

# TRIPLE R

POTENTIAL TO BE ONE OF THE WORLD'S  
LOWEST COST URANIUM MINES

March 2022 | Corporate Update

# DISCLAIMER & TECHNICAL INFORMATION

## DISCLAIMER

The following information may contain forward-looking statements. Forward-looking statements address future events and conditions and therefore involve inherent risks and uncertainties. Actual results may differ materially from those currently anticipated in such statements.

## TECHNICAL INFORMATION

Certain of the technical information contained herein is derived from the September 23, 2019 news release entitled “Fission Completes Prefeasibility for Underground-Only Mine at PLS: Lower CAPEX, Low OPEX, Minimized Surface Footprint” describing results of a PFS completed on the project – a copy of which will be filed on the Company’s profile on SEDAR at [www.sedar.com](http://www.sedar.com) within 45 days. The PFS considers the PLS project as a stand-alone mine and mill operation, which includes development and extraction of the R00E and R780E zones (Triple R deposit), based on a number of inputs, estimates, and results.

The technical information in this corporate presentation has been prepared in accordance with the Canadian regulatory requirements set out in National Instrument 43- 101 and reviewed on behalf of the company by Ross McElroy, P.Geol. President and CEO for Fission Uranium Corp., a qualified person.

The Mineral Resources have an effective date of October 23, 2018 and are reported at a cut-off grade of 0.25% U<sub>3</sub>O<sub>8</sub> based on a long-term price of US\$50 per lb U<sub>3</sub>O<sub>8</sub> and PFS cost estimates. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

## PLS: The RIGHT PROJECT & The RIGHT TIME For DEVELOPMENT

### STRENGTHENED URANIUM SECTOR

Higher uranium prices and the continually increasing focus on green energy is shining the spotlight on Tier One uranium projects.

### WORLD CLASS URANIUM DISTRICT

Saskatchewan consistently ranked in the Top 10 Mining Investment jurisdictions in the world. Project has excellent access to highway.

### EXPERT TEAM WITH DEEP KNOWLEDGE OF URANIUM PROJECT ADVANCEMENT

Senior Management, technical and operations team with tier one expertise in all aspects of mine development, operations, community affairs and environmental management.

### ONE OF THE WORLD'S MOST SIGNIFICANT LOWEST COST URANIUM PROJECTS

September 2019 PFS outlines UG mine production of 78.7M lbs of  $U_3O_8$ , averaging 13.1M lbs per for the first five years and LOM avg. cash costs of US\$7.18/lb  $U_3O_8$

### CLEAR DEVELOPMENT PATH

PFS complete; Feasibility Study Underway. Social and environmental responsibilities consistently met since project commencement. Industry-leading expert on permitting and environmental processes in place.

### FISSION IS SIGNIFICANTLY UNDERVALUED VS PEERS

Comparison of deposits owned by peers within the same region shows a substantial but narrowing gap in current valuations, presenting a clear opportunity for strong value growth via development.

## CLIMATE

- Median of 840 Gwe of nuclear energy needed by 2050 to meet climate goals. This is double current production (IPPC)
- Nuclear Power is one of the cleanest forms of energy and currently prevents 2.1 billion tonnes of CO2 equivalent emissions every year (IEA)

## POLITICAL SENTIMENT CHANGING FAST

- Global leaders have now acknowledged material role for nuclear in reaching carbon net zero
- US, UK and France investing heavily in SMR development
- Increasing pressure for Germany to reverse nuclear phase out

## URANIUM: HAS THE RECOVERY BEGUN?

Historical Uranium Spot Price  
(US\$/lb U<sub>3</sub>O<sub>8</sub>)



Source: UxC, LLC

## LESS SUPPLY; MORE STRATEGIC PURCHASERS

- Cameco:
  - McArthur River partial restart
  - Cigar Lake partial ramp-down
- Sprott Physical Uranium Trust has made significant purchases and Kazatomprom has announced a new physical uranium fund (ANU Energy)
- Signs that long-term utility contracting is restarting

## CONTINUED CONSTRUCTION BOOM

- 56 reactors under construction, 101 planned, 325 proposed (WNA)
- Leading the boom is China which, in 2020, overtook France in nuclear power generation and is now second only to the US



# THE PREMIER HIGH-GRADE URANIUM DISTRICT

ATHABASCA BASIN,  
SASKATCHEWAN

## JURISDICTION

**Stable, supportive government** and communities, skilled workforce and established infrastructure. **Straightforward permitting** procedures.

## TOP-RATED

Saskatchewan is the **3<sup>rd</sup> most attractive jurisdiction in the world** for mining investment - 2021, the Fraser Institute

