APG”) in 2017 for \$43.5M
- Operating license renewed for 10-year period by CNSC in 2017
- ✓ **Ownership:** 22.5% Denison, 70.0% Orano, 7.5% OURD

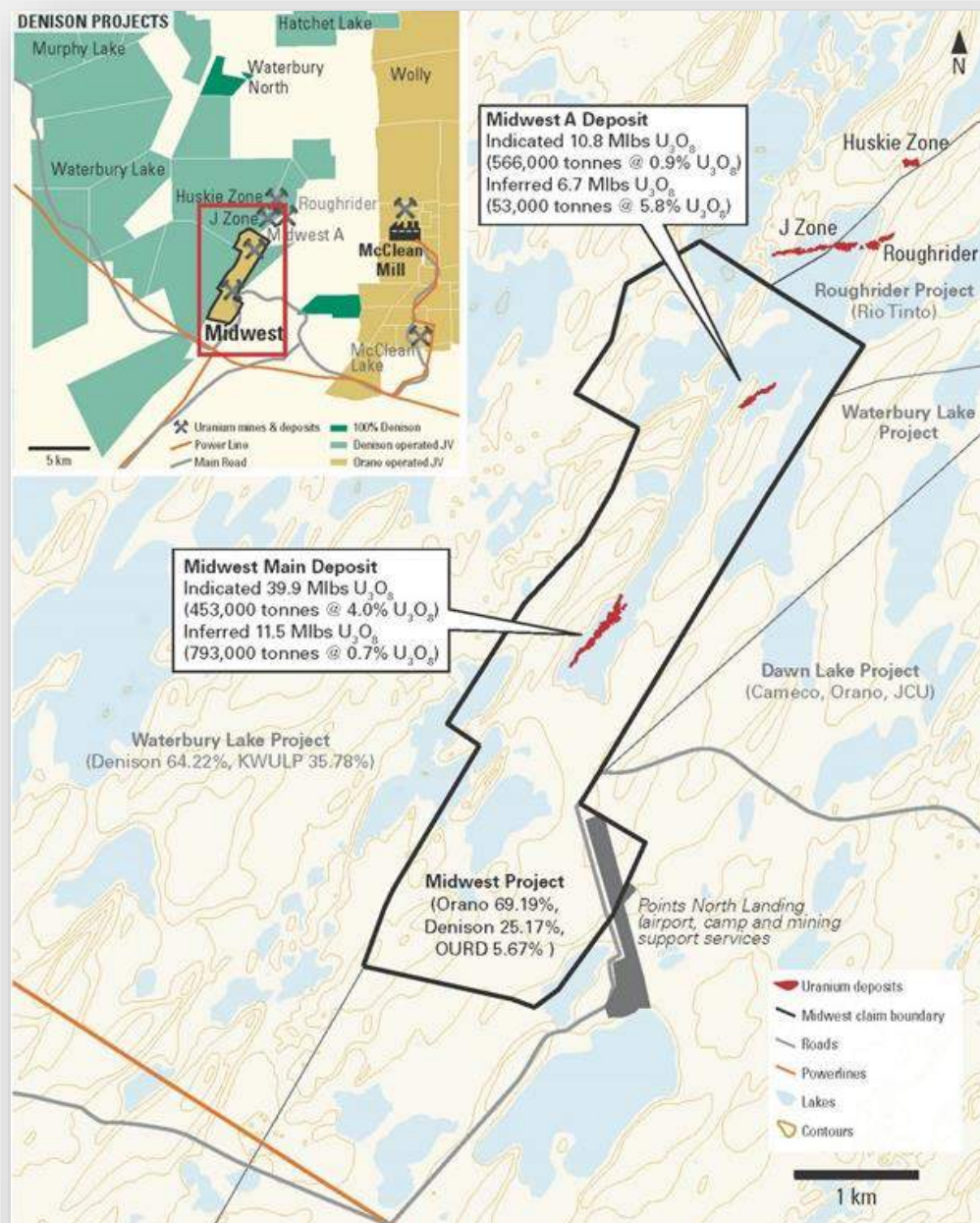
Deposit	Class.	Tonnes	Grade	Lbs U ₃ O ₈	Denison Share
McClean North	Indicated	205,800	2.8% U ₃ O ₈	12.4M	2.8M
Caribou	Indicated	47,800	2.6% U ₃ O ₈	2.8M	0.6M
Sue D	Indicated	122,800	1.1% U ₃ O ₈	2.8M	0.6M
Sue E	Inferred	483,400	0.69% U ₃ O ₈	7.3M	1.6M

Notes: (1) The Mineral Resource estimates were prepared for the Company by Scott Wilson RPA (now RPA Inc.) in accordance with CIM Definition Standards and NI 43-101, (2) Mineral Resources are reported above a cut-off grade of 0.1% U₃O₈.

