



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



Tier 1 quality spodumene lithium resource globally Reserves

- 22 mt (Probable) of 1.55% Li₂O



Resource

- 26 mt (M&I) of 1.6% Li₂O
- 32.5 mt (Inferred) of 1.4% Li₂O



Targeting to be Top 3 in contained lithium size in North America

- 27,000 hectares land package
- PFS reserve calculation includes only one-third of the identified resources



\$1.7B USD Post-Tax NPV₍₈₎ utilizing two of four total discoveries



Proximate to USA & EU Markets with low-cost, sustainable operations

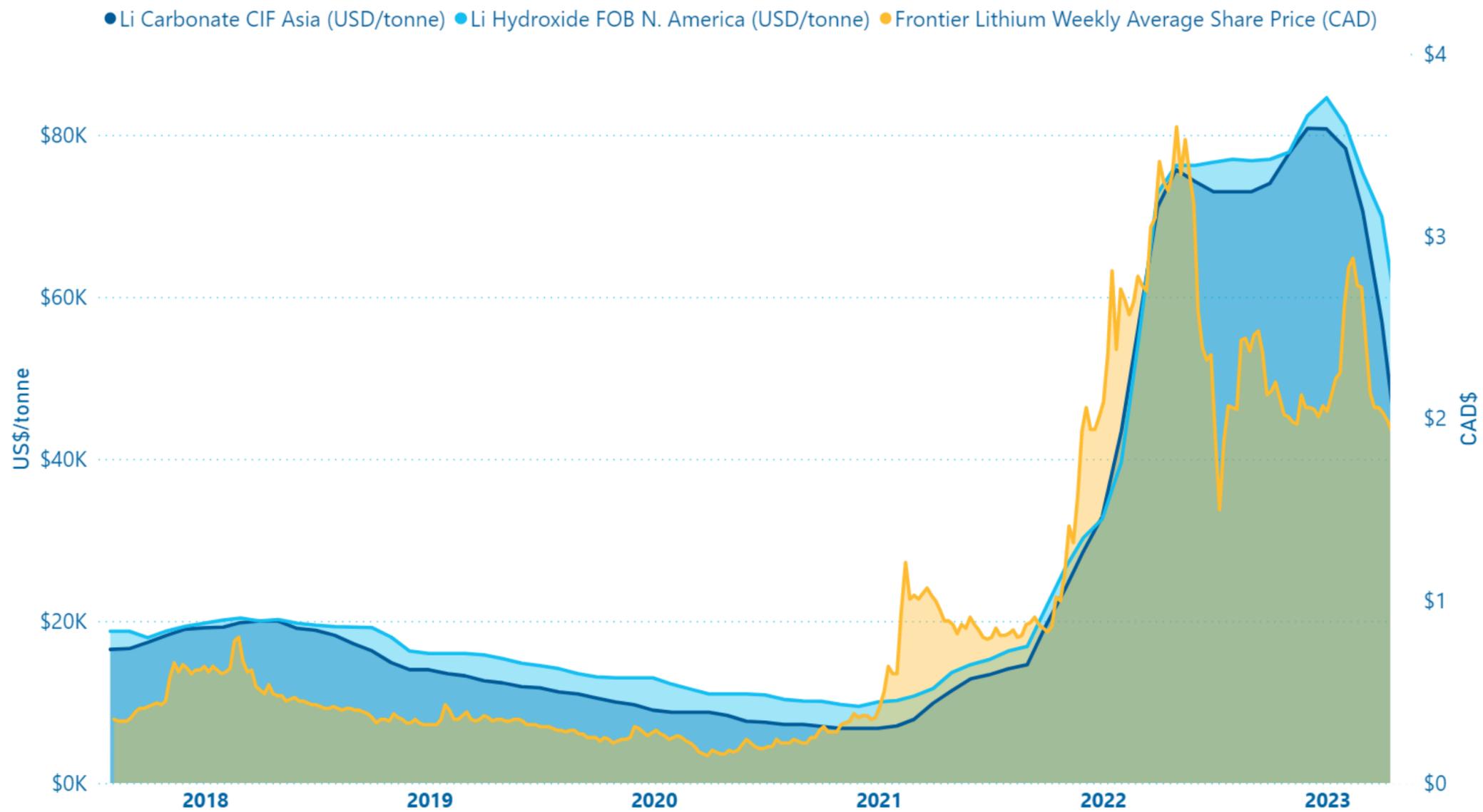


Ontario rich in Mining/Processing/Manufacturing with low sovereign risk



Building North America's Highest Quality Source of Lithium Hydroxide to Power the Electric Vehicle and Energy Storage Transition.

