

*A new standard of sustainable uranium mining rises
from the depths of the uranium down-turn*

GLOBAL 2022 Conference – July 7, 2022

Powering
**PEOPLE, PARTNERSHIPS
AND PASSION.**



Denison Mines
Uranium Development & Exploration
The Athabasca Basin, Northern Saskatchewan

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Cautionary Note to United States Investors Concerning Estimates of Mineral Resources and Mineral Reserves: This presentation may use terms such as "measured", "indicated" and/or "inferred" mineral resources and "proven" or "probable" mineral reserves, which are terms defined with reference to the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") CIM Definition Standards on Mineral Resources and Mineral Reserves ("CIM Standards"). The Company's descriptions of its projects may not be comparable to similar information made public by U.S. companies subject to the reporting and disclosure requirements under the United States federal securities laws and the rules and regulations thereunder.

Qualified Persons

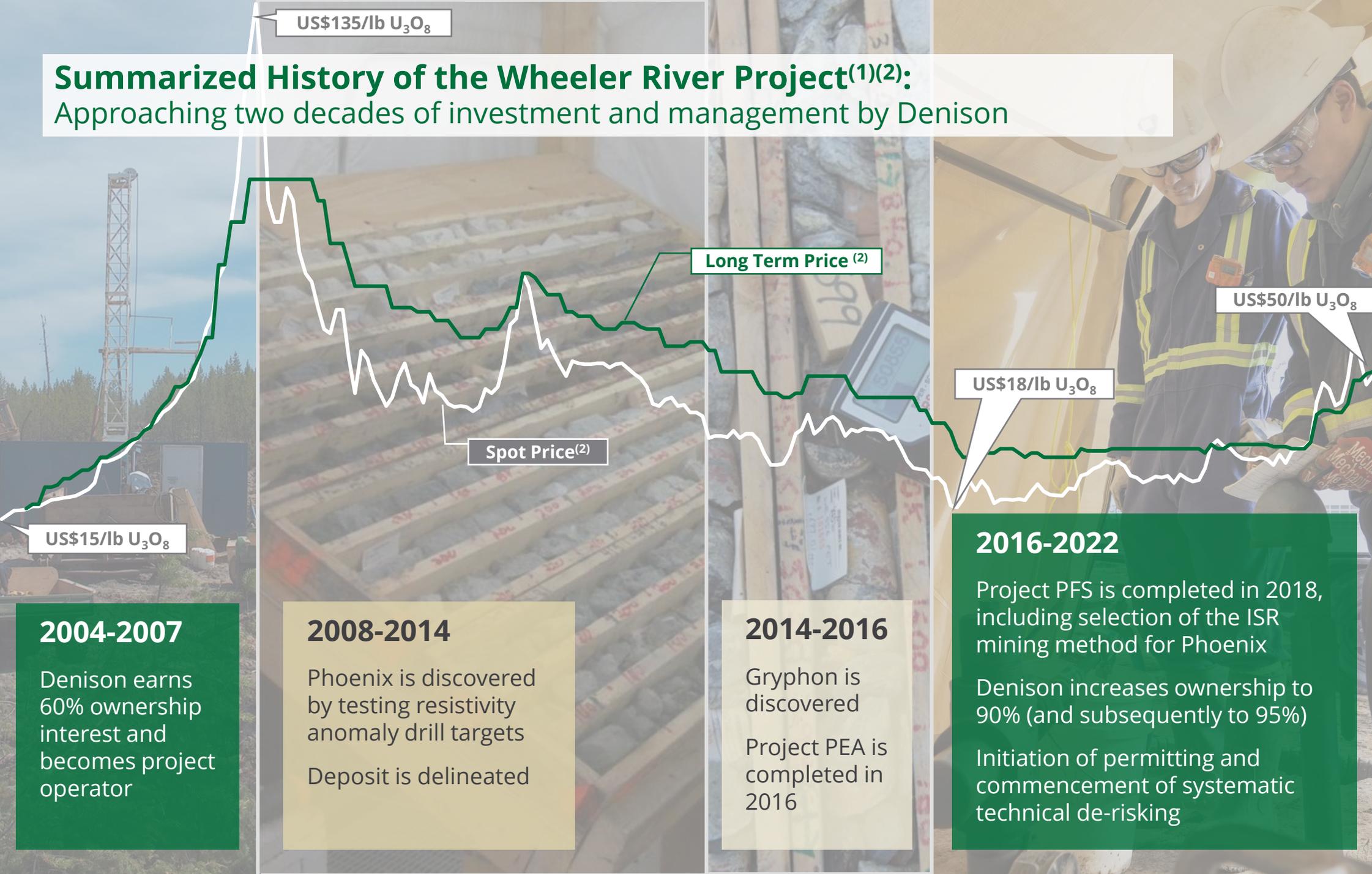
The disclosure of a scientific or technical nature within this presentation, including the disclosure of mineral resources, mineral reserves, as well as the results of the Wheeler PFS and Waterbury PEA, was reviewed and approved by David Bronkhorst, P.Eng. and Andy Yackulic, P.Geo, each of whom is a 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 ("Wheeler PFS").
- For further details regarding the **Waterbury Lake project**, please refer to the Company's press release dated November 17, 2020 and the technical report titled "*Preliminary Economic Assessment for the Tthe Heldeth T   (J Zone) Deposit, Waterbury Lake Property, Northern Saskatchewan, Canada*" with an effective date of October 30, 2020 ("Waterbury PEA"). **The PEA is a preliminary analysis of the potential viability of the Project's mineral resources, and should not be considered the same as a Pre-Feasibility or Feasibility Study, as various factors are preliminary in nature. There is no certainty that the results from the PEA will be realized. Mineral resources are not mineral reserves and do not have demonstrated economic viability. Scheduled tonnes and grade do not represent an estimate of mineral reserves.**