Sources: Technical Report on the Denison Mines Inc. Uranium Properties, Saskatchewan, Canada, dated November 21, 2005, as revised February 16, 2006, by Richard E. Routledge, M.Sc., P. Geo. of Scott Wilson RPA (now RPA Inc.); Technical Report on the Sue D Uranium Deposit Mineral Resource Estimate, Saskatchewan, Canada, dated March 31, 2006, by Richard E. Routledge, M.Sc., P. Geo. and James W. Hendry, P. Eng of Scott Wilson RPA (now RPA Inc.); Technical Report on the McClean North Uranium Deposit Mineral Resource Estimate, Saskatchewan, Canada, dated January 31, 2007, by Richard E. Routledge, M.Sc., P. Geo. and James W. Hendry, P. Eng of Scott Wilson RPA (now RPA Inc.), and subsequent revision by letter dated October 20, 2009 from Scott Wilson RPA.

Midwest Uranium Project

Significant Increase in Mineral Resources with Updated Estimate



“With the application of more rigorous and robust estimation procedures, in accordance with NI 43-101, we are pleased to see a significant increase in overall project resources, without additional recent drilling.”

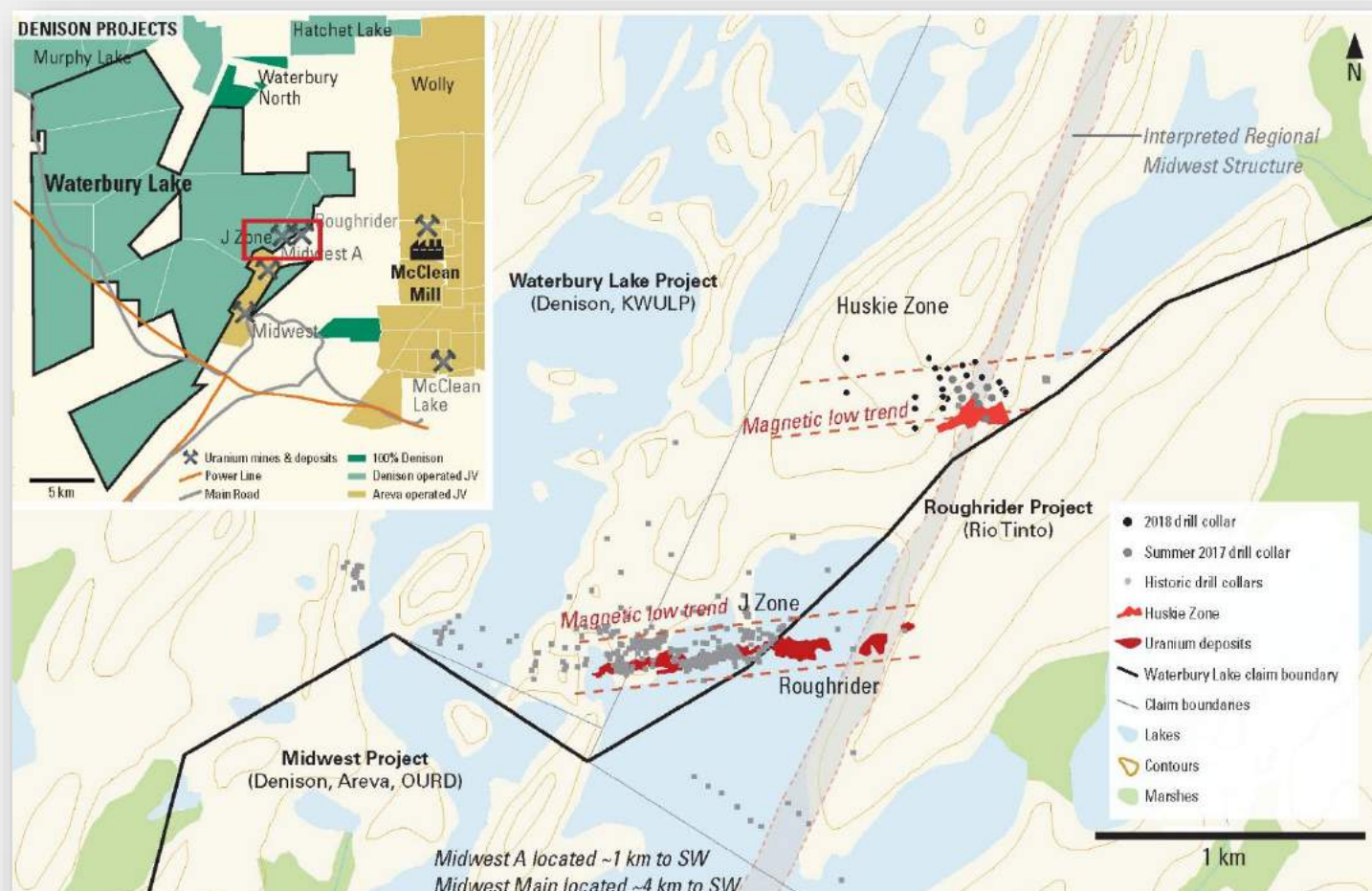
Dale Verran, VP Exploration

- Mineral resource estimate updated in March 2018
- 25 kilometres by existing roads to the McClean Lake mill
- Environmental Impact Statement (“EIS”) approved in 2012
- ✓ **Ownership:** 25.17% Denison, 69.19% Orano, 5.67% OURD

Deposit	Class.	Tonnes	Grade	Lbs U_3O_8	Denison Share
Midwest	Indicated	453,000	4.0% U_3O_8	39.9M	10.1M
Midwest	Inferred	793,000	0.66% U_3O_8	11.5M	2.9M
Midwest A	Indicated	566,000	0.87% U_3O_8	10.8M	2.7M
Midwest A	Inferred	53,000	5.8% U_3O_8	6.7M	1.7M

Waterbury Lake Uranium Project

Mineral Resources in Close Proximity to Roughrider & McClean Lake



“The high-grade mineralization at Huskie appears to be controlled by the intersection of east-west striking faults, associated with the graphitic gneiss unit, and cross-cutting northeast striking faults, possibly related to the regional Midwest structure.”