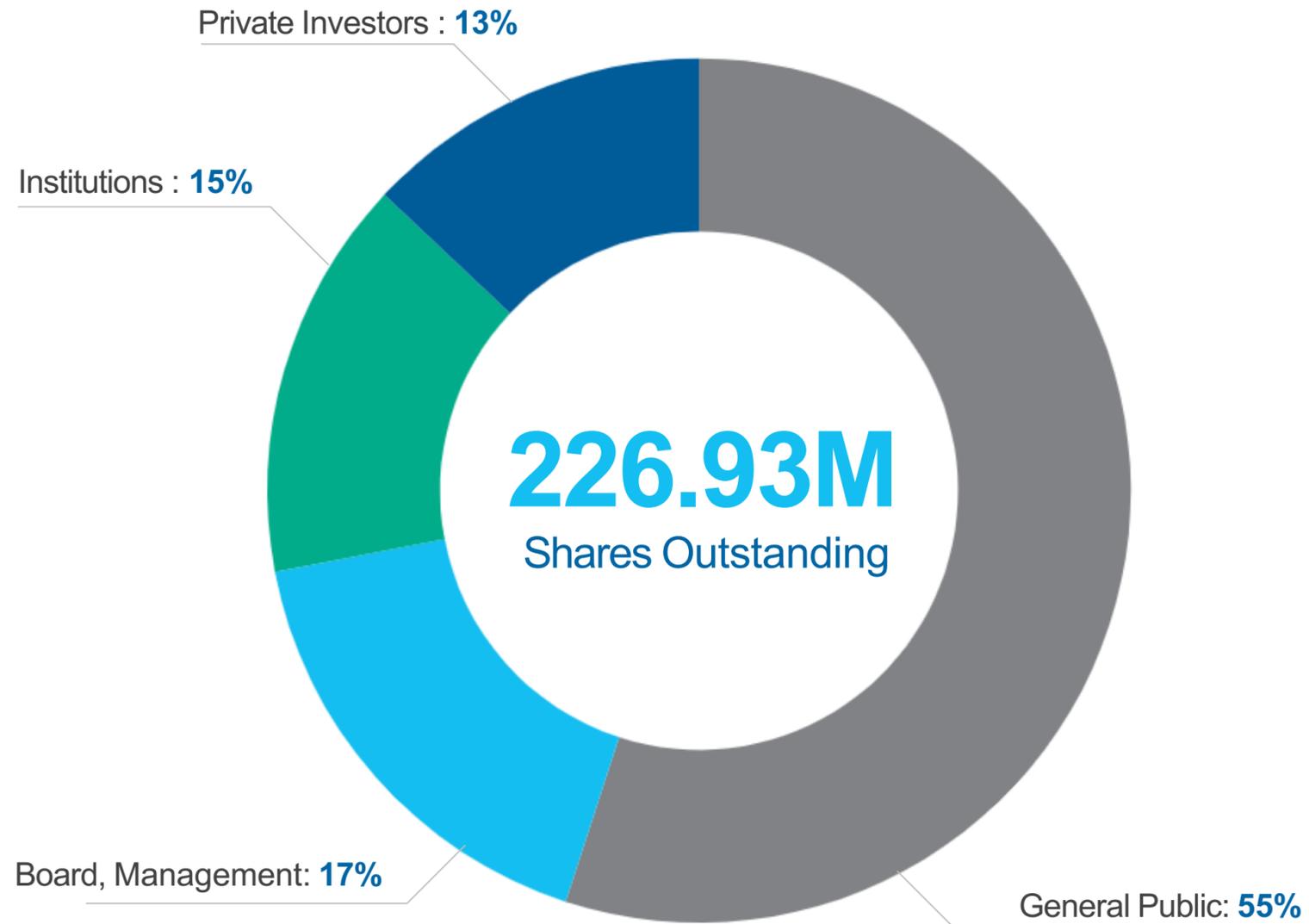
TSX.V: FL Price History



Market Facts 24/03/2023

Ticker – TSX Venture	FL
Ticker – FSE	HL2
Ticker – OTC QX	LITOF
Price	CAD 2.02
52 Week High and Low	\$3.35 - \$1.30
Market Cap	CAD \$455M
Cash (March 2023)	CAD \$27M
Shares Outstanding	225.19M

Research Coverage



Capital
Markets



Proven 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.

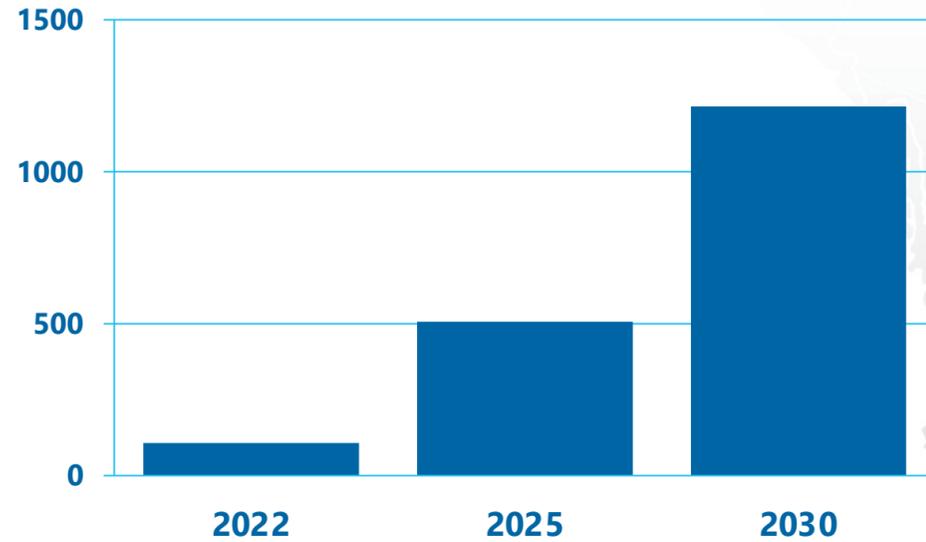


Gordon MacKay

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

Building North America's Supply Chain

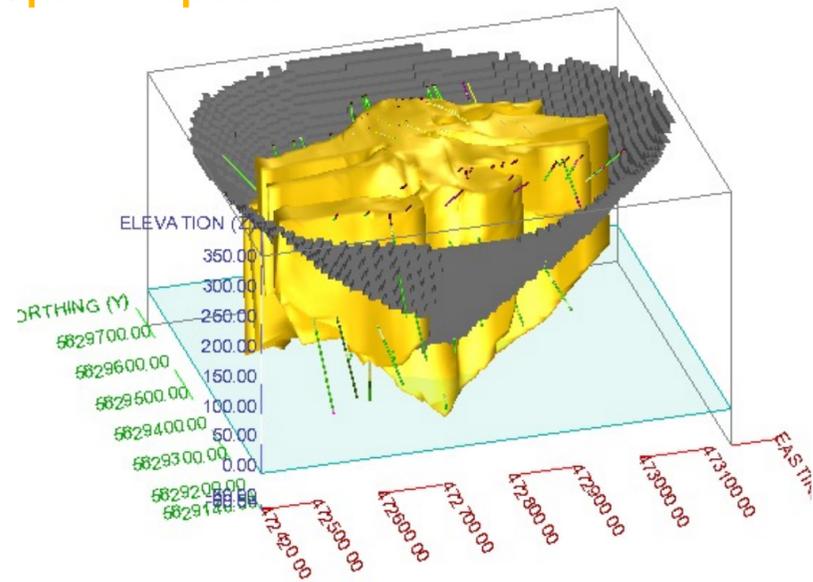
US & Canada Mega Factory Capacity 2022-2023 (GWh)



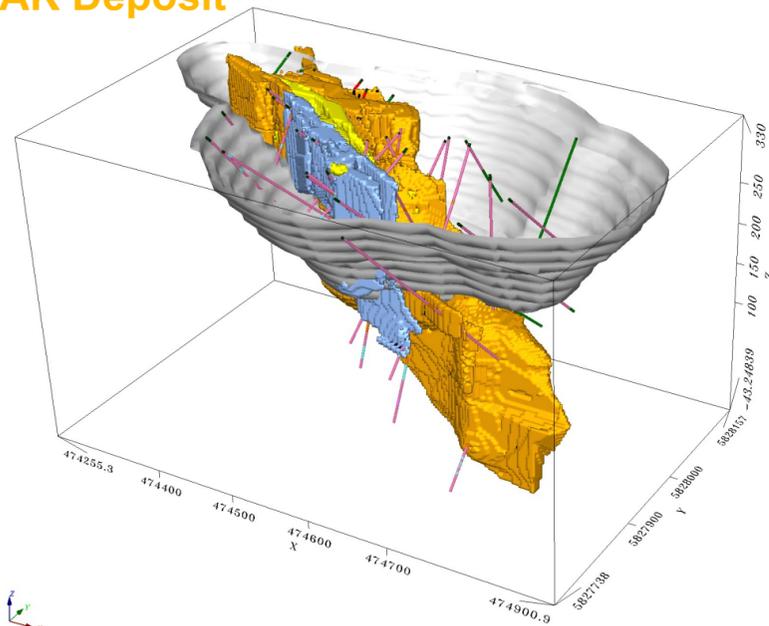
Source: Benchmark Mineral Intelligence and company filings

Strong Pre-Feasibility Study Results

Spark Deposit



PAK Deposit



Both deposit remains open to depth and along strike.



