



Building North America's Highest Quality Source of Lithium



ALWAYS MOVING FORWARD

[FrontierLithium.com](https://www.frontierlithium.com) | TSX.V: FL



Disclaimers



► Forward Looking Statements

Certain statements in this presentation may contain “forward looking” statements that involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the Company or industry to be materially different from any future results, performance or achievements expressed or implied by such forward looking statements. It is uncertain if further work will in fact lead to production of a mineral resource and of lithium compounds.

Frontier has filed on SEDAR a NI-43-101 compliant Technical Report, “Pre-Feasibility Study for the PAK Project”, effective as of May 31, 2023. All technical information should be reviewed according to this resource estimate.

Frontier Highlights



The PAK Project – high grade, large tonnage, pure lithium resource

- 22 mt (Probable) of 1.55% Li₂O Reserves
- 26 mt (M&I) of 1.6% Li₂O and 32.5 mt (Inferred) of 1.4% Li₂O Resource



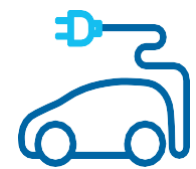
Large land package in a premium lithium mineral district

- 27,000 hectares land package
- PFS reserve calculation includes only one-third of the identified resources
- Potential to be top 3 size contained lithium operation in North America



\$1.7B USD Post-Tax NPV₍₈₎

- Utilizing only two of four total discoveries



Northern Ontario location – Tier One mining jurisdiction

- Close proximity to OEMs in Southern Ontario, USA & EU Markets



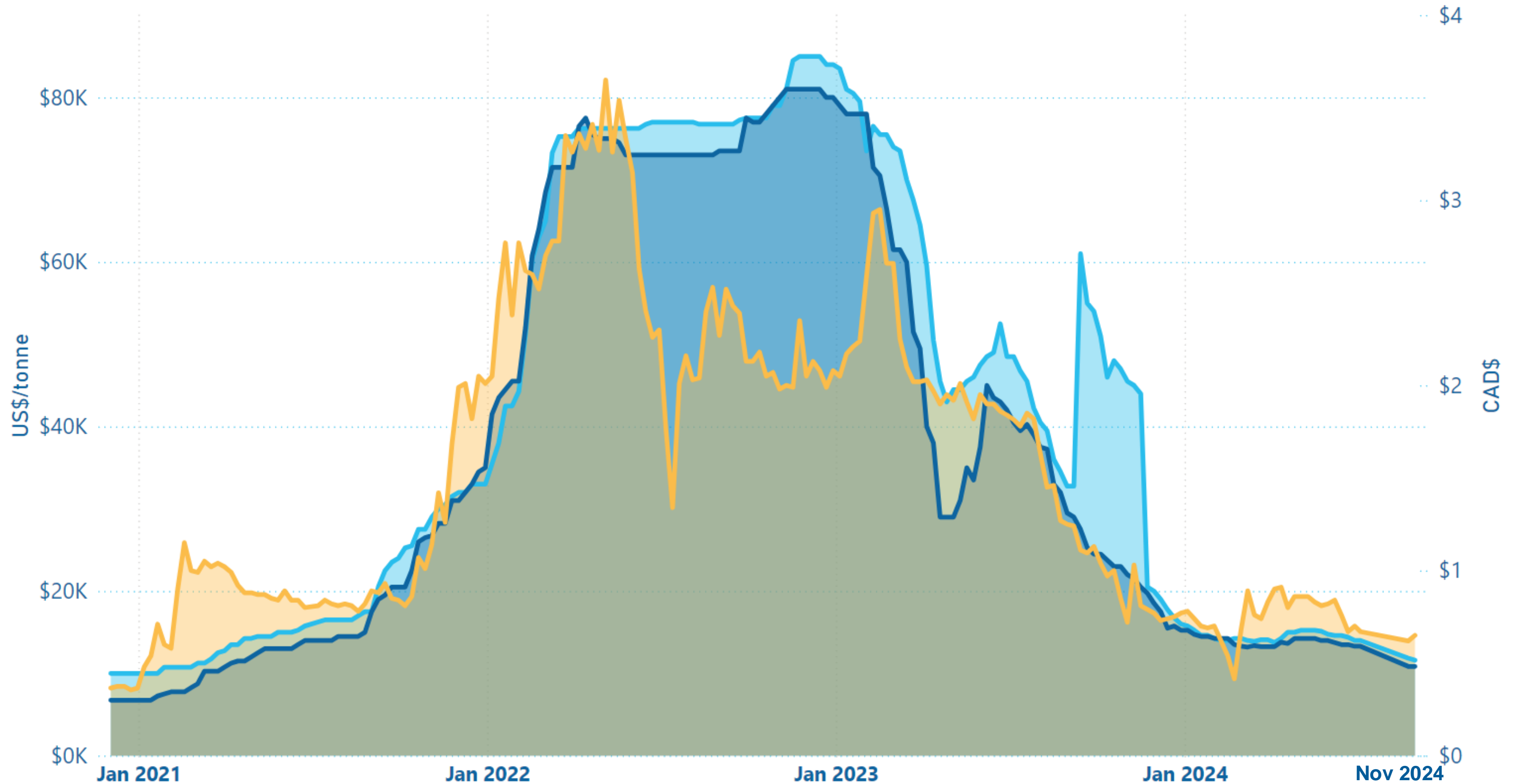
Strategic Partnership with Mitsubishi Corporation

- Together developing the first fully integrated lithium mining-and-processing operation in Ontario, to become the highest quality supplier of spodumene concentrates and battery-grade lithium chemicals



TSX.V: FL Price History

● Li Hydroxide FOB N. America (USD/tonne) ● Li Carbonate CIF Asia (USD/tonne) ● Frontier Lithium Share Price (CAD)



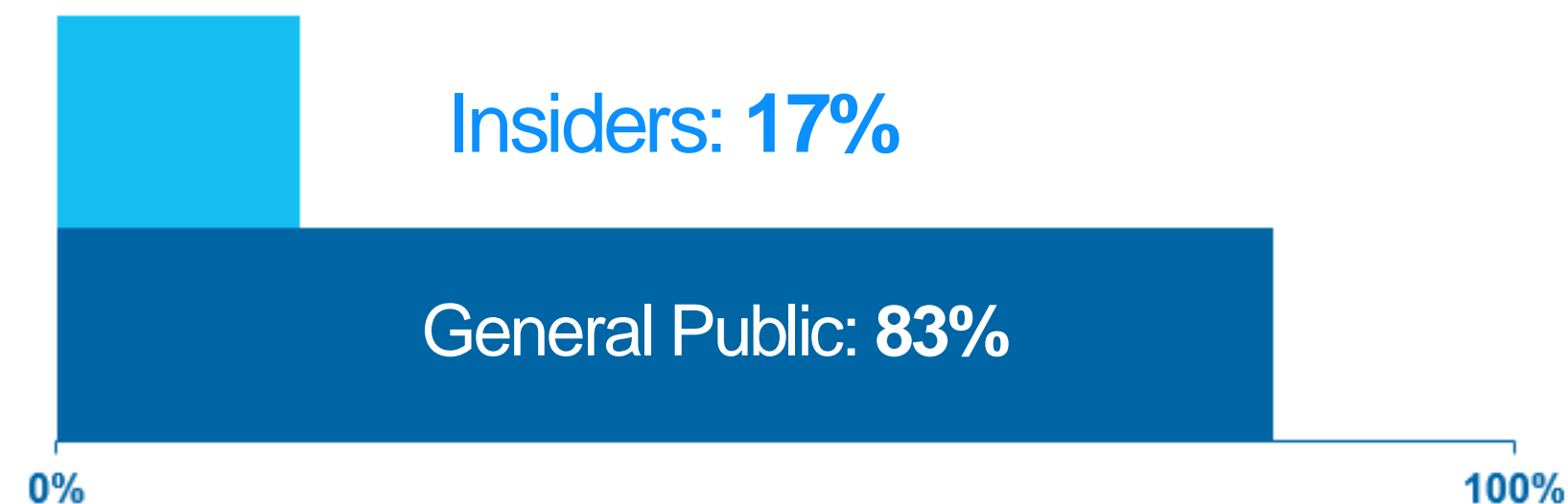
Corporate Snapshot

Market Facts

11/25/2024

Ticker – TSX Venture	FL
Ticker – FSE	HL2
Ticker – OTC QX	LITOF
Price	CAD \$.57
52 Week High and Low	\$1.21 - \$.41
Shares Outstanding	227.6M
Cash (Sept 2024)	CAD \$25.5M
Market Cap	CAD \$130M

Share Structure



Research Coverage

	Greg Jones, Analyst (416) 361-5480
	Frederic Tremblay, CFA (514) 841-0283 Liam Bergevin, Associate (514) 809-7586
	Wayne Lam, CFA Analyst (416) 842-7840 David Monus Associate (416) 842-9949 John Robertson Associate (416) 842-9998
	Cole McGill Analyst (416) 943-6631 Derek Rosin Associate (416) 941-0208
	Shannon Gill, M.Sc., P.Geo., (416) 943-6729
	Katie Lachapelle, CPA Analyst (416) 869-7294 Meaghan Charlebois Associate (416) 206-8371