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 25, 2022. A copy of the foregoing 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.

Summarized History of the Wheeler River Project⁽¹⁾⁽²⁾: Approaching two decades of investment and management by Denison



2004-2007

Denison earns 60% ownership interest and becomes project operator

2008-2014

Phoenix is discovered by testing resistivity anomaly drill targets

Deposit is delineated

2014-2016

Gryphon is discovered

Project PEA is completed in 2016

2016-2022

Project PFS is completed in 2018, including selection of the ISR mining method for Phoenix

Denison increases ownership to 90% (and subsequently to 95%)

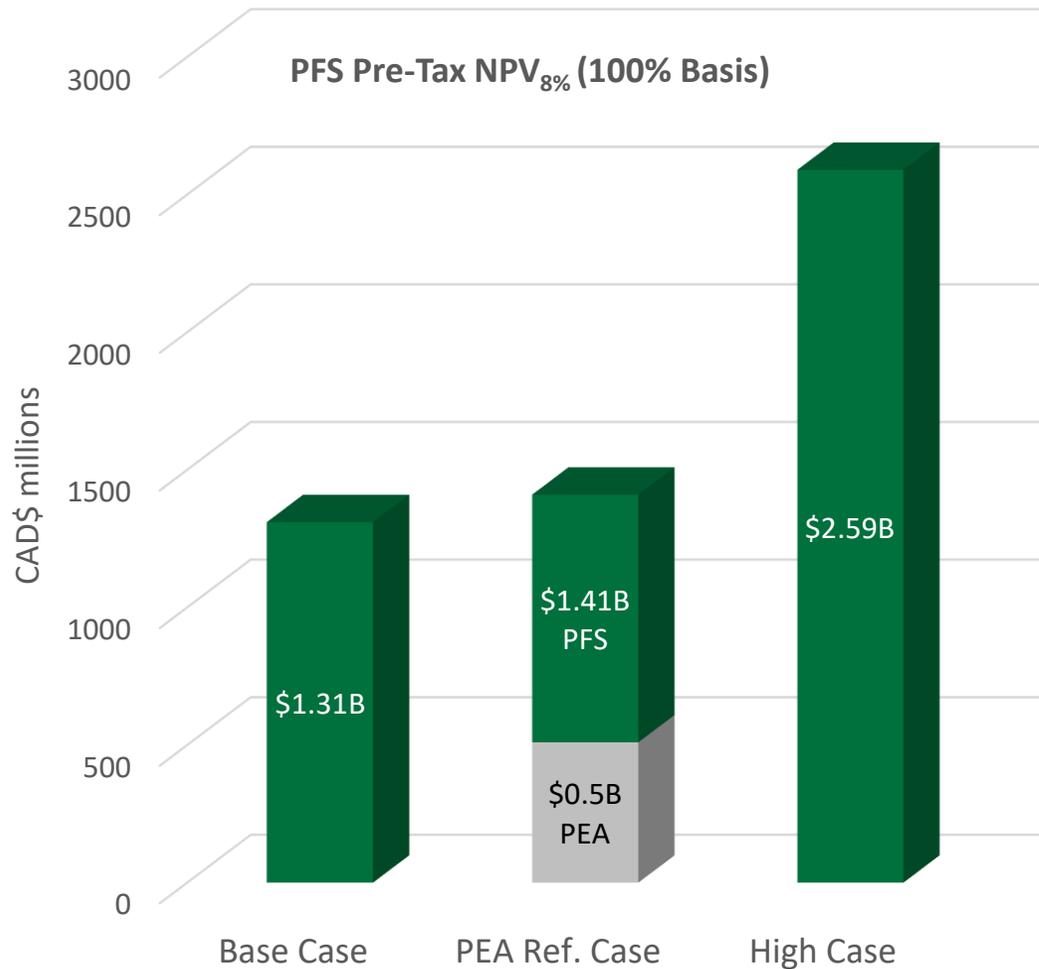
Initiation of permitting and commencement of systematic technical de-risking

PHOTOS (Left to Right):
Drill rig carrying out exploration at the Wheeler River site in the mid 2000s; Core logging from discovery of Phoenix; Drill core and handheld scintillometer from discovery of Gryphon; monitoring of commercial scale ISR test wells at Phoenix in 2021.