**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**



**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.

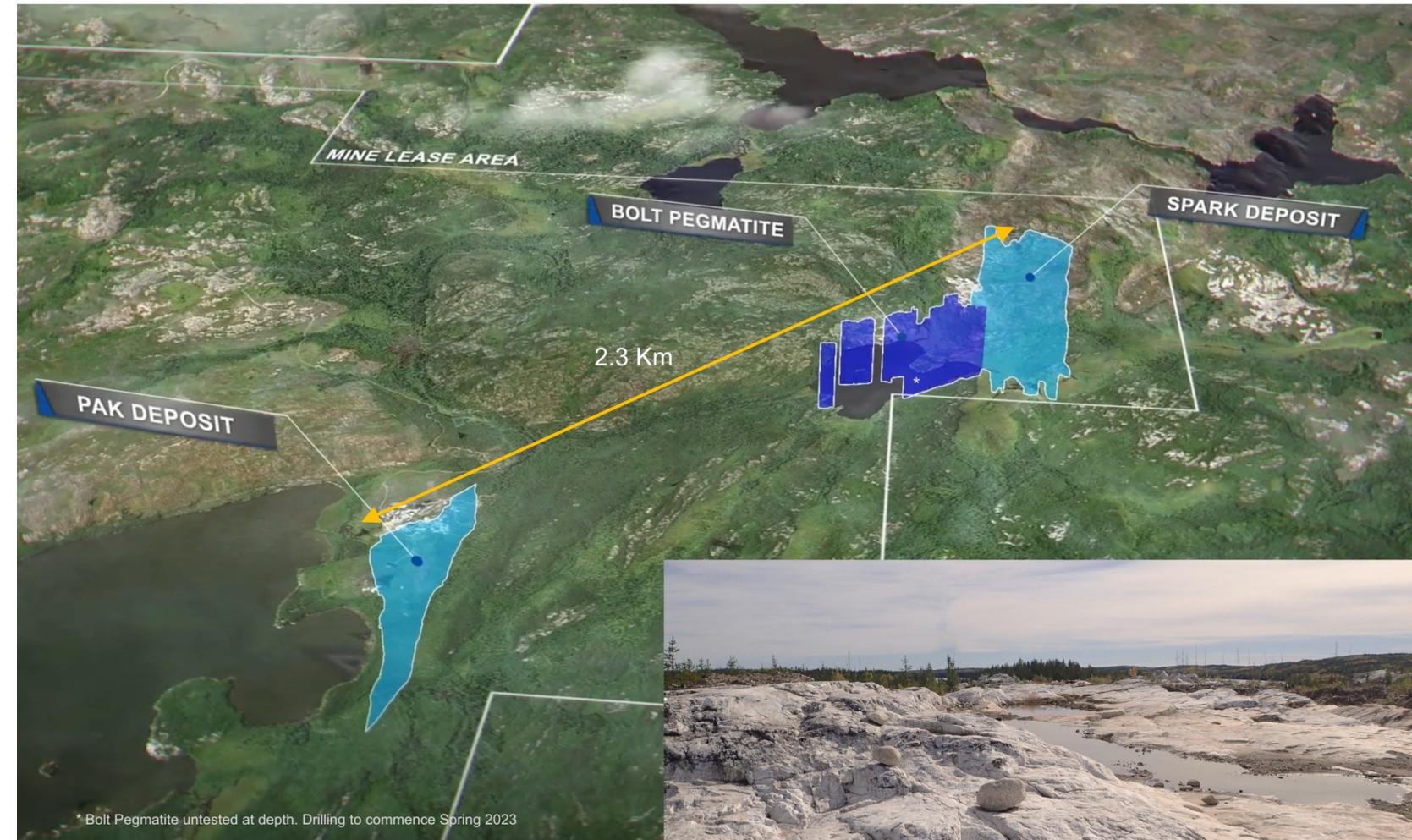
Resource

PAK DEPOSIT

Reserves	4 mt, diluted grade 1.8% Li ₂ O Probable
Resource	7.2 mt, avg. grade 1.8% Li ₂ O - M+I
	2.8 mt, avg. grade 2.2% Li ₂ O – Inferred
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 at depth and along strike

SPARK DEPOSIT

Reserves	18 mt, diluted grade 1.5% Li ₂ O Probable
Resource	18.8 mt, avg. grade 1.5% Li ₂ O - Indicated
	29.7 mt, avg. grade 1.3% Li ₂ O – Inferred
Average Width	> 100m
Strike	> 500m strike length, 400m deep
Status	Remains open at depth and along strike
	In-fill drilling program highlights:
	<ul style="list-style-type: none"> • 398 m averaging 1.88% Li₂O • 405 m averaging 1.5% Li₂O