Initiation Date

- Dec 2023
- Apr 2023
- Dec 2022
- Nov 2022
- Apr 2022
- Feb 2022

Lithium Leadership

BOARD OF DIRECTORS



Rick Walker, Chairman

45+ years Mining/Construction experience



Marc Boissonneault, P.Eng, MBA

Most recently Head of Global Nickel Operations, Glencore



John Didone CPA, CA, CMA, Audit Committee

+35 years Accounting



Mike Koziol P.Geo, P.Eng., Audit Committee

+35 years Exploration Experience,



Stephen J.J. Letwin, Audit Committee

Former President and CEO of IAMGOLD Corporation



Tess Lofsky LLB, Director

General Counsel & Corporate Secretary at Canada Development Investment Corporation (CDEV)



Greg Mills

35+ years' experience in capital markets former Managing Director of RBC Capital Markets



Bart Meekis

Member, resident and former Chief of Sandy Lake First Nation

EXECUTIVE TEAM



Trevor R. Walker, President and CEO

20+ years in the mining industry, Trevor joined the company in 2010, and since has played a key strategic role in focusing and developing the company's PAK Lithium Project in Northwestern Ontario.



Erick Underwood, CFO

25+ years of experience in finance and project development within the mining industry with a track record of driving financial and operational excellence. CPA, CMA



Dr. Naizhen Cao, VP Technology

Dr. Cao is an industry veteran having worked both in China and Canada as senior technical leader with expertise in lithium and battery materials.



Garth Drever, VP Exploration

40+ years of mineral exploration experience. He has worked with Frontier Lithium since 2011 and was fundamental in the exploration process that led to new discoveries on the PAK Lithium Project.



David Ewing, VP Sustainability & External Affairs

20+ years of experience in mining, energy and government with significant experience in ESG and regulatory and Indigenous affairs.



Graeme Goodall, VP Operations

20+ years of experience focused on metallurgy, pyrometallurgy and extractive operations for multi-national mining and metals producers.



Greg Da Re, VP Corporate Development

Experienced investment executive 20+ years of track record on growing and transforming organizations, recently led for Ontario's efforts to build an EV battery supply chain within the province.

NOTABLE ADVISORS



Mike Tamlin

25+ years of expertise in lithium and tantalum concentrates and chemicals. His lithium experience covers the development of the Chinese chemical and global technical spodumene markets for the Greenbushes Mine in Western Australia, the Zhangjiagang Lithium Carbonate Project and the Rincon Brine Project.



Peter Vanstone, P. Geo

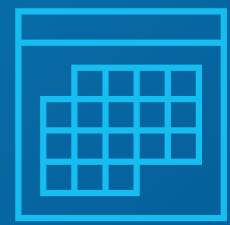
Peter Vanstone maintains specialized experience in rare metals with over 30 years of lithium, tantalum, and cesium exploration and mine production in the Canadian Shield.



Gordon MacKay

Most recently Director of Mineral Development and Lands Branch at the Ministry of Northern Development and Mines.

Strong Pre-Feasibility Study Results



**24 YEAR
MINE LIFE**



**12,520
TONNES/YR
PRODUCTION**



**7,360
TONNES/YR
PRODUCTION**



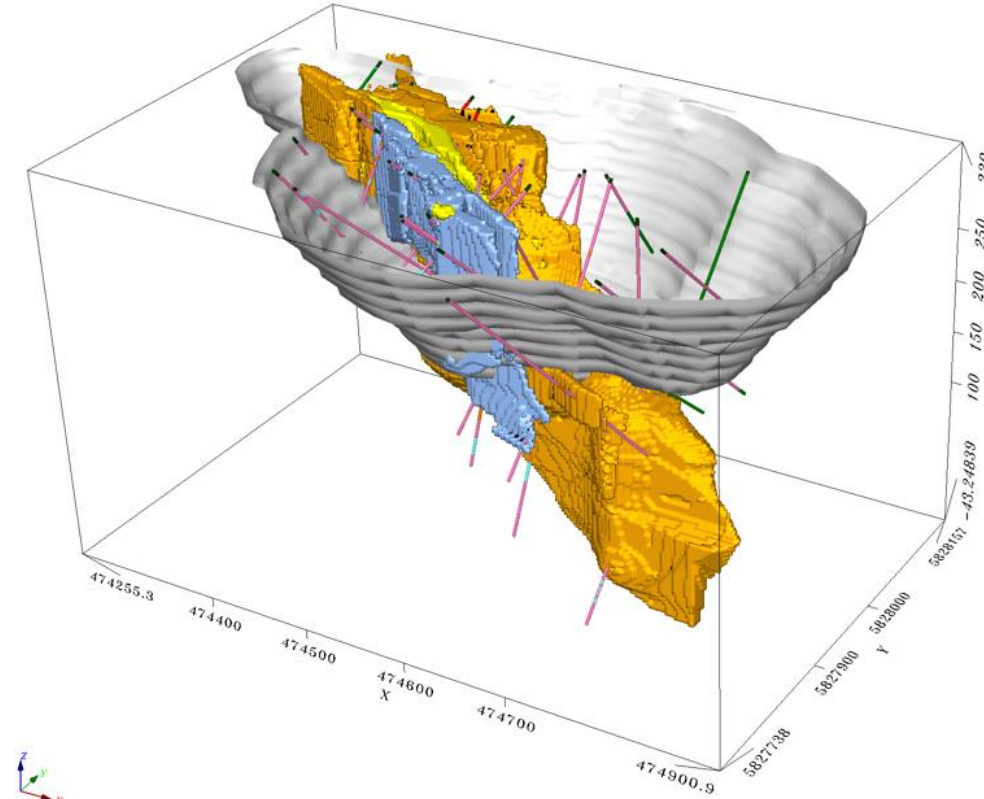
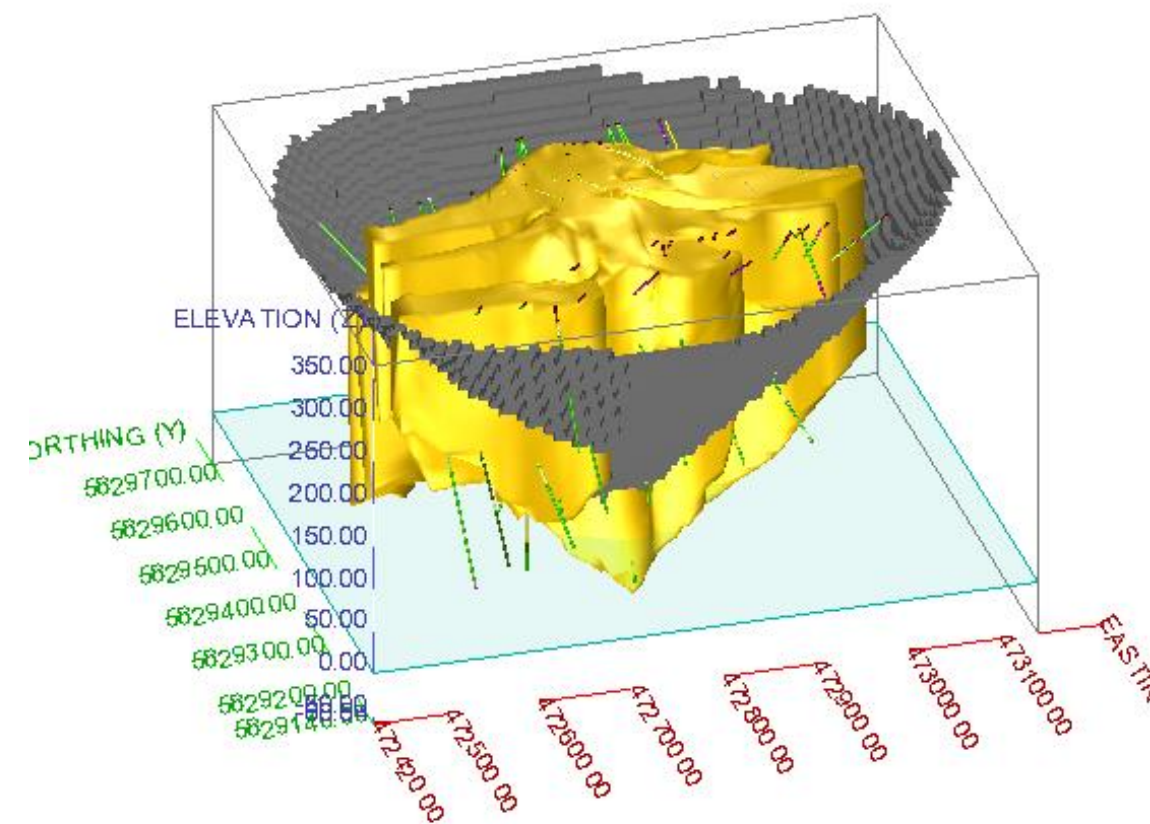
**USD \$1.74
Billion**
POST-TAX NPV
@ 8% DISCOUNT



24%
POST-TAX INTERNAL
RATE OF RETURN

Spark Deposit

PAK Deposit



Both deposit remains open to depth and along strike.