NOTES:
(1) See Denison's current Annual Information Form for additional details regarding the history of the Wheeler River project.
(2) The source for uranium price data included on this slide is UxC LLC.

Wheeler River PFS:

Robust economics supported by conservative uranium price assumptions



Phoenix

~US\$29/ lb U₃O₈
increasing to US\$45/lb U₃O₈ used in Base Case

Gryphon

US\$50/ lb U₃O₈
fixed price used in Base Case

+175% increase in pre-tax project NPV from 2016 PEA⁽⁶⁾ (using PEA selling price of US\$44/lb U₃O₈)

Assumptions / Results ⁽¹⁾	Base Case	PEA Ref.	High Case
Selling price / lb U ₃ O ₈	As above	US\$44	US\$65
Pre-tax NPV _{8%} ⁽²⁾⁽⁴⁾ (100%)	\$1.31 billion	\$1.41 billion	\$2.59 billion
Pre-tax IRR ⁽²⁾⁽⁵⁾	38.7%	47.4%	67.4%
Pre-tax payback period ⁽³⁾	~24 months	~15 months	~ 11 months

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) NPV and IRR are calculated to the start of pre-production activities for the applicable operation.

(3) Payback period is stated as number of years to pay-back from the start of commercial production.

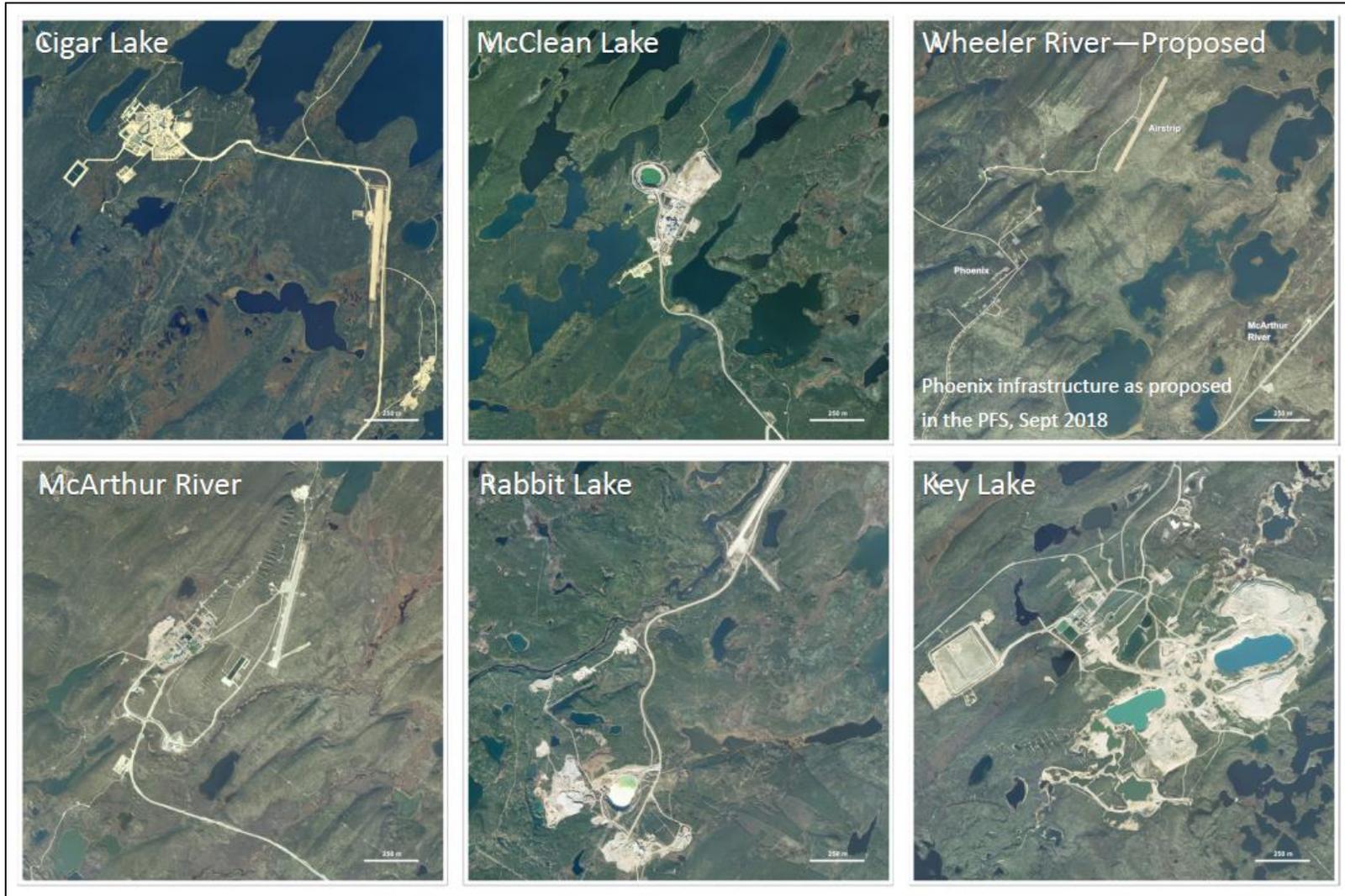
(4) Post-tax NPV attributable to Denison's then pro-forma 90% interest is estimated to be between \$756 million (base-case) and \$1.5 billion (\$65/lb high-case).