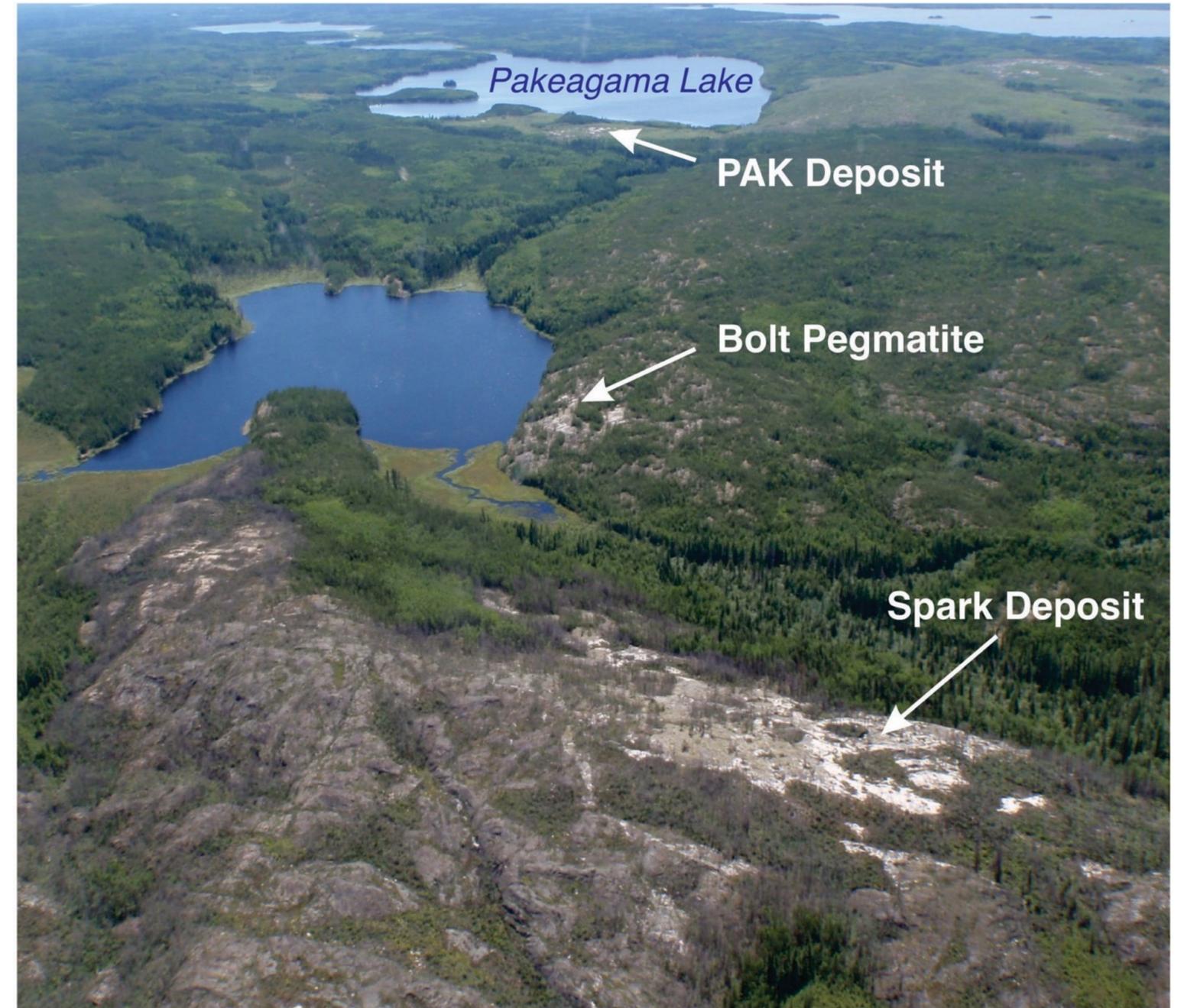
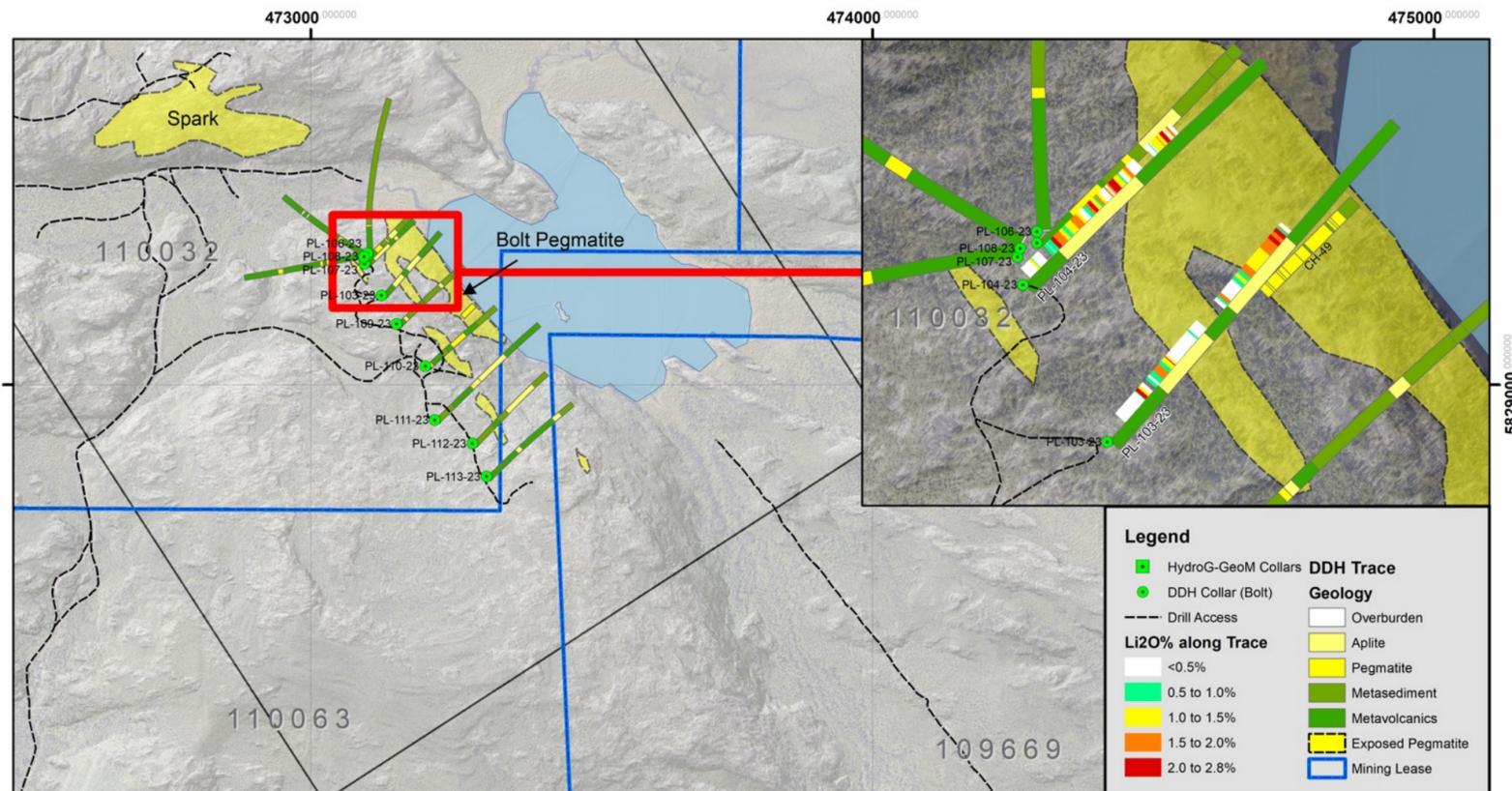
PAK Deposit High Grade Zone
consists of 657kt at 3.59% Li₂O