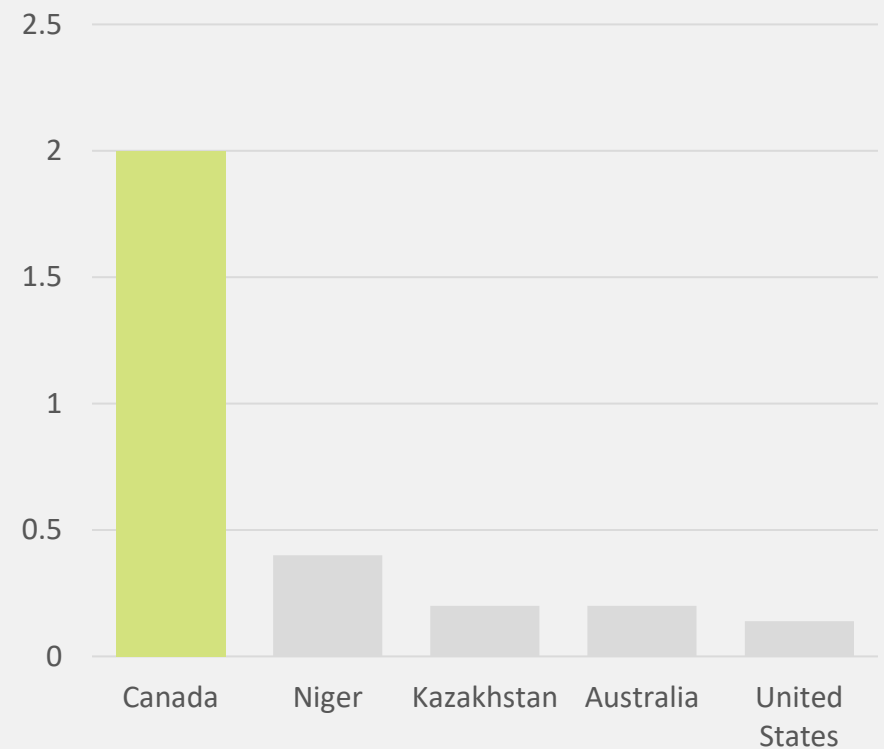
## GRADE

10 to 20 times Global Average

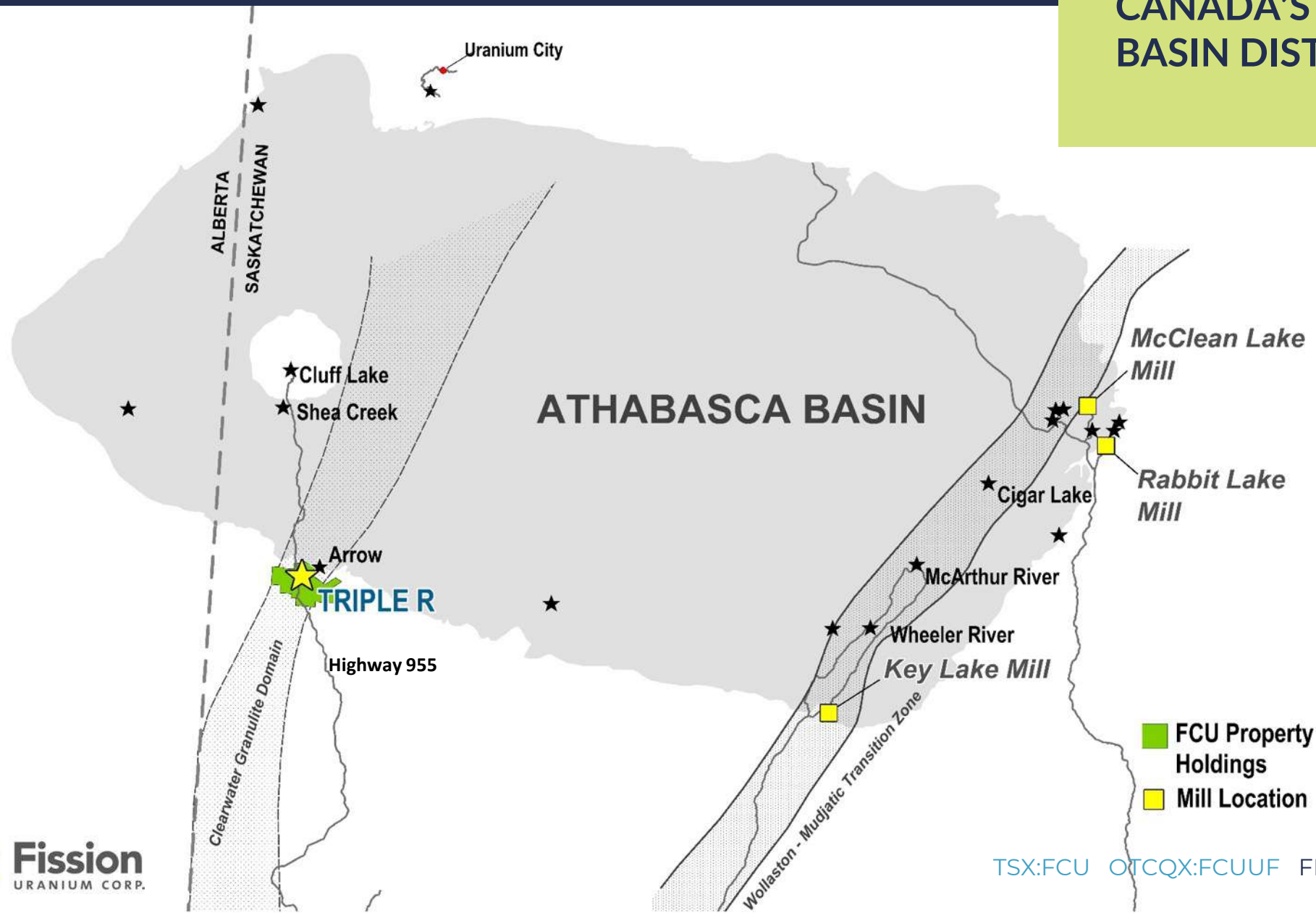
## GLOBAL SUPPLIER

In 2019 Canada (Saskatchewan) supplied 13.2% of the world's uranium (Due to COVID-19, Canada's 2020 production will be significantly reduced)