(5) Post-tax IRR attributable to Denison's then pro-forma 90% interest is estimated to be between 32.7% (base-case) and 55.7% (\$65/lb high-case).

(6) 2016 PEA produced pre-tax project NPV(8%) of \$513 million at fixed uranium selling price of US\$44/lb U₃O₈.

Advantages of ISR uranium mining in Canada:

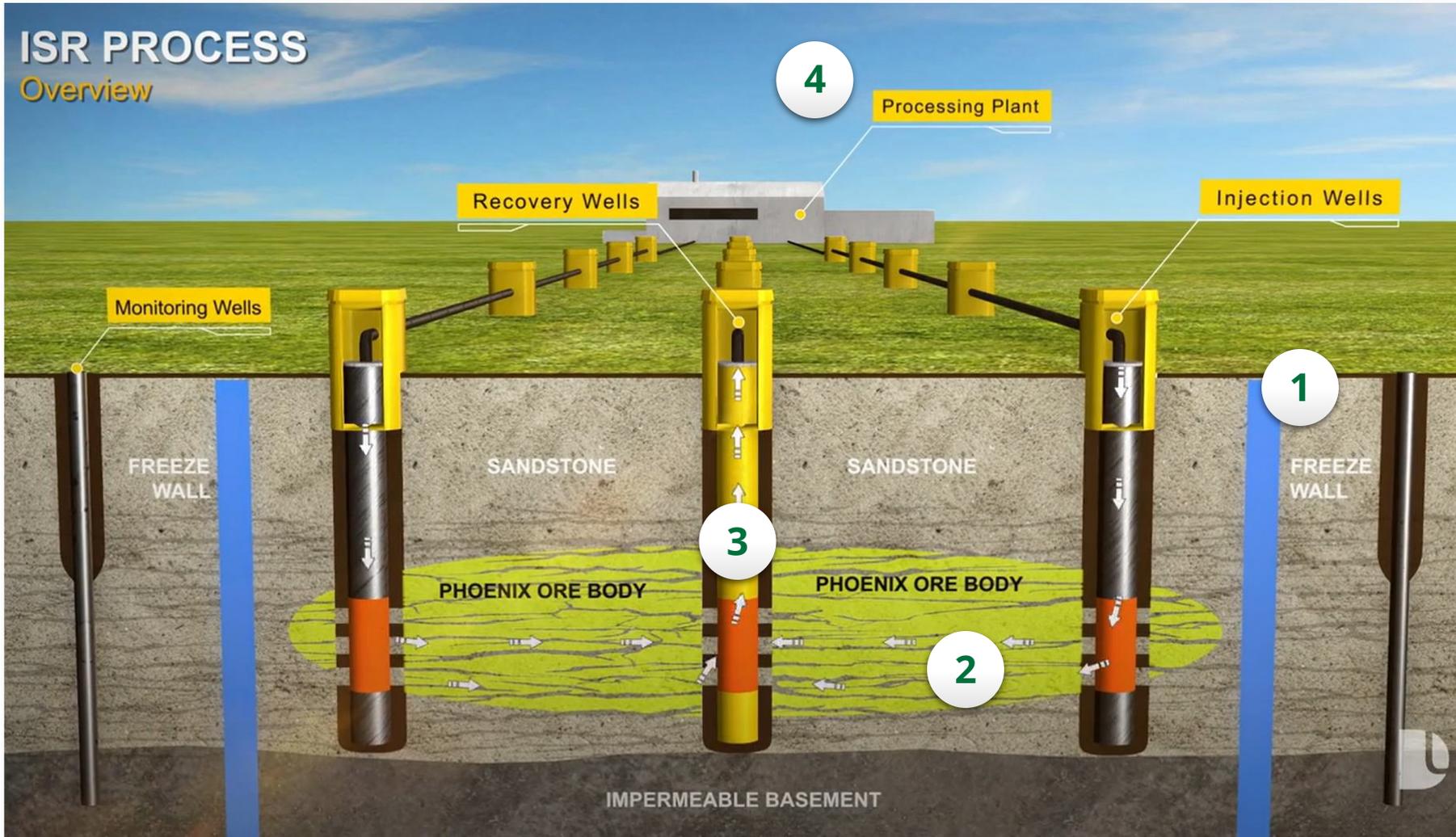
Potential to set superior standards for environmental protection, occupational health and safety, and sustainability