**USD \$1.15B
TOTAL CAPEX**
Including Sustaining Capital
+ 20% Contingency

Phase I
Mine & Mill
\$468M

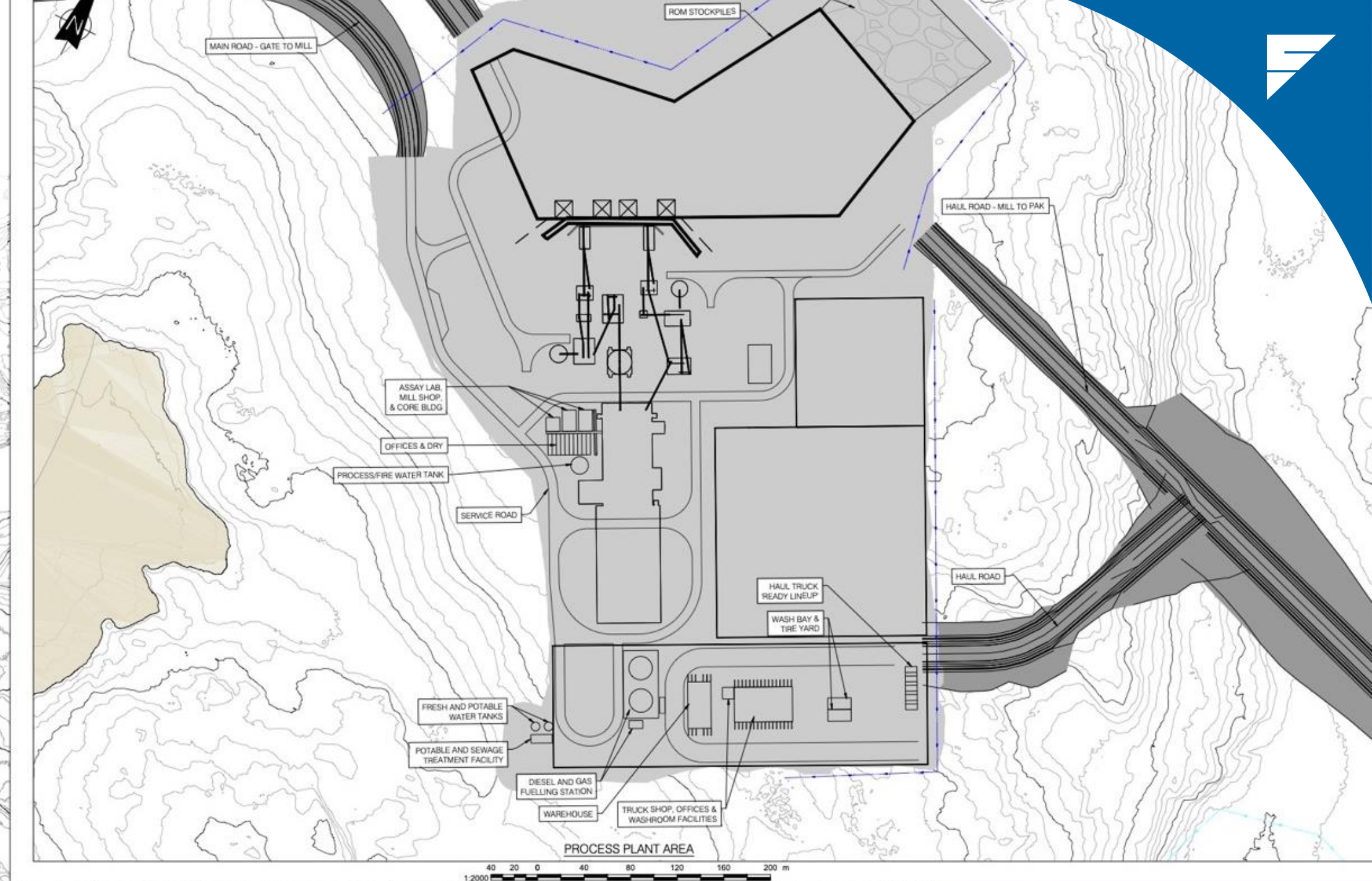
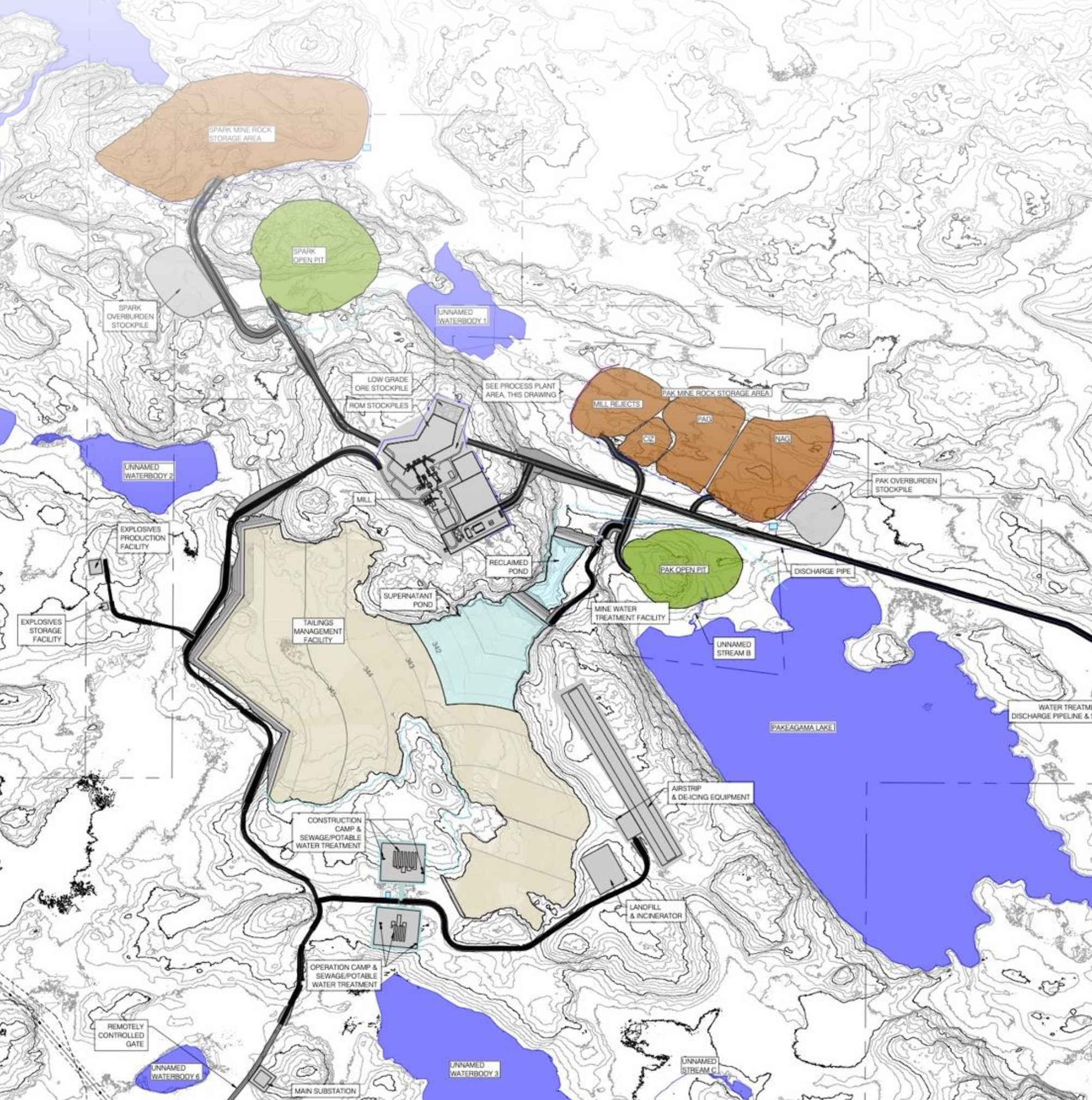
Phase II
Expansion &
Refinery
\$576M



\$22,000 USD/ TONNE
AVERAGE LiOH SELLING PRICE

The Study includes measured, indicated resource to produce 459,000 tonnes of LCE from the PAK and Spark deposits. Conventional open pit mining only.