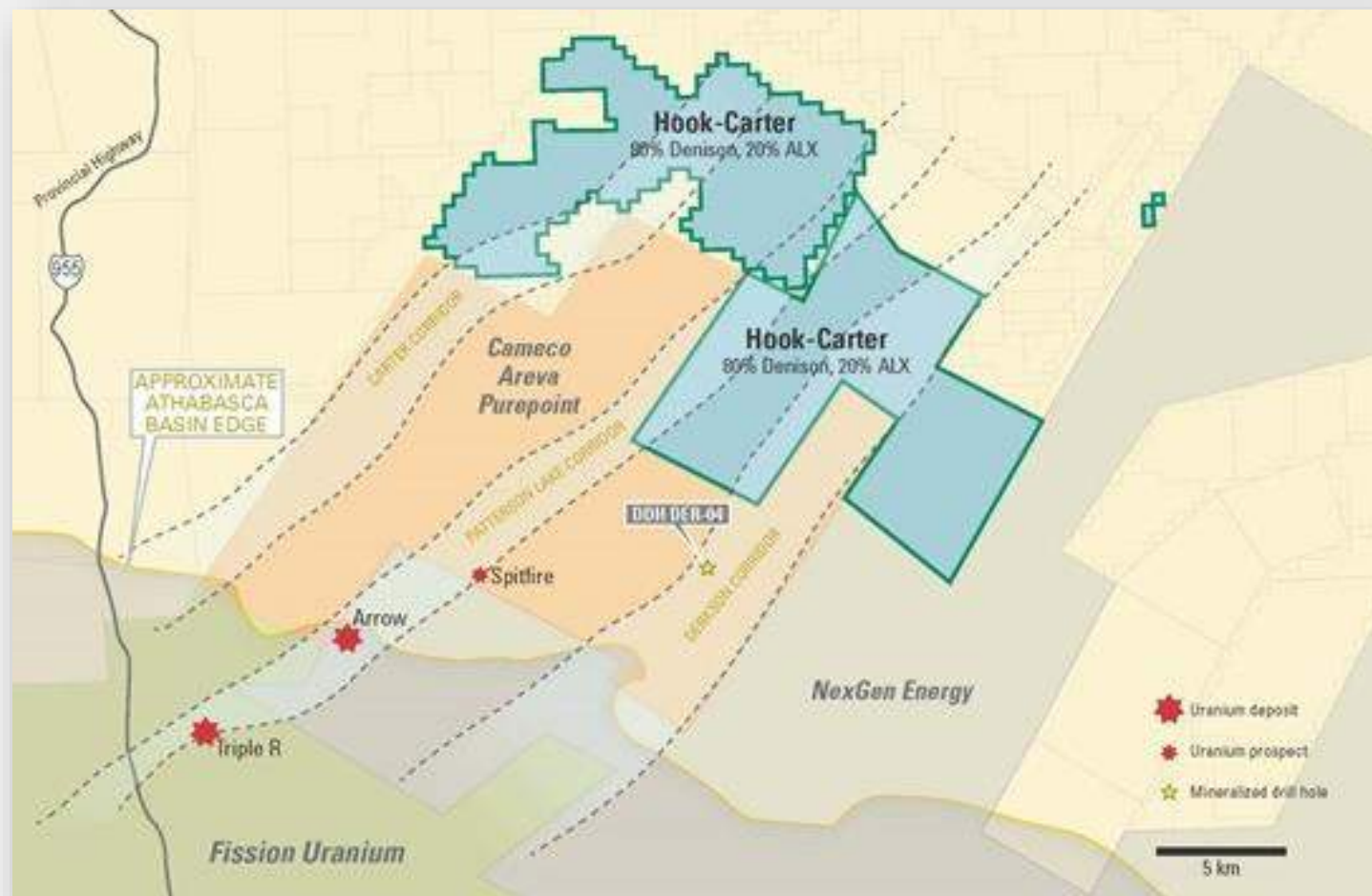
Dale Verran, VP Exploration

- Host to J-Zone and Huskie deposits
- Adjacent to Rio Tinto’s Roughrider project and Denison’s Midwest project
- Over 40,000 hectares of ground
- ✓ **Ownership:** 65.45% Denison, 34.55% KHNP

Deposit	Classification	Tonnes	Grade	Lbs U ₃ O ₈	Denison Share
J-Zone	Indicated	291,000	2.0% U ₃ O ₈	12.8M	8.M
Huskie	Not Estimated	n/a	n/a	n/a	n/a

Hook-Carter Uranium Project

Exploration on the Patterson Lake Corridor in the Western Athabasca Basin



"This is Elephant country - a large property that has seen very little drilling on a geological trend with a precedent for large and high-grade uranium deposits."

Dale Verran, VP Exploration

- 15 km of relative untested ground on the Patterson Lake Corridor "PLC"
- Maiden drilling program completed in 2018
- First phase of reconnaissance exploration to be completed Winter 2019
- ✓ **Ownership:** 80% Denison, 20% ALX

SABRE Mining Method

Experimental Mining Method with Potential to Access Orebodies from Surface



Surface Access Borehole Resource Extraction – or “SABRE” for short – is a proprietary mining method designed to excavate underground material from surface using a water jetting process

- +CAD\$50M invested for development – including engineering, drilling, mining tests, and procurement
- Recently re-designed key SABRE equipment to improve performance and economics with a new mining test slated to occur 2017-2020
- Potential benefits include low CAPEX, scalability, reduced timelines, and minimal environmental impact