- ✓ Small surface footprint
- ✓ No tailings production
- ✓ Enhanced site reclamation
- ✓ Lower water consumption
- ✓ Lower energy consumption
- ✓ Lower CO₂ emissions
- ✓ Small volume treated effluent released to surface water bodies
- ✓ Potential for lower radiation doses to workers
- ✓ Very small volumes of clean waste rock (sandstone core from wellfield development)

Phoenix ISR De-Risking:

First principles of successful ISR mining in the Athabasca Basin



- 1. Containment:** ability to contain the mining solution injected into the formation
- 2. Permeability:** ability to establish hydraulic connections between injection and recovery wells to move the mining solution throughout the deposit
- 3. Leachability:** ability to complete leaching of the uranium mineralization while it is in the ground (in-situ);
- 4. Processing:** ability to recover a suitable finished product from the uranium bearing solution recovered from the wellfield.

Phoenix ISR De-Risking: 2019 and 2020 ISR field test programs⁽¹⁾⁽³⁾



~35 small- diameter wells

installed into
and around the
Phoenix deposit

All holes
generally
equipped with a
down-hole
pressure
transducer or
vibrating wire
piezometer
(“VWP”) to
measures
hydraulic
pressure during
test work

Two large- diameter commercial- scale wells

First installed in
the history of
the Athabasca
Basin

Containment:

Tests show
minimal vertical
travel of injected
fluids

Support decision
to adopt “Freeze
Wall” design⁽⁴⁾

~40 Pump and injection tests

completed to
collect extensive
data for
development of
hydrogeologic
model

Permeability:

Hydrogeologic
model build and
calibrated by
third-party

Achieved ISR
“**Proof of
Concept**”⁽²⁾

PHOTOS:

ISR field testing at
Wheeler River Phoenix
Deposit, Summer 2019.

Inset photo shows close
up view of downhole
pressure transducer.

NOTES:

(1) See Denison’s news
release dated Dec.18,
2019.

(2) See Denison’s news
release dated June 4,
2020.

(3) See Denison’s news
release dated Oct. 28,
2020.

(4) See Denison’s news
release dated Dec. 1,
2020.

Phoenix ISR De-Risking: 2021 commercial-scale test pattern and tracer test⁽¹⁾



5-spot large- diameter commercial scale test pattern

installed in
expected Phoenix
mining Phase 1

Tracer Test

First known
completed ion
tracer test for
ISR mining in
the history of
the Athabasca
Basin

Permeability Enhancement Tools Tested

On a larger-scale
than previous
tests, verifying
increased
hydraulic
connection
where needed

Highlights of highly successful tracer test:

- ✓ Achieved commercial-scale production flow rates
- ✓ Demonstrated hydraulic control of injected solution
- ✓ Established breakthrough times consistent with hydrogeological modelling
- ✓ Completed 'clean-up' phase consistent with hydrogeological modelling

PHOTOS:

ISR test pattern and commercial scale well-head (inset) at Phoenix during field tests / tracer test completed in 2021.

LINKS:

[2021 ISR Field Test Video](#)

NOTES:

(1) See Denison's news release dated Oct. 28, 2021

Phoenix ISR De-Risking: Validating in-situ leachability through specialized metallurgical testing



Core Leach Testing

Saskatchewan Research Council ('SRC') uses a specialized 'core leach' machine to simulate in-situ leach conditions by forcing the leach solution through the natural permeability of multiple representative in-tact core samples

50% increase in ISR mining head grade⁽¹⁾

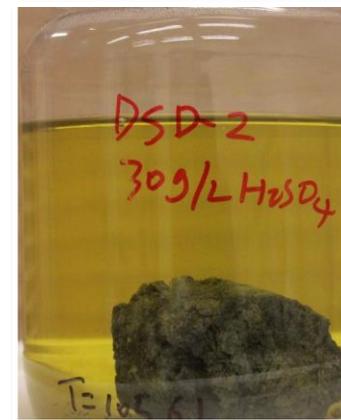
Core leach test results support decision in 2021 to increase the mining head grade assumed in the 2018 PFS

Hydro-metallurgical test work

Progressing to support water effluent quality for ongoing environmental assessment.