Resource & Exploration Upside

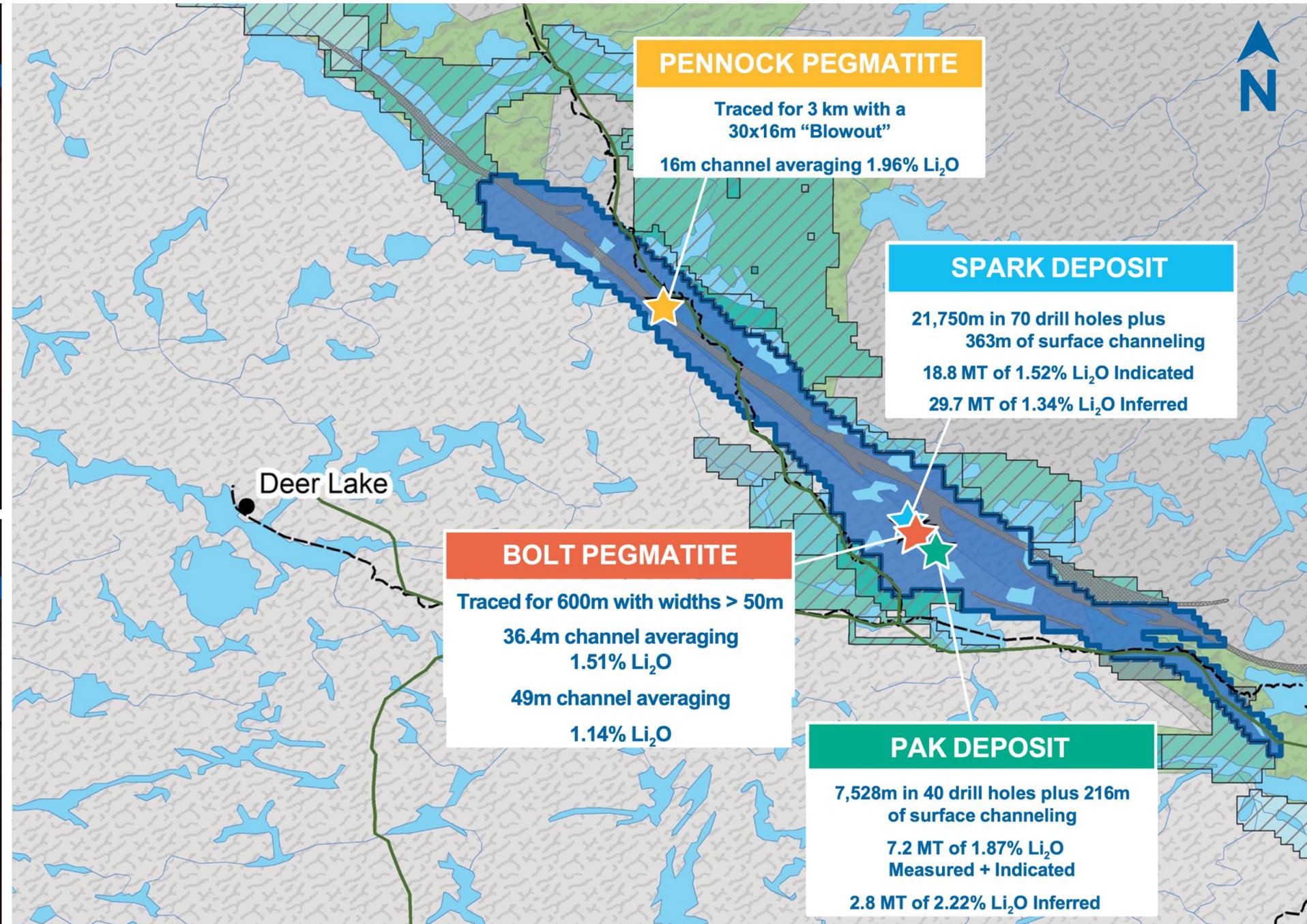