The PFS: Site Layout



- 2 open pits and waste piles
- Centralized and naturally contained TMF (Tailings)
- Centralized Mill Complex
- 7 km pipeline for expulsion of treated water into the Flanagan River
- Infrastructure Footprint of approximately 700 ha

PAK Lithium Project

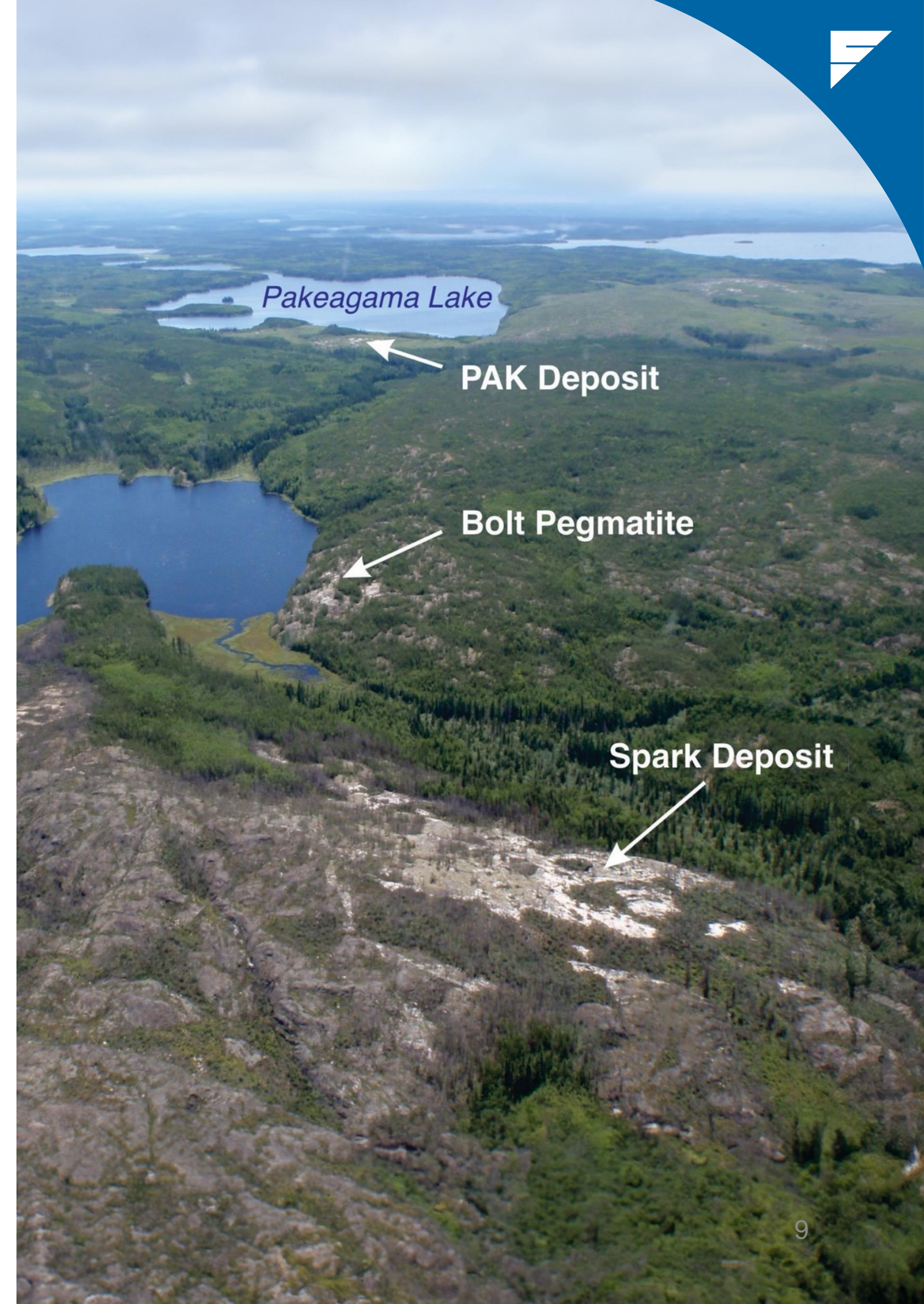
The project nearly covers 27,000 hectares and holds the highest-grade lithium resource and the largest of its kind in Ontario. Since 2013, the Frontier has identified two premium spodumene-bearing lithium deposits—PAK and Spark—just 2.3 km apart. Ongoing exploration have also uncovered two additional spodumene-bearing discoveries: the Bolt pegmatite, and the Pennock pegmatite within the project claims.

PAK DEPOSIT

Reserves	4 mt, diluted grade 1.8% Li ₂ O Probable
Impurities Indicator	< 0.1% Fe ₂ O ₃ in spodumene
Orientation	Sub-vertical
Average Width	45m (varying from 10-125m)
Dimensions	500m strike length, 300m deep
Status	Remains open down plunge to the east at depth

SPARK DEPOSIT

Reserves	18 mt, diluted grade 1.5% Li ₂ O Probable
Average Width	> 100m
Strike	> 500m strike length, 400m deep
Status	Remains open along strike to the west and at depth In-fill drilling program highlights: <ul style="list-style-type: none"> • 398 m averaging 1.88% Li₂O • 405 m averaging 1.5% Li₂O



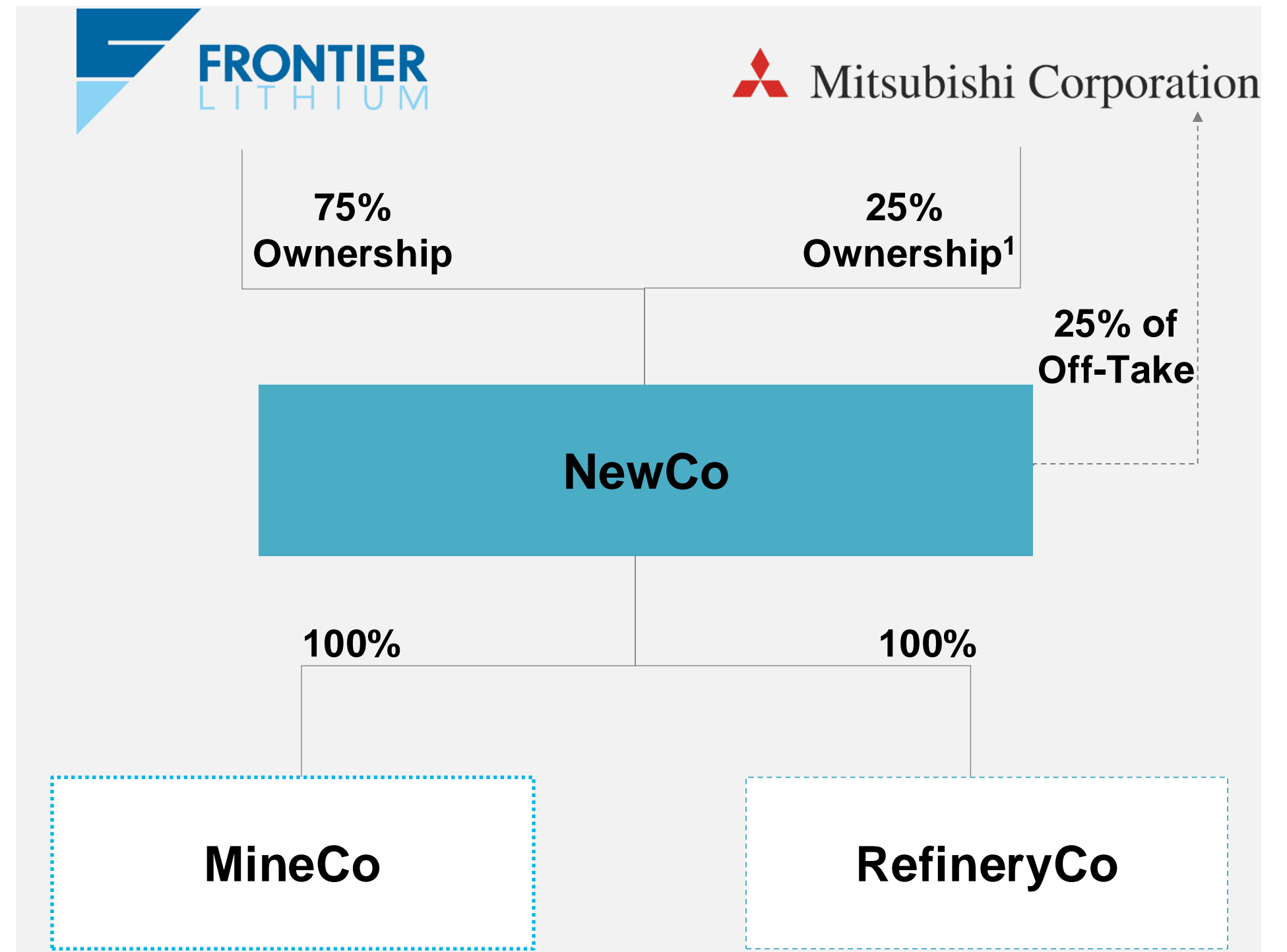
PAK Lithium Project

Ownership Structure

On March 4, 2024, Frontier Lithium and Mitsubishi Corporation formed a joint venture to advance the fully integrated PAK Lithium Project.