Plant design advancing

Metallurgical testing using roughly 1000L of uranium bearing solution to support bench-scale evaluations for plant design is well advanced



PHOTOS:

Specialized 'Core Leach' apparatus at the SRC labs in Saskatoon.

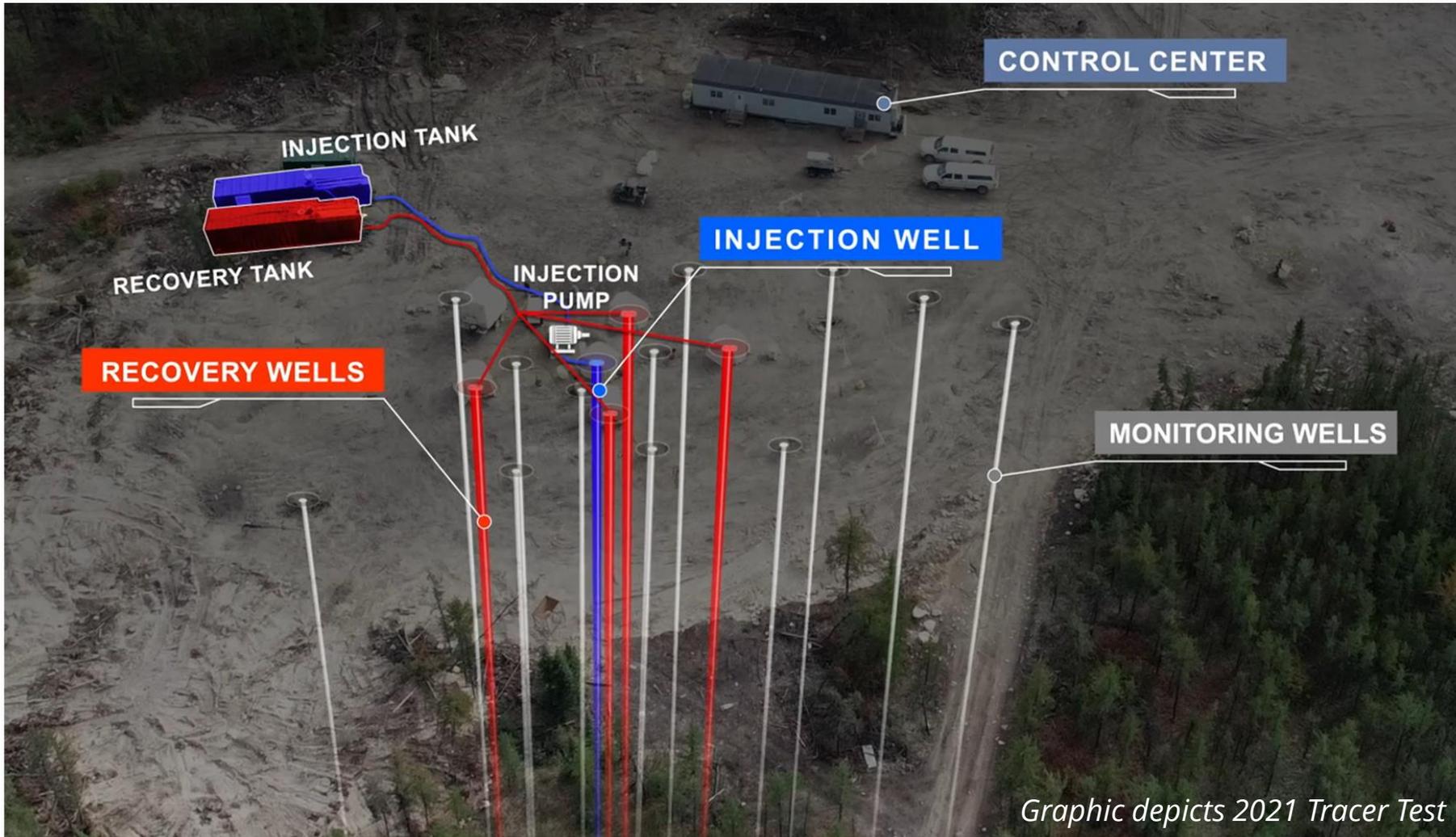
Inset photo shows 9" sample of in-tact high-grade drill core from Phoenix prior to insertion into the testing apparatus.

Bottom right, shows static leaching of uranium from undisturbed core sample.

NOTES:

(1) See Denison's news release dated August, 4, 2021.