- ✓ **Ownership:** 22.5% Denison, 70.0% Orano, 7.5% OURD

Disciplined Plan for 2019⁽¹⁾: Highlights & potential catalysts

- **Wheeler River - \$10.3M budget (100% basis)**
 - Initiation of the Environmental Assessment
 - Commencement of ISR wellfield tests
 - Initiation of metallurgical ISR pilot plant
 - Discovery focused exploration program targeting ISR amenable satellite deposits
- **Waterbury Lake - \$1.8M budget (DML funded)**
 - 7,300 metres of diamond drilling in 18 holes,
 - Focused on Midwest regional structure, including follow-up on mineralization discovered in 2018 at the GB Trend
- **Hook-Carter - \$1.4M budget (DML funded)**
 - 3,900 metres of diamond drilling in 6 holes,
 - Focused on completing the first phase of reconnaissance exploration along the 7.5km of the Patterson Lake Corridor



Capital Structure & Corporate Information



Market Summary ⁽¹⁾	
Exchanges	TSX: DML, NYSE MKT: DNN
Shares Outstanding	584.2 M
Warrants	1.7 M
Options	17.3 M
Fully Diluted Shares	603.2 M
Market Cap – DML @ C\$0.70/share ⁽²⁾	CAD \$408.8
Daily Trading Volume – DML ⁽³⁾	0.50 M Shares
Market Cap – DNN @ U\$0.52/share ⁽²⁾	USD\$303.8 M
Daily Trading Volume – DNN ⁽³⁾	0.77 M Shares

Management & Directors

- David Cates (President & CEO, Director)
 - Mac McDonald (VP Finance & CFO)
 - Tim Gabruch (CCO)
 - Peter Longo (VP Project Development)
 - 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)
 - Moo Hwan Seo (Director)
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