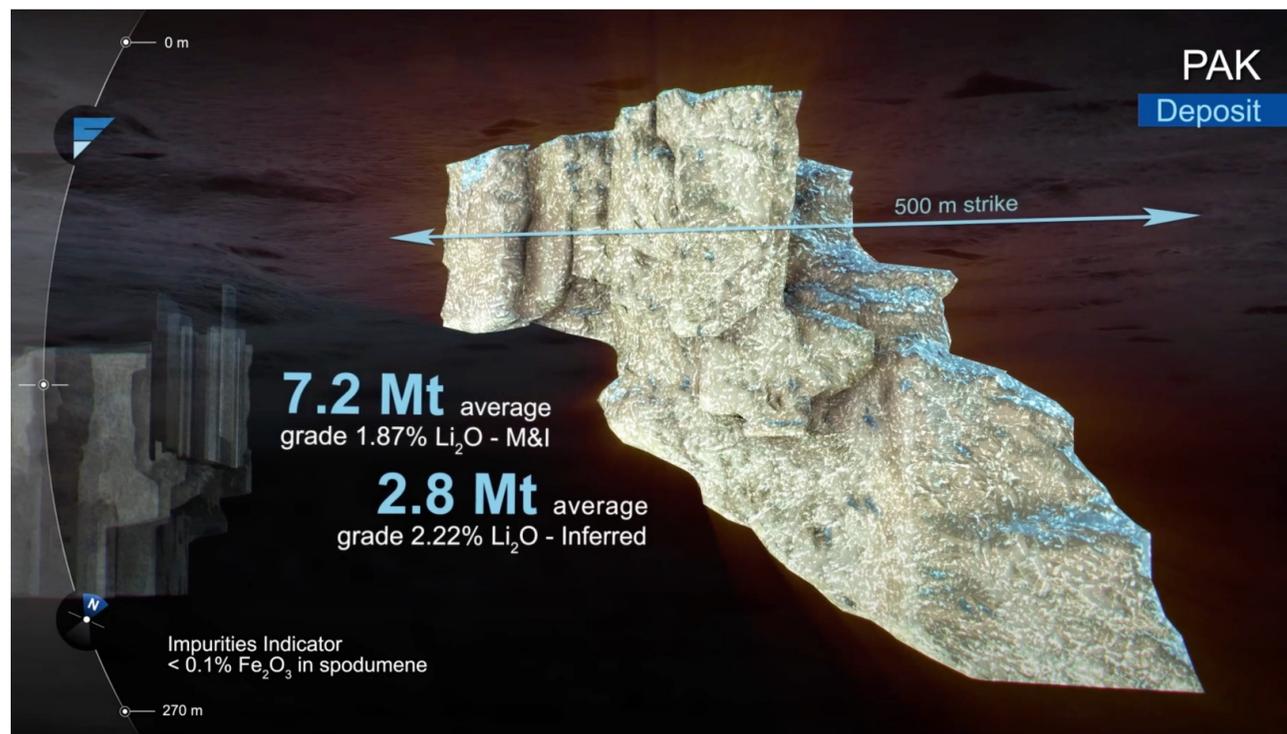
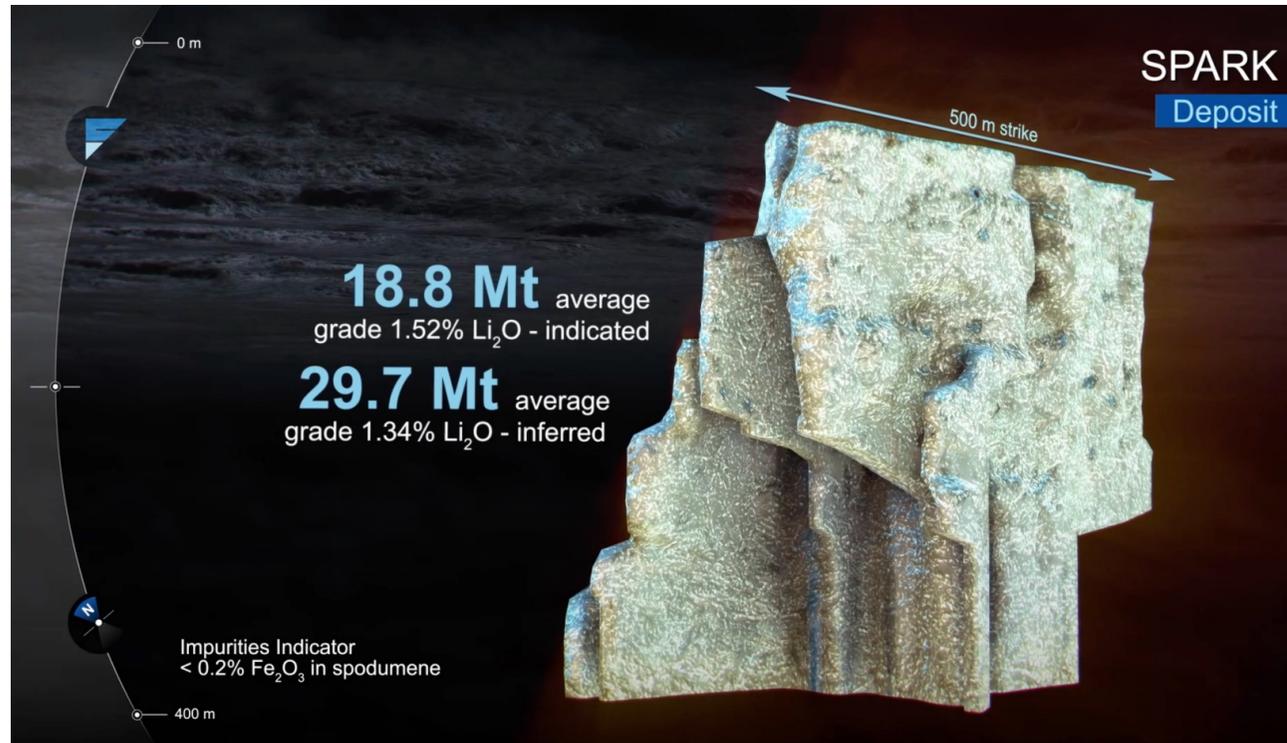
Bolt Pegmatite