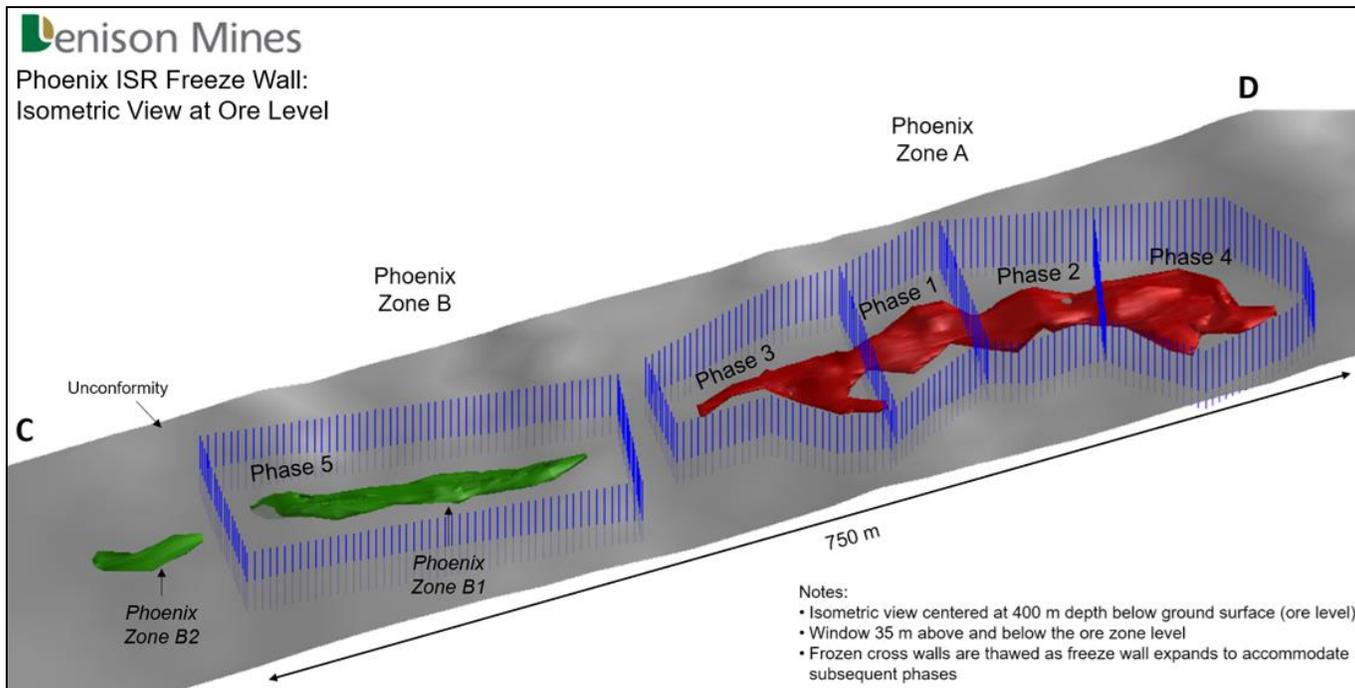
Phoenix ISR De-Risking: Planned 2022 field feasibility test ('FFT')



- FFT is planned for the second half of 2022 – more details to come
- Expected to represent final confirmation of the technical feasibility of the ISR mining method at Phoenix
- Designed to make use of the existing commercial scale test pattern installed in 2021
- Expected to involve a controlled injection of lixiviant into an area of the test pattern and the recovery of mineralized solution

Phoenix ISR Feasibility Study:

Wood PLC selected to lead + author independent Feasibility Study in accordance with NI 43-101⁽¹⁾



50% increase

to ISR mining uranium head-grade in PFS⁽³⁾

Updated

Estimate of Mineral Resources including results from GWR-045⁽⁴⁾

Process Plant Optimization

Including increase in ISR mining head-grade

Mine Design Optimization

Including results from multiple field tests

Freeze wall design shows potential for significant advantages⁽²⁾

Conventional freeze “wall” design selected to replace novel freeze dome / cap design in 2018 PFS

- Enhanced environmental design – full containment of ISR wellfield to surface
- Lower technical complexity and operational risk – using existing diamond drilling methods
- Expected reduction in initial capital costs with introduction of phased mining approach
- Strengthened project sustainability

Superior Standard of Environmental Stewardship

Incorporating technical work and feedback from ongoing EA

Class 3 Capital Cost Estimate

AACE international standard with an accuracy of -15%/+25%

PHOTO:

Isometric view of planned ISR Freeze Wall for Phoenix, including illustration of phased mining approach

NOTES:

(1) See Denison’s news release dated September 22, 2021.

(2) See Denison’s news release dated December 1, 2020.

(3) See Denison’s news release dated August 4, 2021.