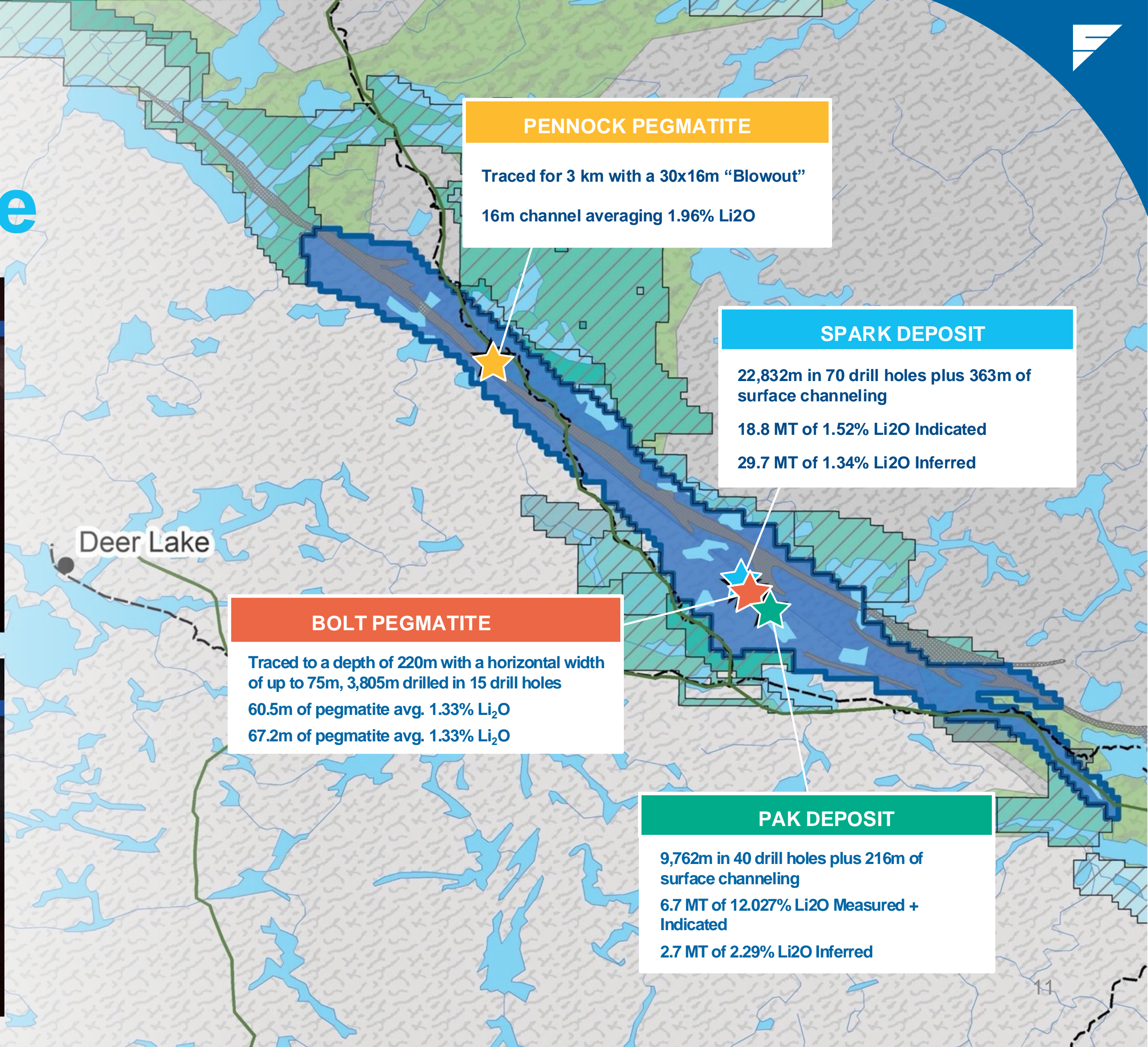
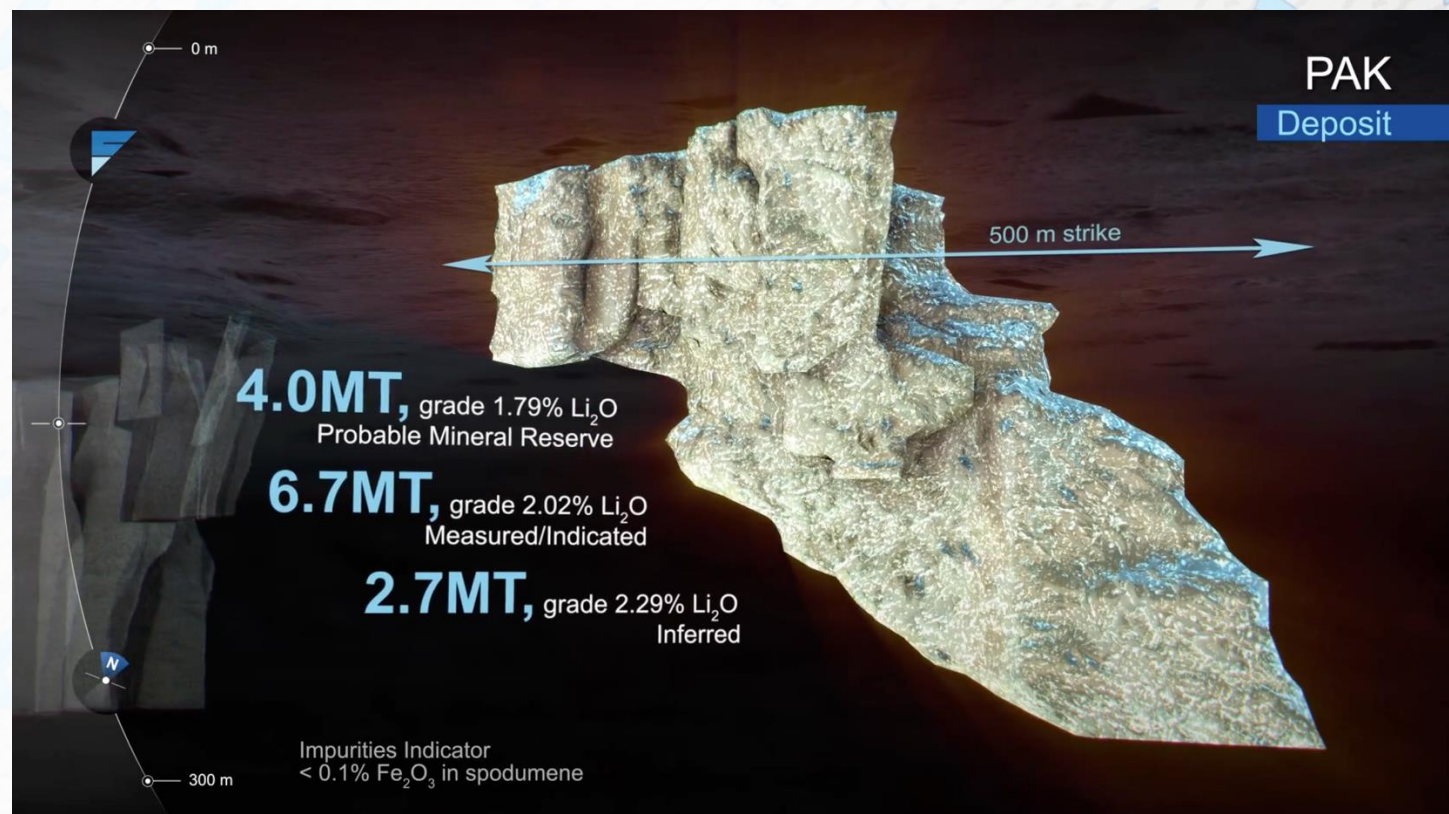
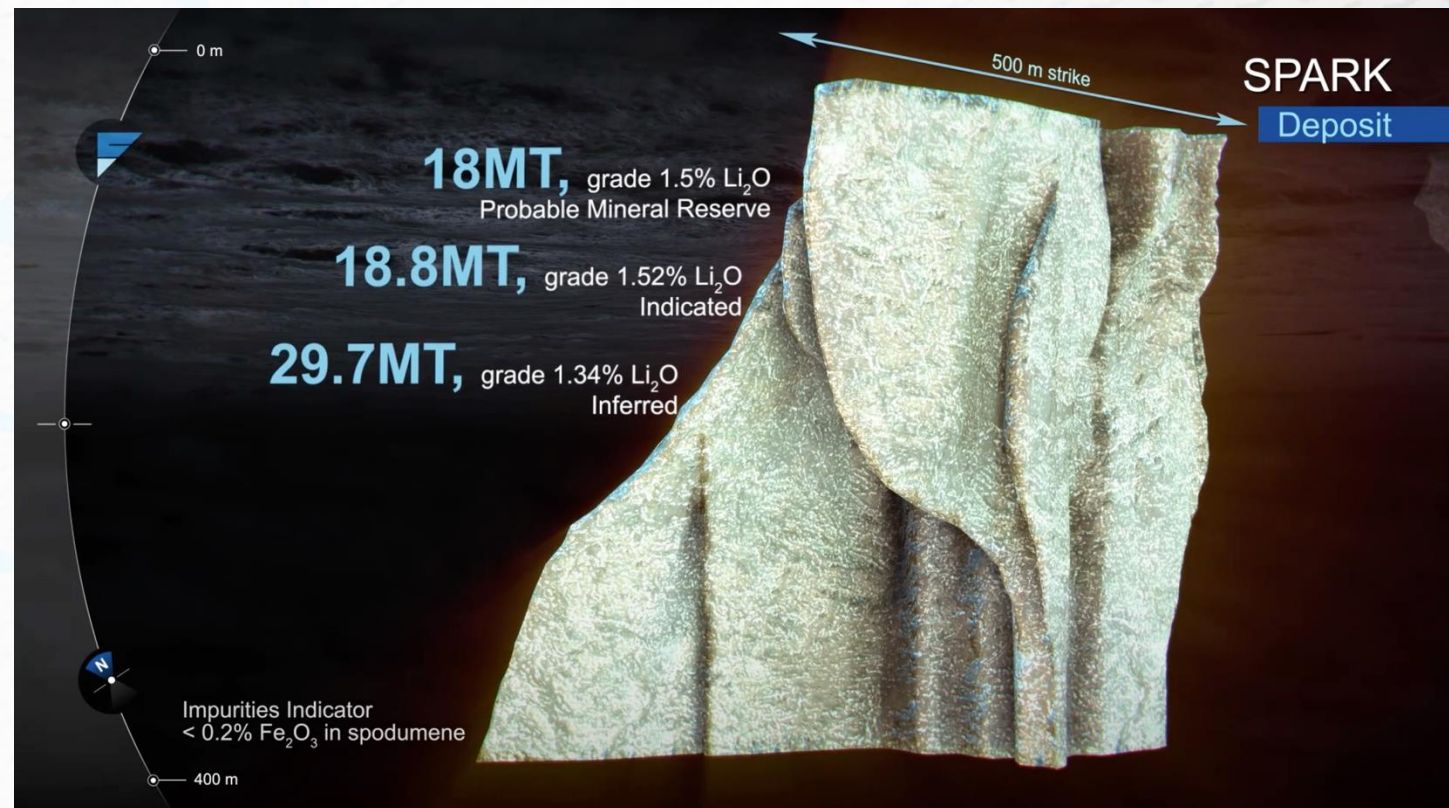
- Mitsubishi will initially acquire 7.5% interest for C\$25M
- Post DFS Mitsubishi can increase its interest to 25%
- Frontier will be operator and responsible for development and subsequent operations
- The JV is structured to cover the equity funding for the planned mine and mill while Frontier maintaining at least 75% of future off-take
- This long-term partnership supports the initial development of mining at the PAK Lithium Project, and future expansions downstream with chemical processing.