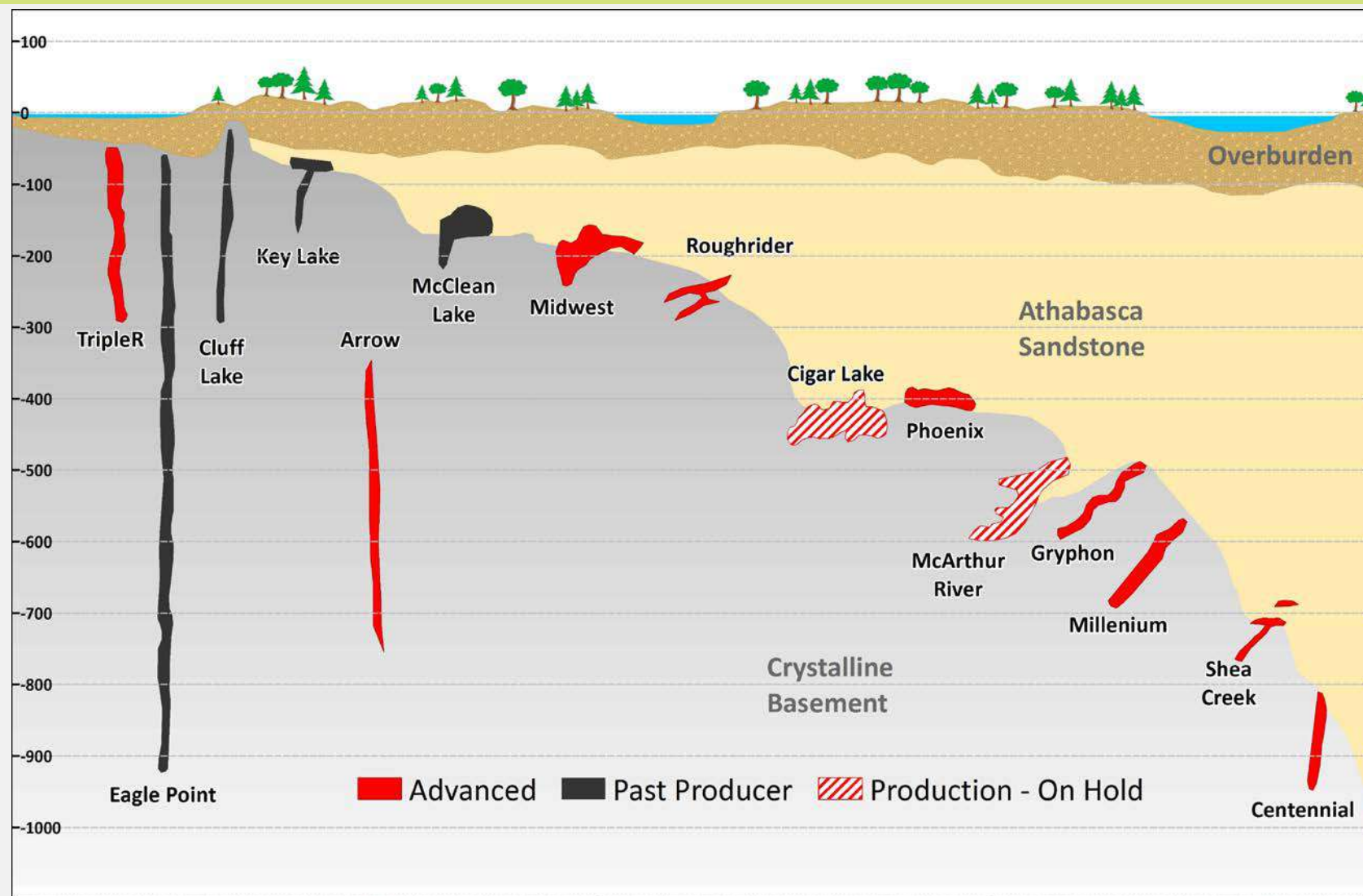
AVERAGE GRADE (%  $U_3O_8$ )



## CANADA'S ATHABASCA BASIN DISTRICT

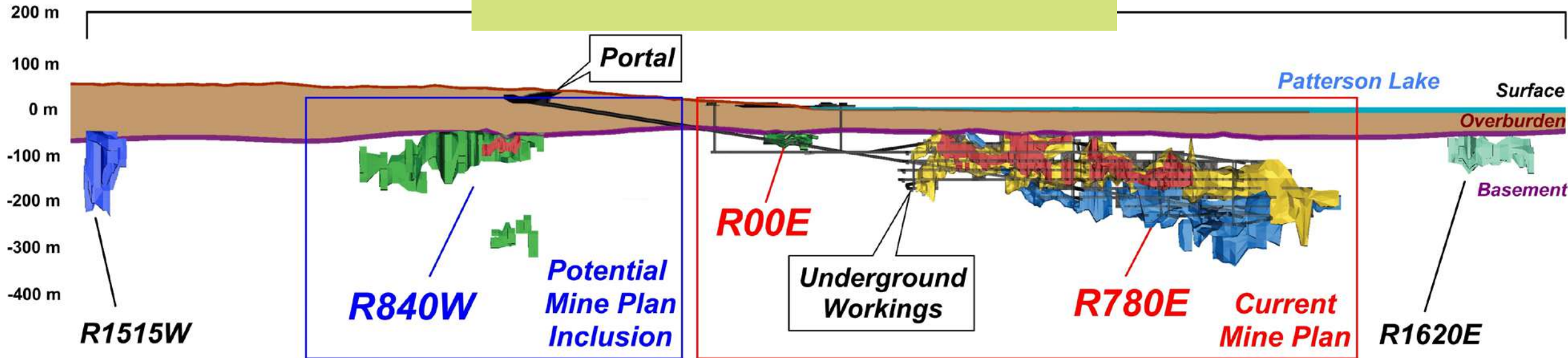


## THE BASIN'S ONLY SHALLOW, HIGH-GRADE, UNDEVELOPED PROJECT



# TRIPLE R DEPOSIT LONGITUDINAL SECTION LOOKING NW

0 500m



## Legend

- R1515W Zone
  - R840W (Main) Zone
  - R840W High Grade Zone
  - R00E Zone
  - R780E (Main) Zone
  - R780E (Main) High Grade Zone
  - R780E (Other Zones)
  - R1620E Zone
- Potential Mine Plan Inclusion*
- Current Mine Plan*

## U/G ONLY PFS INDICATED

102.4 Mlb U3O8 at an average grade of 2.10% U3O8

2.22 million tonnes

## U/G ONLY PFS INFERRED

32.8 Mlb U3O8 at an average grade of 1.22% U3O8

1.22 million tonnes

## U/G ONLY OPEX

US \$7.18/lb U3O8

(Mineral Resources are reported within an underground design at a cut-off grade of 0.25% U3O8)