During 2020, the Bolt pegmatite was discovered ranging between a few metres to over 50 m wide and traced for at least 600 m

- DDH PL-103-23 - 60.5m of pegmatite averaging 1.33% Li₂O.
 - o Including 30.1m averaging 1.63% Li₂O and 12.1m averaging 1.94% Li₂O
- DDH PL-104-23 intersected 67.2m of pegmatite averaging 1.33% Li₂O.
 - o Including 19.4m averaging 1.53% Li₂O and 6.7m averaging 1.92% Li₂O



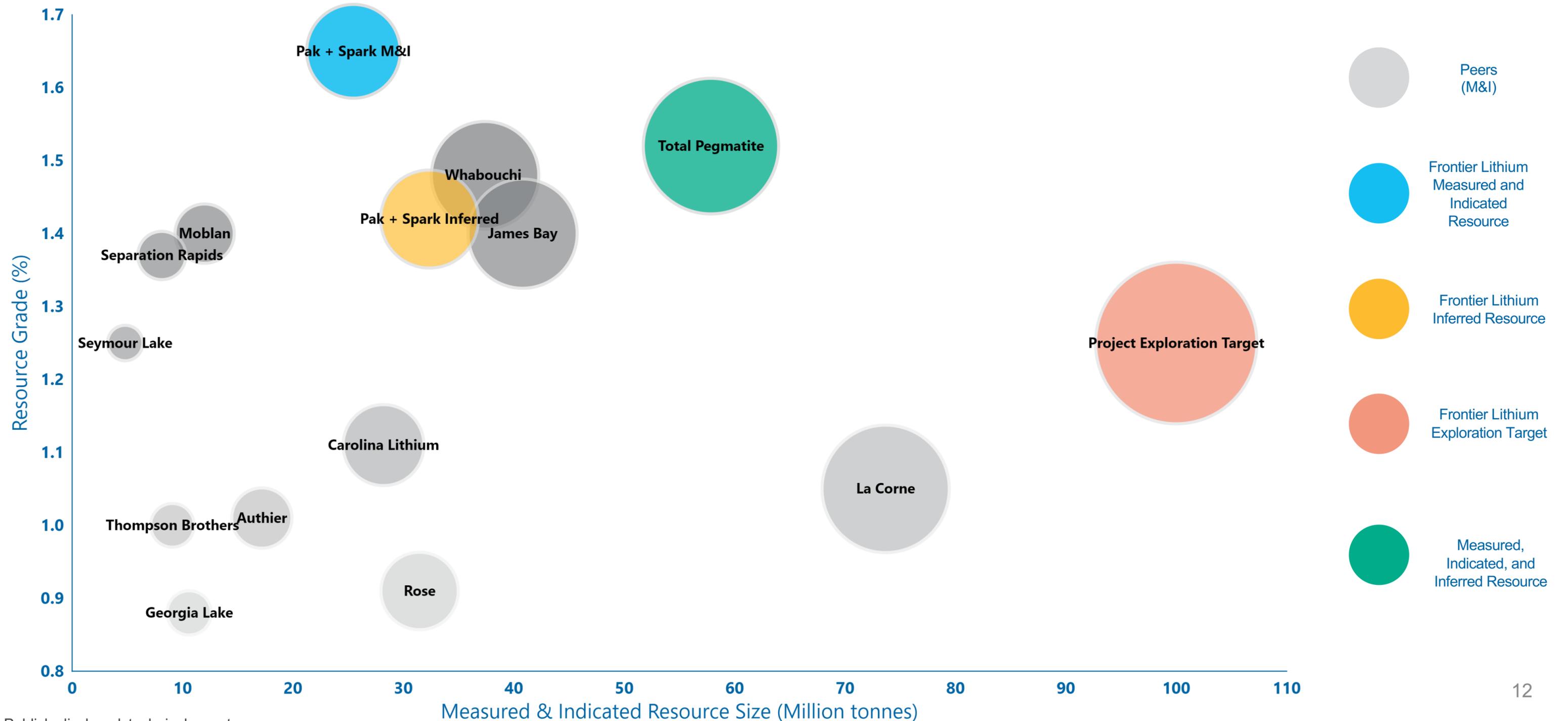
Resource & Exploration Upside



North American Hardrock Spodumene Deposits

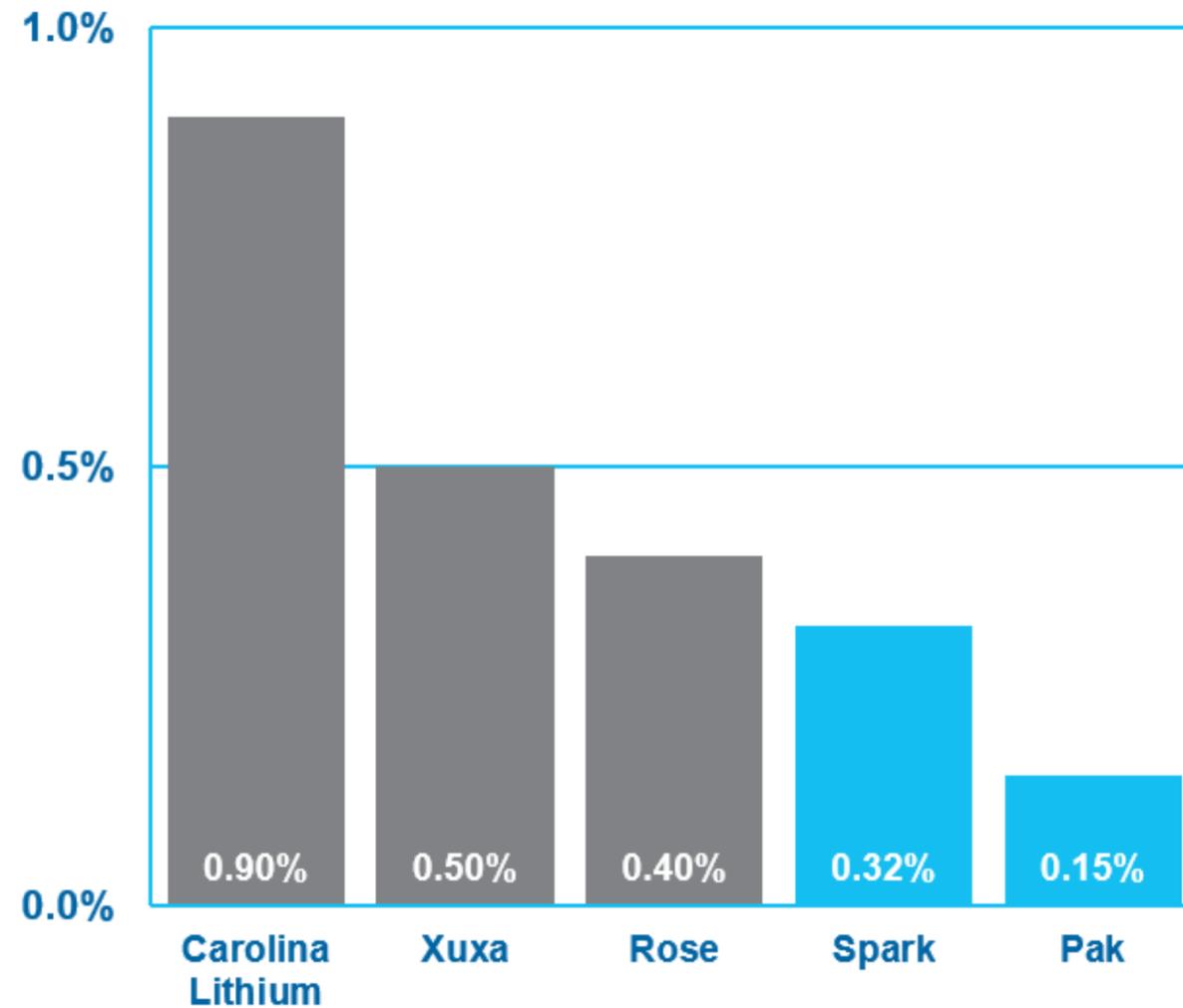
Plot Showing Grade Li_2O and Resource (Mt)

* Bubble diameter represents contained Lithium Carbonate Equivalent (tonnes)