Pro Forma Asset Ownership (Post-DFS)



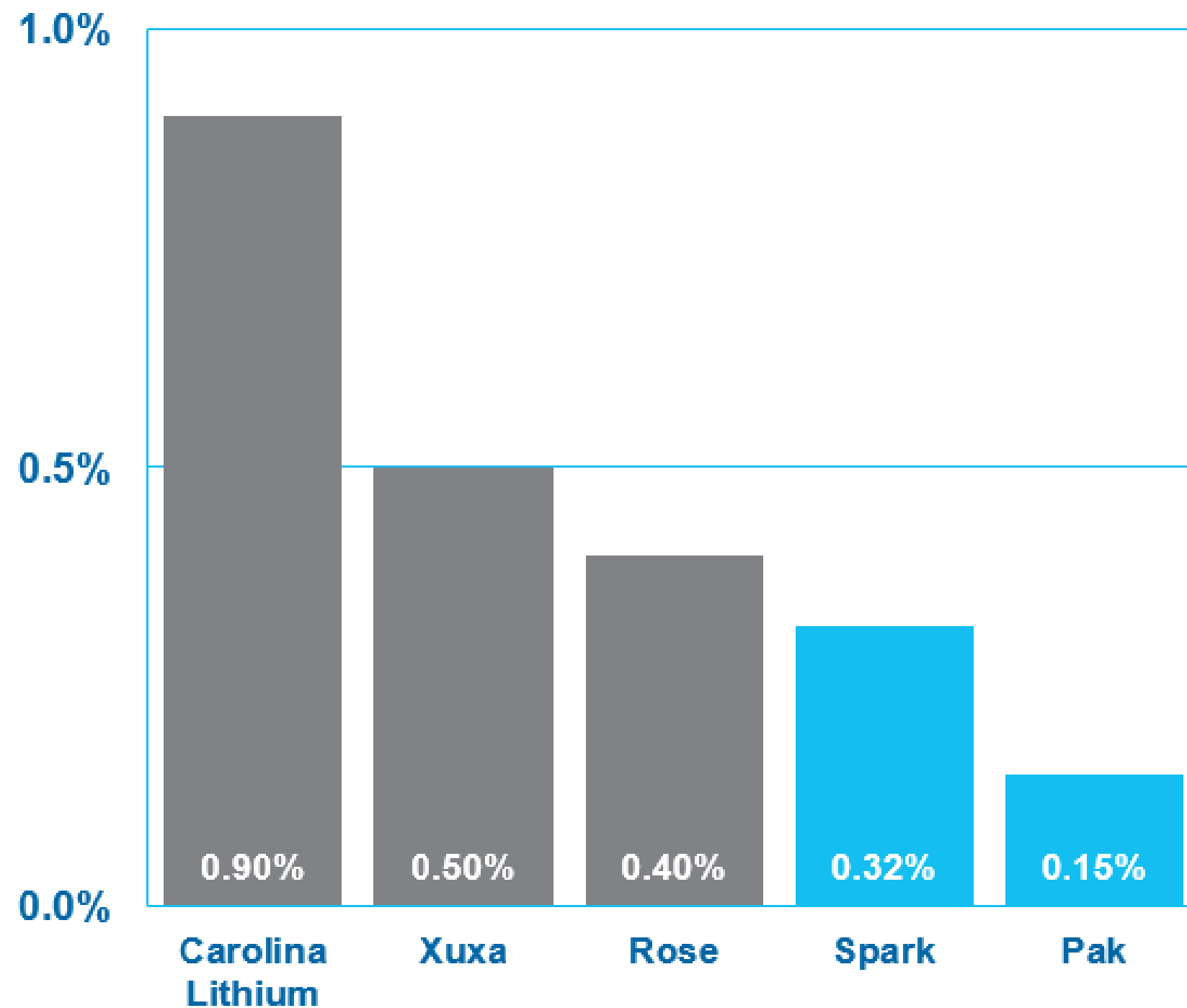
¹ 25% ownership based on exercise of Tranche 2 Option to acquire additional 17.5% interest.