# ROBUST PRE-FEASIBILITY RESULTS

## NEAR SURFACE, UNDERGROUND MINE PLAN

**BOTTOM QUARTILE  
OPEX COST**  
of US \$7.18 per lb U<sub>3</sub>O<sub>8</sub>

**SHORT  
CONSTRUCTION TIME**  
Of just 3 years

**UG MINING SCENARIO**  
Better supported by locals,  
rights holders and stakeholders

**MINIMAL FOOTPRINT**  
Potentially very low  
environmental impact

**HIGH IRR**  
(25% After-Tax)

**IMPRESSIVE NPV** <sup>8% after tax</sup>  
C\$702m

*“Triple R deposit demonstrates clear potential to be one of the lowest operational cost uranium operations in the world”.*



## CLEAR POTENTIAL FOR LOW COST PRODUCTION

### SEPT 2019 PFS UNDERGROUND MINE SCENARIO

	Units	UG mine (PFS Case)
<b>Mine Type</b>		<b>7.3 years UG</b>
<b>Mine Life</b>	Years	<b>7.0</b>
<b>Construction Period</b>	Years	<b>3 years</b>
<b>Ore Mined</b>	M tonnes	<b>2.3</b>
<b>LOM Avg. Head Grade</b>	% U <sub>3</sub> O <sub>8</sub>	<b>1.61</b>
<b>LOM Production</b>	M lbs U <sub>3</sub> O <sub>8</sub>	<b>81.4</b>
<b>Avg. LOM Annual Production</b>	M lbs U <sub>3</sub> O <sub>8</sub>	<b>11.3</b>
<b>Operating Costs</b>	<b>C\$/tonne</b>	<b>\$328</b>
	<b>C\$/lb U<sub>3</sub>O<sub>8</sub></b>	<b>\$9.57 (US\$7.18)</b>
<b>Initial Capital Cost</b>	C\$M	<b>\$1,177</b>
<b>LOM Sustaining Capital Cost</b>	C\$M	<b>\$209</b>
<b>Project Economics at US\$50/lb U<sub>3</sub>O<sub>8</sub> and C\$1.00:US\$0.75</b>		
<b>Pre-Tax Cash Flow</b>	C\$M	<b>\$2,656</b>
<b>After-Tax Cash Flow</b>	C\$M	<b>\$1,568</b>
<b>After-Tax NPV<sub>8%</sub></b>	C\$M	<b>\$702</b>
<b>After-Tax IRR</b>		<b>25%</b>

## OPEX AND PEER COMPARISONS

### Operating Costs for Athabasca Basin Projects

Mine/Project	Location	Stage	OPEX (C\$ / lb U3O8)
PLS	Western Basin	PFS	\$9.57
Arrow	Western Basin	FS	\$7.58
Wheeler River	Eastern Basin	PFS	\$9.27
McArthur River	Eastern Basin	Mine	\$14.97
Cigar Lake	Eastern Basin	Mine	\$18.75

Highly competitive prospective OPEX

### Valuation Comparison vs Peers

Company	Resource	Deposits	Market Cap	Enterprise Value \$/lb U3O8
NexGen (TSX:NXE)	Indicated: 256.6M lbs Inferred: 91.7M lbs	Arrow	C\$3.51B	C\$8.75
Denison (TSX:DML)	Indicated 140.1M lbs Inferred 11.0M lbs	Phoenix, Griffon, Midwest, Midwest A, J Zone, Husky	C\$1.80B	C\$9.33
Fission (TSX:FCU)	Indicated 102.4M lbs Inferred 32.8M lbs	Triple R	C\$682M	C\$4.74

Highly competitive Enterprise Value per pound

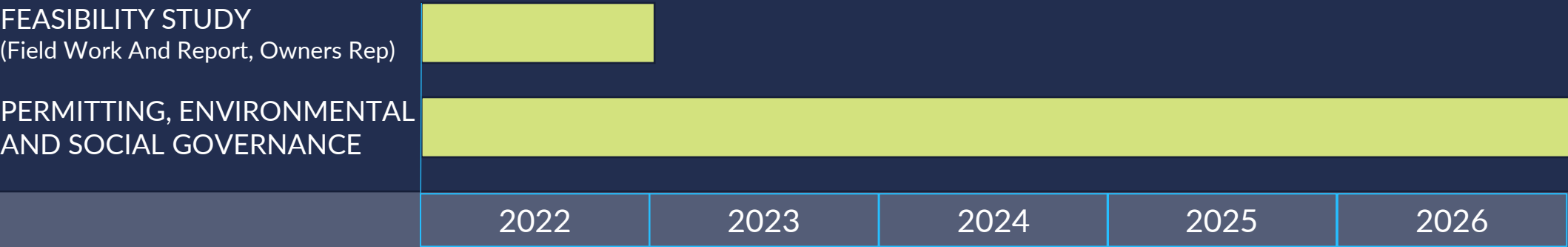
Values calculated March 9, 2022

# FISSION'S PLAN AND TIMELINES

PLS



## TIMELINES FOR KEY DEVELOPMENT ACTIVITIES TARGETING CONSTRUCTION BY 2026





## NEXT STEPS FOR THE FEASIBILITY STUDY



2022

- **Winter Program Highlights:**

- 6 large diameter HQ core holes, utilizing sonic drilling of the overburden
  - **R780E Zone:** 3x vertical holes
  - **R00E Zone:** 1x vertical core hole
  - **R840W Zone:** 1x vertical core vent shaft geotech hole to provide “off-zone” geotechnical information on a possible vent raise at R840W
  - **R1515W Zone:** 1X vertical core hole, designed to provide early-stage input on geotechnical analysis, as well as collect HQ MET (metallurgical samples)
- **On-going:** Permitting / Social Impact, including Engineering, Stakeholder and Rights-holder Agreements