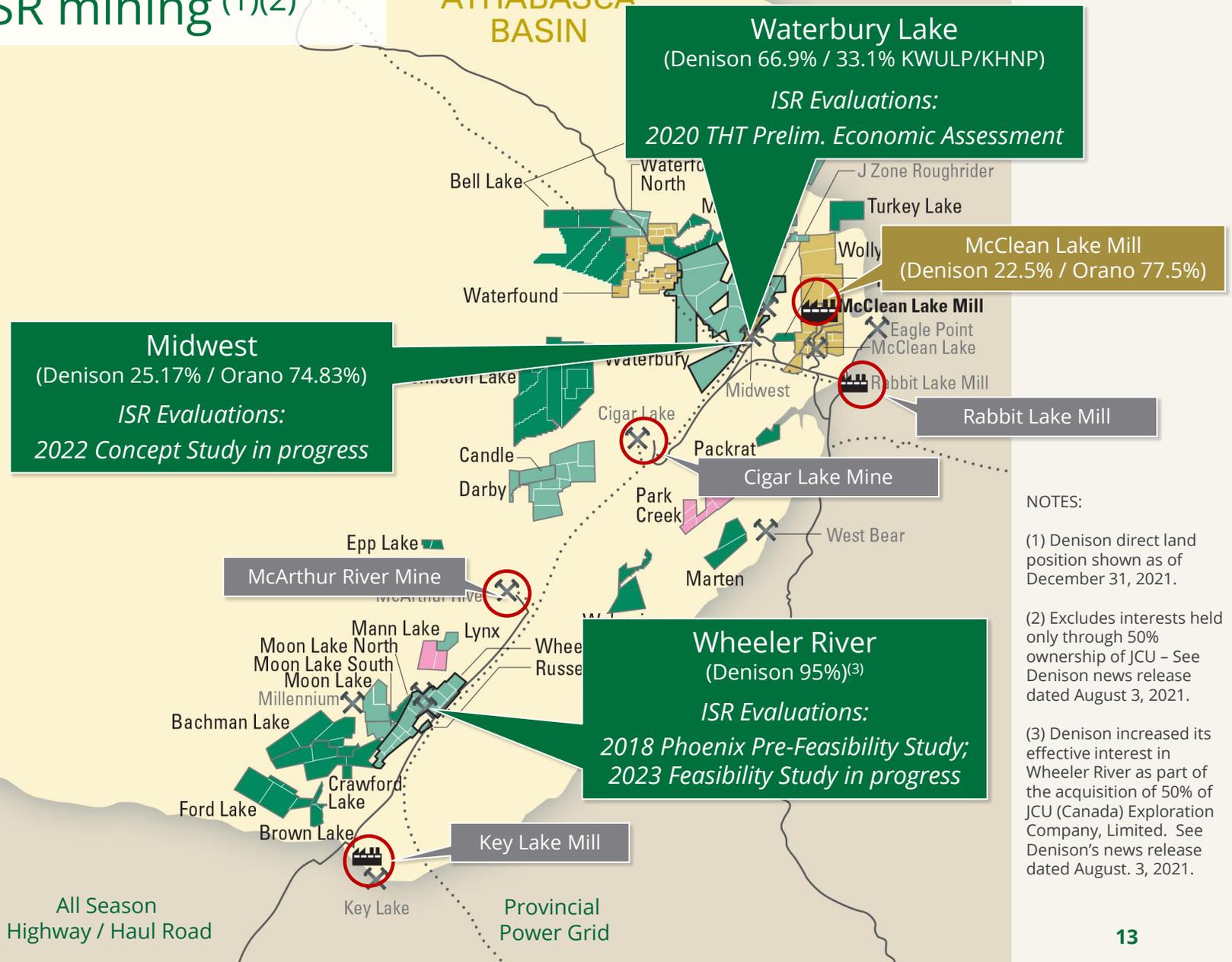
(4) See Denison’s news release dated July 29, 2021.

Multiple Denison projects under evaluation for potential amenability of ISR mining ⁽¹⁾⁽²⁾



Legend:

- 100% Denison
- Denison operated JV
- Orano operated JV
- Cameco operated JV
- Denison earn-in
- Uranium mines and deposits
- Uranium mill
- Roads
- Powerlines



Waterbury Lake
(Denison 66.9% / 33.1% KWULP/KHNP)
ISR Evaluations:
2020 THT Prelim. Economic Assessment

Midwest
(Denison 25.17% / Orano 74.83%)
ISR Evaluations:
2022 Concept Study in progress

McClean Lake Mill
(Denison 22.5% / Orano 77.5%)

Wheeler River
(Denison 95%)⁽³⁾
ISR Evaluations:
2018 Phoenix Pre-Feasibility Study;
2023 Feasibility Study in progress

- NOTES:**
- (1) Denison direct land position shown as of December 31, 2021.
 - (2) Excludes interests held only through 50% ownership of JCU – See Denison news release dated August 3, 2021.
 - (3) Denison increased its effective interest in Wheeler River as part of the acquisition of 50% of JCU (Canada) Exploration Company, Limited. See Denison's news release dated August 3, 2021.