Resource & Exploration Upside

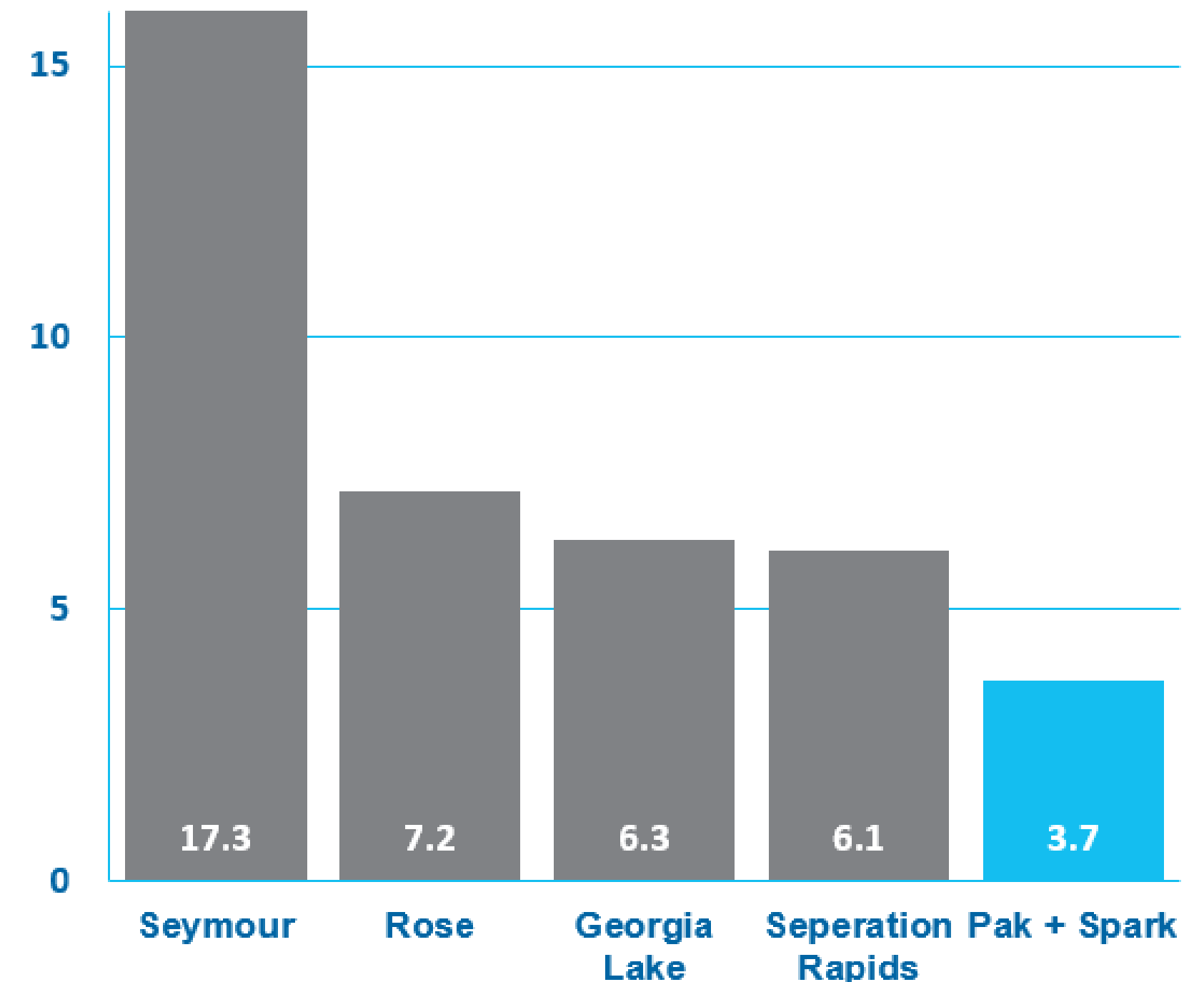


Quality Resources Enable Low-Cost Mining

Iron Oxide Content (%) of Concentrate

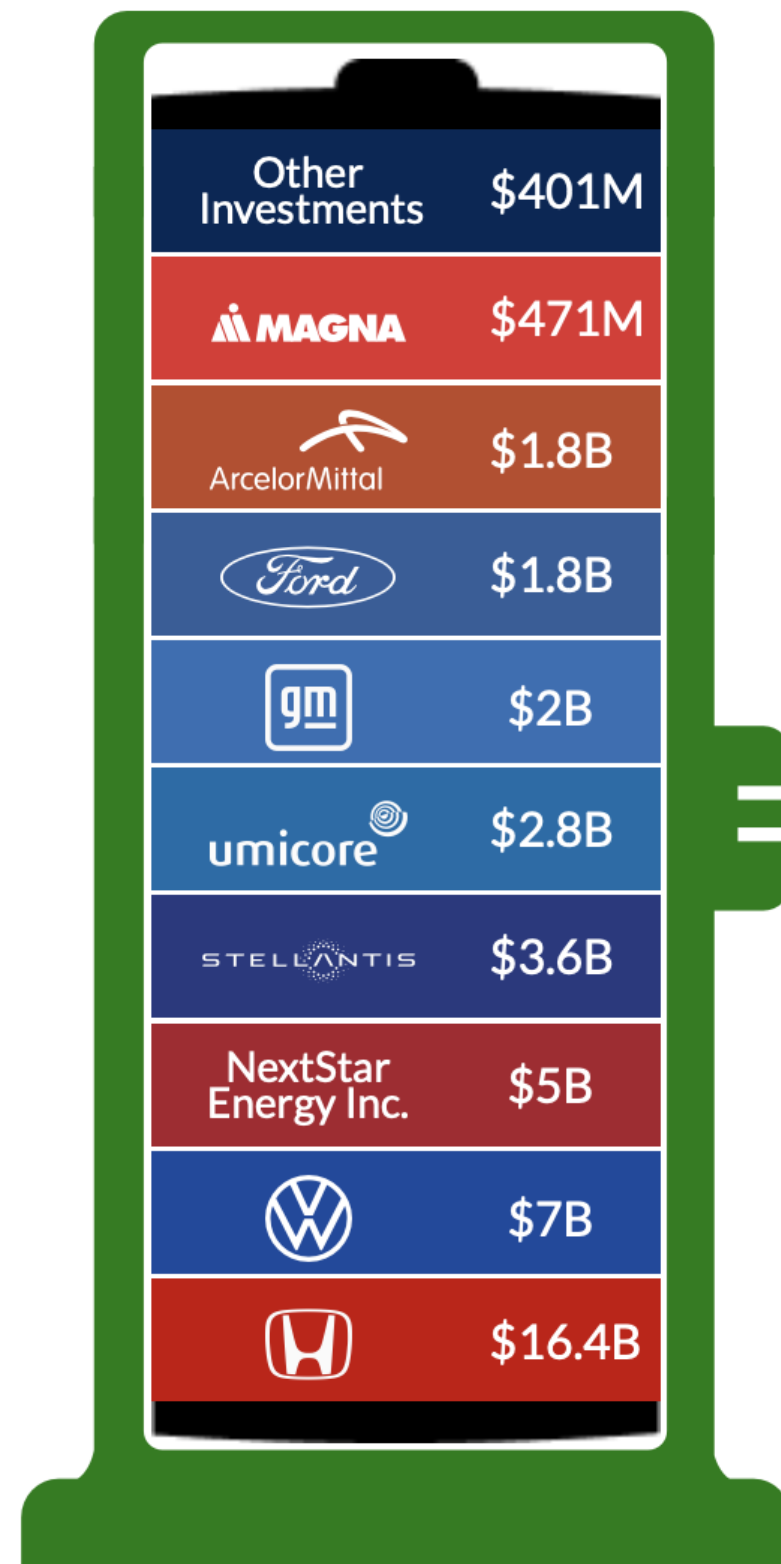


Strip Ratio



Battery Materials Ecosystem

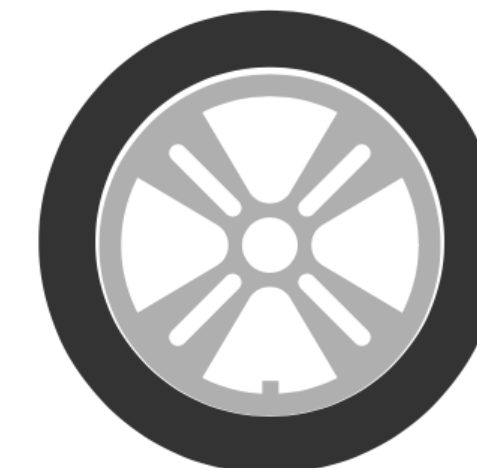
Ontario is becoming a world leader in the EV supply chain



\$43 Billion - Global automakers commitments to battery manufacturing & mining projects

135 GWh - Capacity in Ontario requiring more than 120,000 tonnes of lithium chemicals per annum

Ontario 



Infrastructure

Partnered First Nation Communities seeking infrastructure upgrades.

POWERLINE: COMPLETED

- Watay Power Project is built to service 17 First Nation Communities
- The high-voltage transmission line is 4km from the PAK resource
- Fully funded by the Government (\$2B)



May 2023 – Frontier's new 150 person Construction Camp 8km from PAK Project



April 2023 – 4km from PAK Deposit, towers up and lines strung at sub station

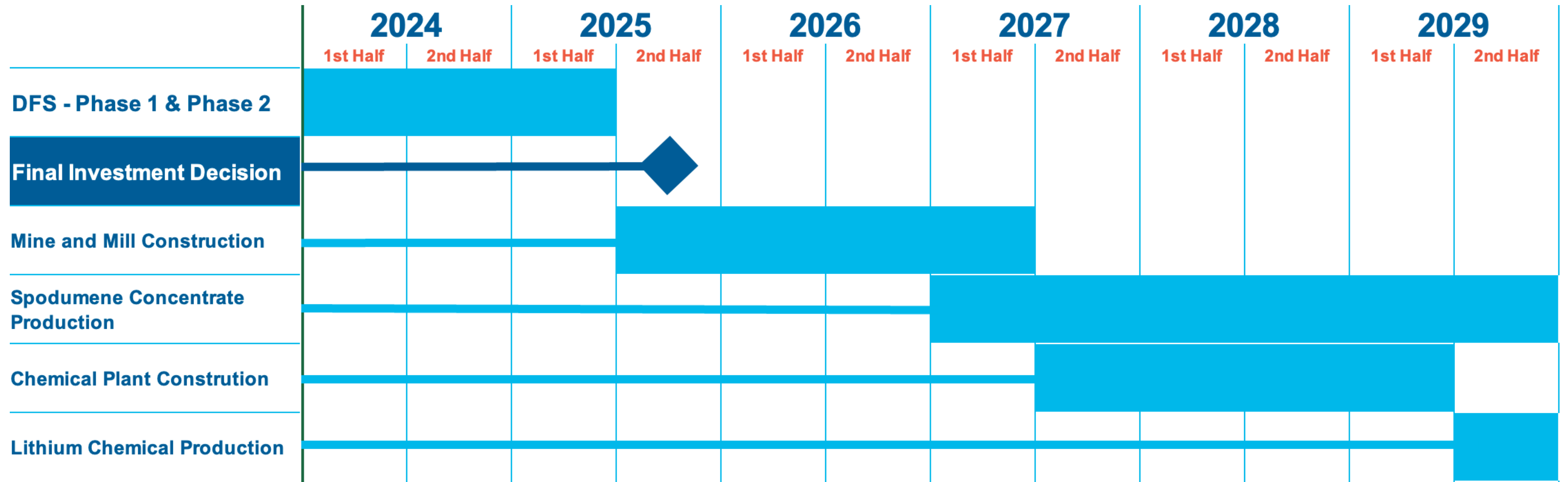
Infrastructure

All Season Road Advancement – In Collaboration with Ministries and First Nations: The road infrastructure consists of Beren's Bridge and its connecting road, as well as Branchwood Road and Junction Road.