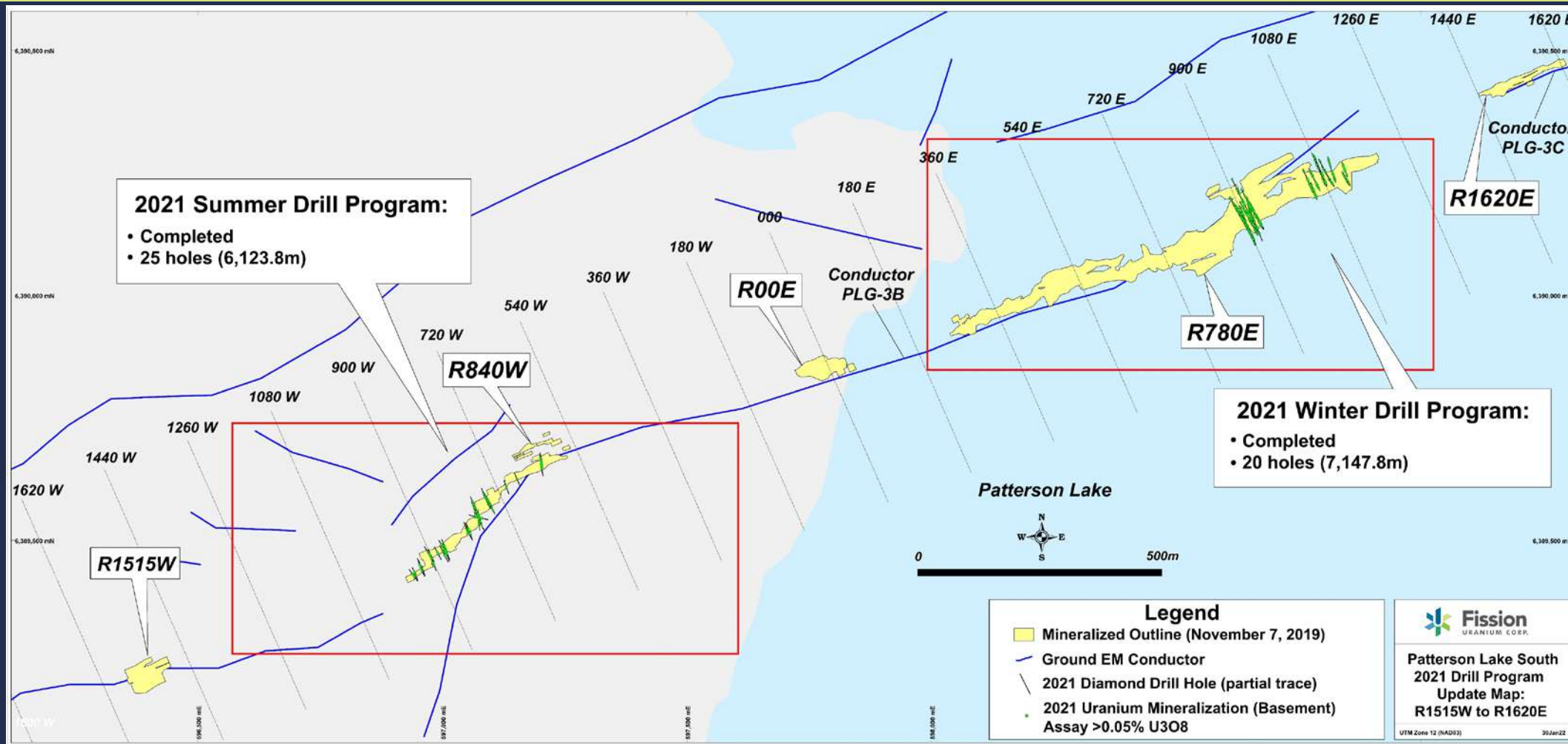
FEASIBILITY STUDY: Completion expected by end of 2022

Mine  
design

Process plant  
design

Site work

# RESOURCE EXPANSION AND PROJECT DE-RISKING WITH 45 HOLE DRILL PROGRAM

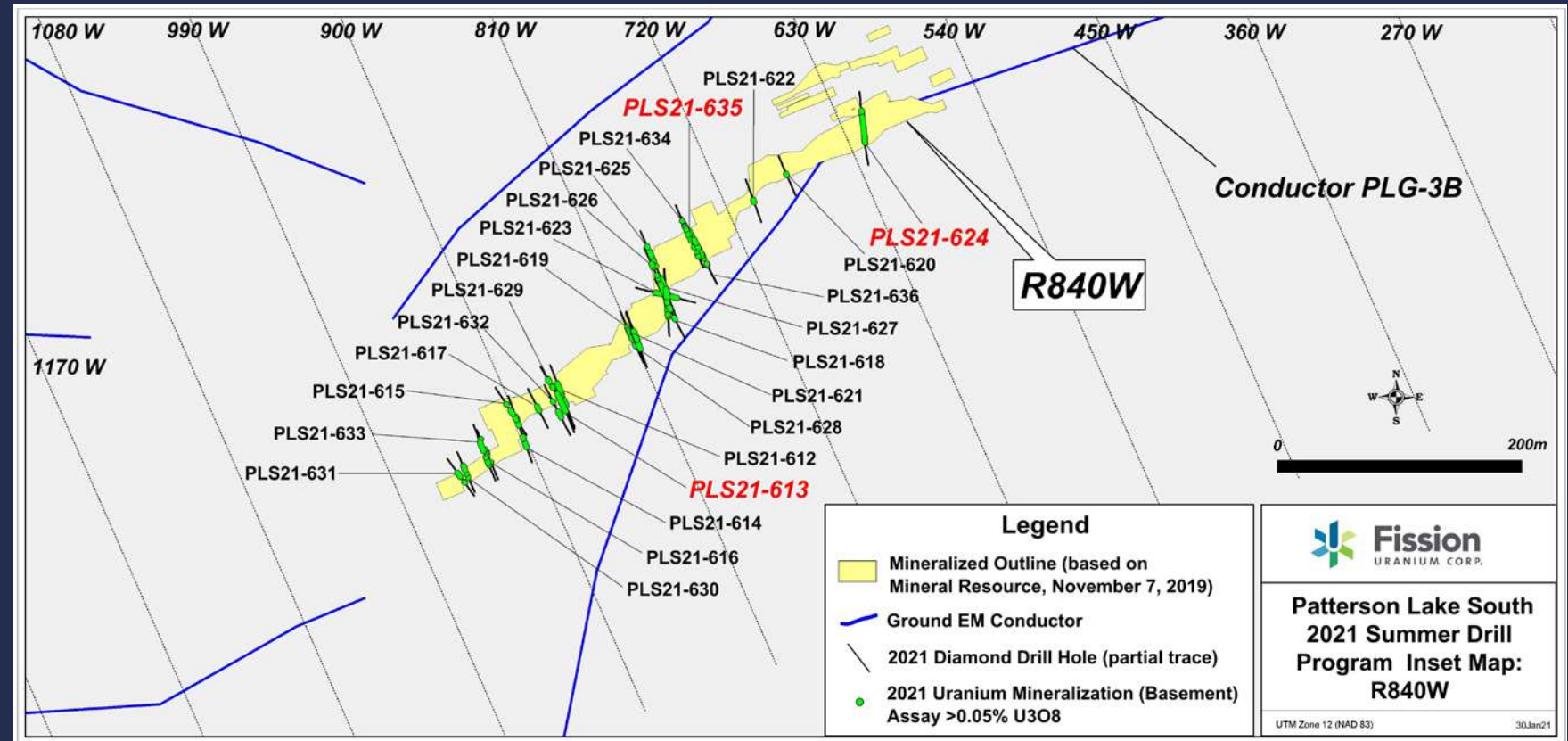


## R840W Resource Upgrade holes:

- Largest mineralized zone after R780E, predominantly Inferred resource
- Infill drilling with potential to convert majority of zone to Indicated

Exceptional results across the +400m strike-length of the R840W Zone

- Hole PLS21-624 (line 630W)
  - 46.0m @ 8.01%  $U_3O_8$ , including 19.0m @ 18.27%  $U_3O_8$
  - Total composite GT value of 368.8
- Hole PLS21-635 (line 750W)
  - 51.5m @ 2.71%  $U_3O_8$ , including 8.0m @ 14.58%  $U_3O_8$
  - Total composite GT value of 139.6
- Hole PLS21-613 (line 870W)
  - 26.5m @ 3.56%  $U_3O_8$ , including 6.5m @ 12.77%  $U_3O_8$
  - Total composite GT value of 94.4