- **Junction Road** - Class IV engineering study estimates a \$40M cost for 56km road construction to get to PAK site. Frontier secured \$6.1 million in conditional federal funding from the Critical Minerals Infrastructure Fund (CMIF) to support:
 1. Preconstruction activities for a 56-km all-season mine access road
 2. Engineering, design, and permitting studies for a substation and transmission line to connect to the Wataynikaneyap Power grid
- **Branchwood Road** an 84 km road, following the powerline corridor. Permits have been secured through the WFCRMA Sustainable Forestry License led by Pikangikum First Nation. (Whitefeather Forest Community Resource Management Authority)
- **Beren's Bridge** – a 194-meter crossing with an estimated cost of \$30M. In August 2024, The Federal government allocated \$89 million for road construction in remote First Nations communities, including the Berens River Bridge and Road Project.
 - Ontario government formalized a partnership with the Federal government and Pikangikum First Nation to fund the Berens River Bridge construction, set to start in 2025.



A Phased Approach To Vertically Integrated Lithium Chemicals Production



*The project timelines are estimates and subject to adverse developments in business and economic conditions in the principal markets. [The timeline is under review in Definitive Feasibility Study.](#)

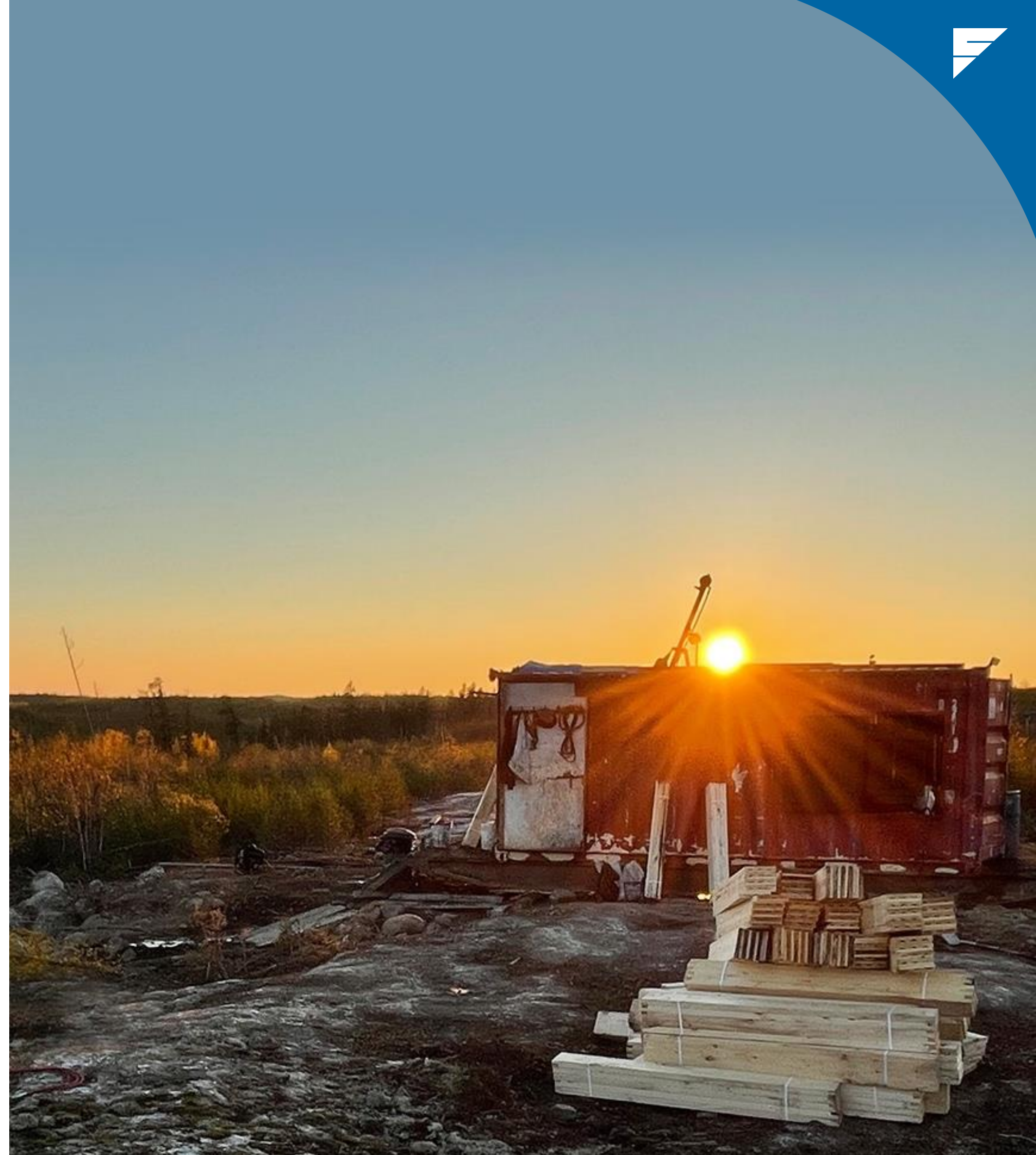
Upcoming Developments

PROJECT

- Deliver Definitive Feasibility Study Phase 1
- Award Definitive Feasibility Study Phase 2
- Finalize Baseline Environmental study
- Advance Impact Benefit Agreements
- Advance material permits for preparation of Phase 1
- Continue regional exploration and follow up on targets


CORPORATE

- Finalize government subsidy applications
 - Infrastructure Improvements
 - Lithium Chemical Refinery
- Advance offtake conversations





Frontier is positioned to become a strategic North American lithium supplier.

 **94% ZERO** carbon energy

 Resources, Mining & Milling @ PAK Project

 Red Lake

 Potential Site: Lithium Chemical Processing & Refining

Thunder Bay



ONTARIO

QUEBEC

Lake Superior

Wawa


Umicore: \$1.5 Billion investment
CAM, pCAM Plant Expected start: 2027


Duluth, Minnesota

Sault Ste. Marie



Sudbury

Ottawa

Lake Huron

Barrie

Kingston

Li Ion Cathode Anode Production

MICHIGAN

Lake Michigan

Li Ion Cell Production

Toronto
Hamilton

 **Electric Vehicle Production**

Detroit

Windsor

Lake Erie



Ford Motor Co: \$1.8 Billion investment
EV manufacturing plant Expected start: 2029



Volkswagen \$7 Billion investment
Expected Start 2027

GM Canada: \$5 Billion Investment



Upgrade CAMI Plant to be Canada's first commercial EV manufacturing plant

STELLANTIS LG Energy Solution

Stellantis & LG ES: \$5 Billion Investment
Expected start: 2025 / Capacity: 45 GWh

Honda Canada: \$16.4 Billion investment



Capacity: 36GWh



Frontier Lithium Opportunity Highlights

COMPELLING LITHIUM MARKET BACKDROP

- Race is on from auto OEMs and battery manufacturers to secure supply of raw materials required to meet EV production growth plans.
- High level of interest for offtake for high quality projects.

EXCEPTIONAL SPODUMENE RESOURCE

- One of the highest grade spodumene resources located in North America.
- Tier 1 spodumene resource: large tonnage, high grades, low strip, and low impurities.

SIGNIFICANT MINE LIFE UPSIDE POTENTIAL

- Mine life of ~25 years based on two deposits that remain open to depth and along strike.
- Two pegmatites remain on the property to be further investigated.
- 27,000h land package remains largely unexplored.

STRATEGICALLY LOCATED IN ONTARIO

- Well-established mining-friendly jurisdiction with supportive government, access to infrastructure and local skilled workforce.
- Ideally situated to feed local supply chains to support multi-billion-dollar investments in EV battery manufacturing in Ontario and Quebec.

VERTICALLY INTEGRATED LITHIUM CHEMICALS PRODUCER

- Key differentiating factor will be manufacturing battery-grade lithium hydroxide.
- Assembled highly experienced team to build and operate chemical plant.

HIGHLY EXPERIENCED MANAGEMENT TEAM

- Led by a strong management team and directors who have a track record of making discoveries, building projects and operating mines.
- Management and directors own ~17% of equity, creating alignment with investors.



ALWAYS MOVING FORWARD
FrontierLithium.com | TSX.V: **FL**