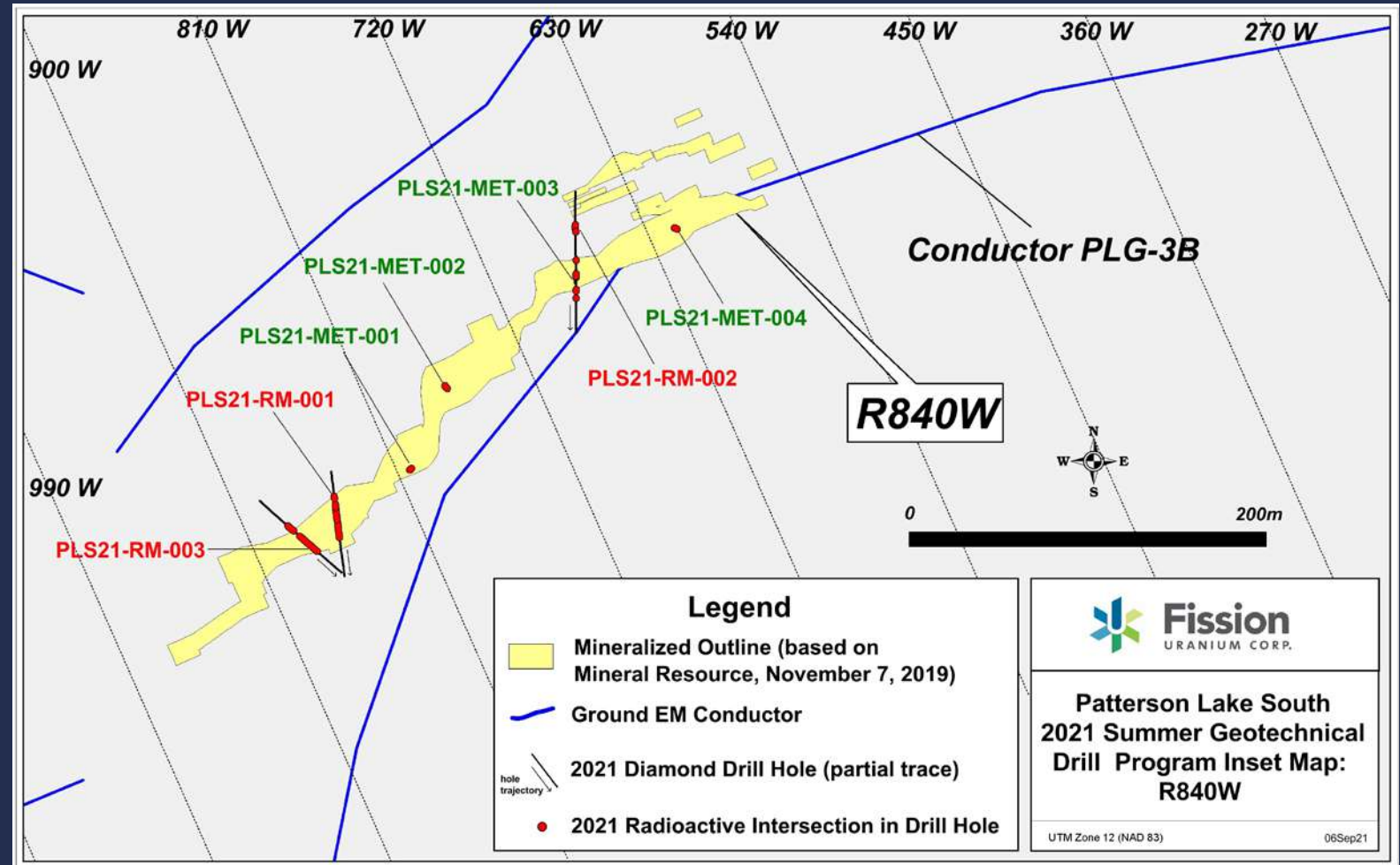




## R840W Investigation:

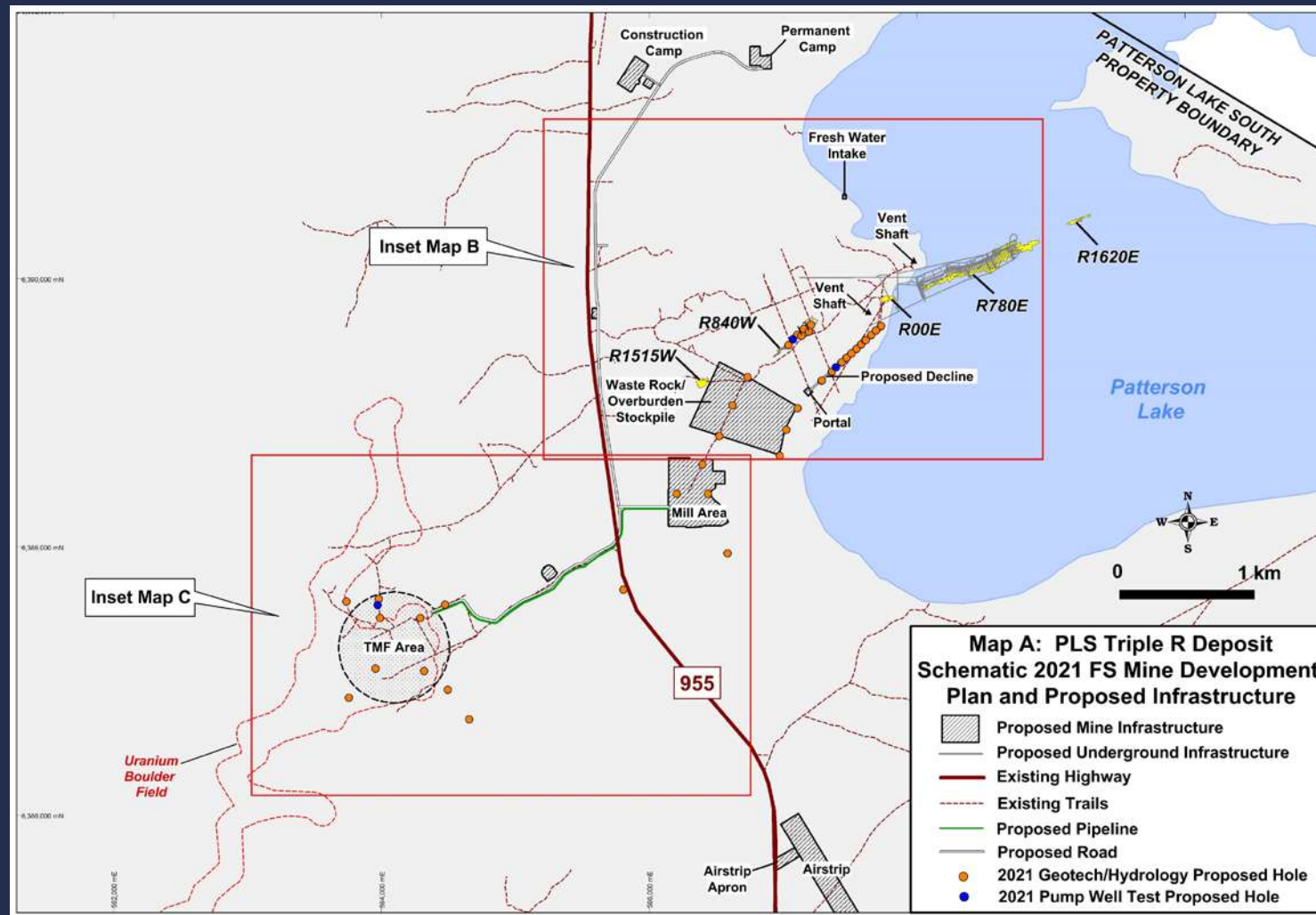
4 Metallurgical/Crown Pillar holes; 2 Rock Mechanical holes; 1 pumping well test hole

- Hole PLS21-MET-004 (line 615W)
  - 50.3m continuous mineralization (between 98.25m to 148.5m), including
    - 28.5m of total composite mineralization >10,000 cps (101.0m to 129.5m)
- Hole PLS21-MET-002 (line 765W)
  - 82.5m continuous mineralization (between 99.5m to 182.0m), including
    - 8.74m of total composite mineralization >10,000 cps
- Hole PLS21-RM-001 (line 870W)
  - 46.0m total composite mineralization over a 59.0m interval (between 159.0m to 218.0m), including 5.2m of total composite mineralization >10,000 cps





# FEASIBILITY STUDY MINE DEVELOPMENT PLAN & PROPOSED INFRASTRUCTURE



## ESG – FISSION COMMITTED TO RESPONSIBLE DEVELOPMENT

### ENVIRONMENTAL

- Mine plan designed for minimal environmental footprint
- Strong multi-year baseline environmental study in hand.
- Collection and handling of drill cuttings exceeds MOE requirements.
- Reclamation in unused project areas

### SOCIAL

- Respectful and open long-term dialogue with local Indigenous rights holders and stakeholders.
- Engagement and Capacity Agreement signed with CRDN in 2021. Working to establish similar agreements with other key rights-holders.
- Consistently prioritize local workers and services companies.
- Community support with local sponsorships & donations.

### GOVERNANCE

- Strong Board of Directors provides robust governance.
- Full array of corporate policies in place and strictly adhered to.
- Management fully aligned with best practices in human resources, operations and communications.



# THE BENEFITS OF THOROUGH BASELINE STUDIES

Environmental work commenced 2013, hiring CanNorth Environmental (100% owned by First Nations LaRonge Band). Scope has adjusted throughout development placing PLS in a strong permitting position and strengthening relationships with the local communities.

## Aquatic and hydrologic studies ( 2013 to 2017)

- Water Quality
- Fish Community
- Fish Chemistry
- Fish Habitat and Spawning
- Sediment Chemistry
- Surface Water Hydrology
- Weather

## Terrestrial Studies (2018 to ongoing)

- Habitat Classification
- Vegetation and Soil Surveys
- Bird and Amphibian Surveys
- Small and Large Mammal Surveys
- Aerial Surveys
- Winter Tracking Surveys
- Air Quality Surveys



## MINE PLAN IS A WIN FOR ESG

Following discussion with the local communities, and actively seeking their input and feedback, Fission has opted for an underground-only mine plan.

- Promotes proper density of tailings through dewatering
- Eliminates contaminant escape during operations
- Facilitates best-in-class decommissioning
- Low profile final shape that fits into the landscape
- Reclaimed with local vegetation
- Modelling shows negligible impacts to Clearwater River system
- Very positive feedback from local community leaders, First Nations and government



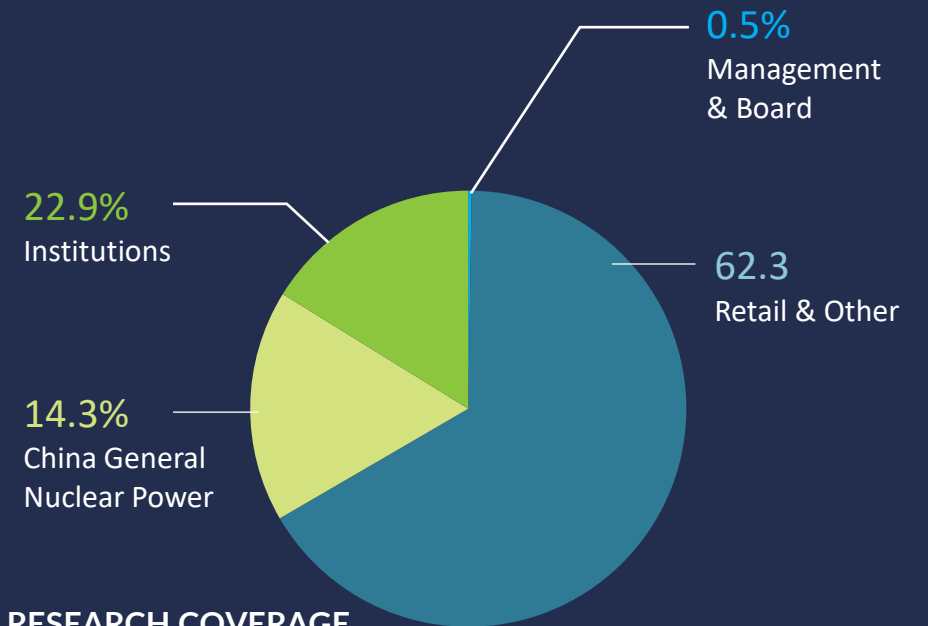
## CORPORATE INFORMATION

TSX: FCU  
OTCQX: FCUUF  
Frankfurt: 2FU

### CAPITAL STRUCTURE

Share Price (as of March 9, 2022)	C\$1.01
52 Week Low / High	C\$0.45 / C\$1.25
Basic Shares Outstanding	675.6M
Options	41.0M
Warrants	45.2M
Fully Diluted Shares Outstanding	761.8M
Market Capitalization (Basic as of March 9, 2022)	Approx. C\$682M
Cash & ST Investments (as of Feb. 28, 2022)	Approx. C\$50.9M
Debt	~US\$7M

### MAJOR SHAREHOLDERS



### RESEARCH COVERAGE

INSTITUTION	ANALYST	CITY
BMO Capital Markets	Alex Pearce	London
Eight Capital	Akin Akinwale	Toronto
H.C. Wainwright	Heiko Ihle	New York
Canaccord Genuity Capital Markets	Katie Lachapelle	Toronto
Sprott Equity Research	Justin Chan	London

# AWARD WINNING MANAGEMENT TEAM

## MANAGEMENT

**Ross McElroy, P Geol.**  
*President and CEO, Director*

- Professional geologist of 35 years' exploration, development and mining experience
- Formerly with Cameco, Areva, BHP Billiton
- Significant role in 4 major uranium discoveries in Athabasca Basin, incl. PLS
- PDAC 'Bill Dennis Award for Exploration Success', Northern Miner 'Person of the Year'

**Gary Haywood**  
*VP Project Development*

- Professional Mining Engineer with 35 years' experience
- Seven years with Cameco as General Manager at McArthur River and Senior Mine Engineer at Eagle Point uranium mining operations in Saskatchewan

Strong leadership team advancing PLS  
through Feasibility and towards construction

**Resource Development**  
*Chief Geologist - Sam Hartmann*

*Environmental Manager - Aaron MacDonell*

*Regulatory and Environmental Permitting Senior Advisor - Mark Wittrup*

*Operations Manager - Richard Elkington*

**Exploration**  
*VP Exploration - Ray Ashley*

**Finance**  
*CFO - Chris Sammartino*

## DIRECTORS

**Darian Yip (Chairman)**  
Hong Kong, China

**Ross McElroy**  
Kelowna, Canada

**William Marsh**  
Kelowna, Canada

**Frank Estergaard**  
Kelowna, Canada

**Rob Chang**  
Toronto, Canada

**Jun Zhou**  
Beijing, China

**Felix Wang**  
Beijing, China



**ROSS McELROY**  
BILL DENNIS 2014 AWARD







TSX:FCU OTCQX:FCUUF FISSIONURANIUM.COM



**Fission Uranium Corp.**

Phone: +1 250 868 8140

Toll Free: +1 877 868 8140 (North America)

**Investor Relations:**

Email: [ir@fissionuranium.com](mailto:ir@fissionuranium.com)