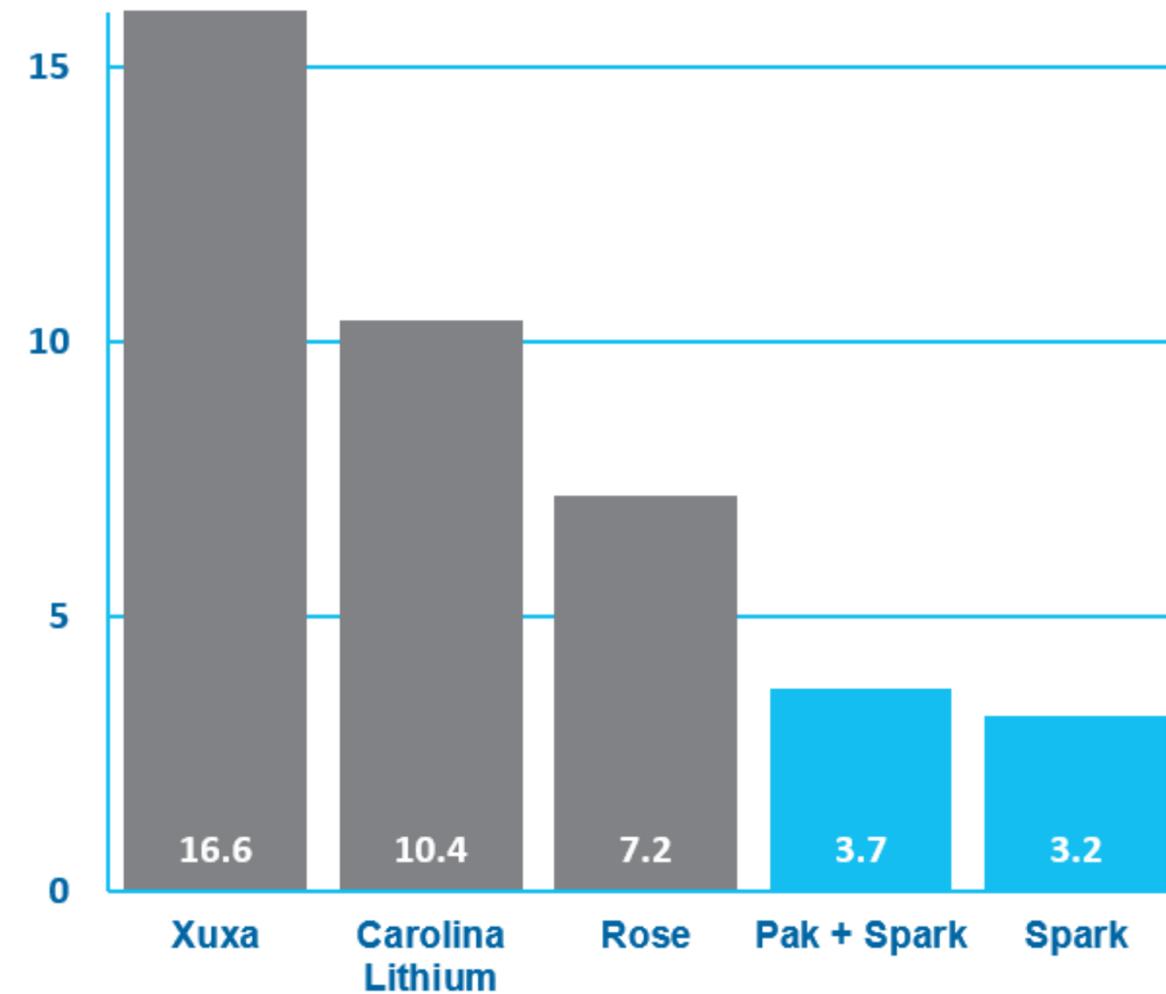


Quality Resources Enable Low-Cost Mining

Iron Oxide Content (%) of Concentrate

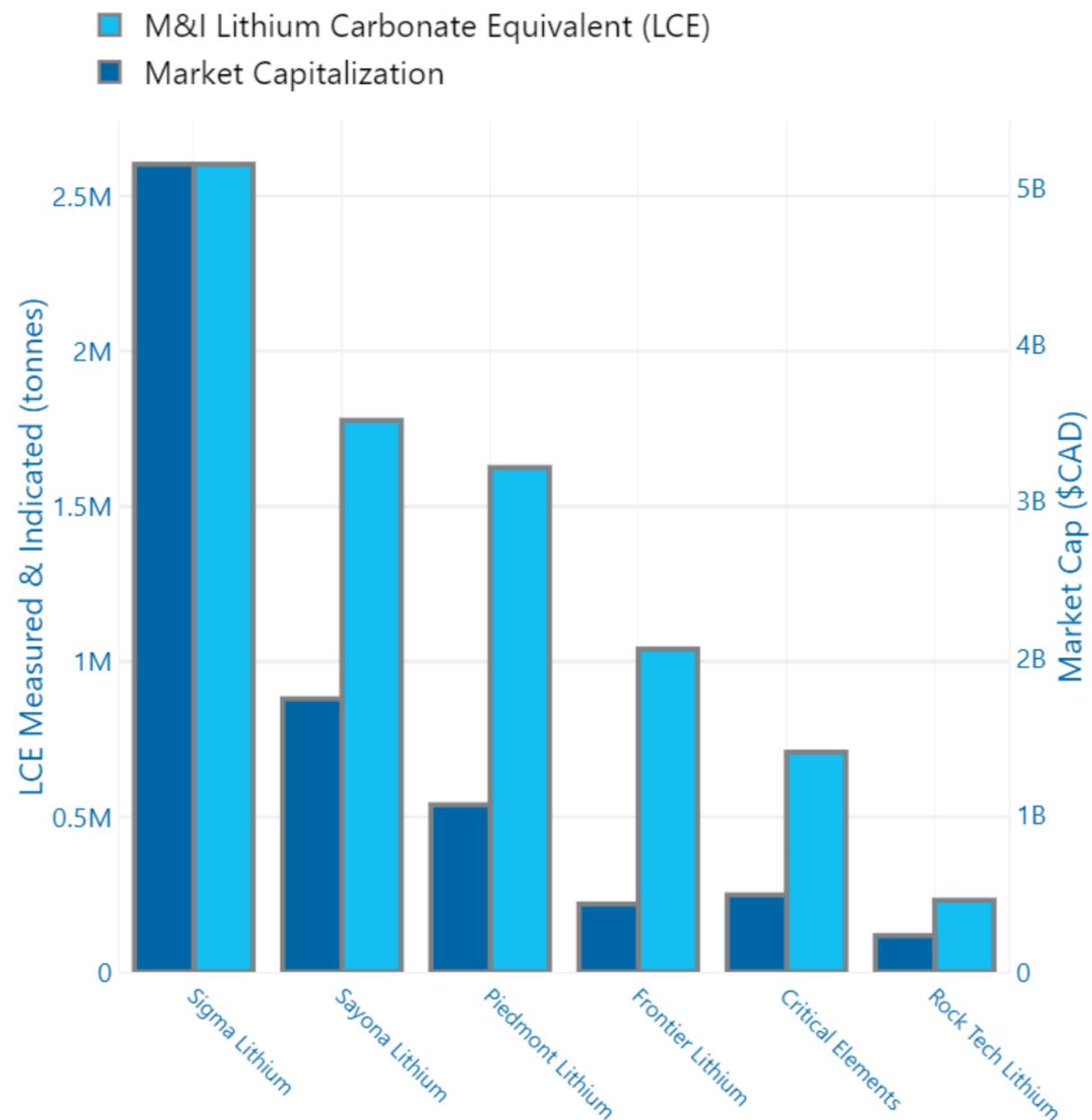
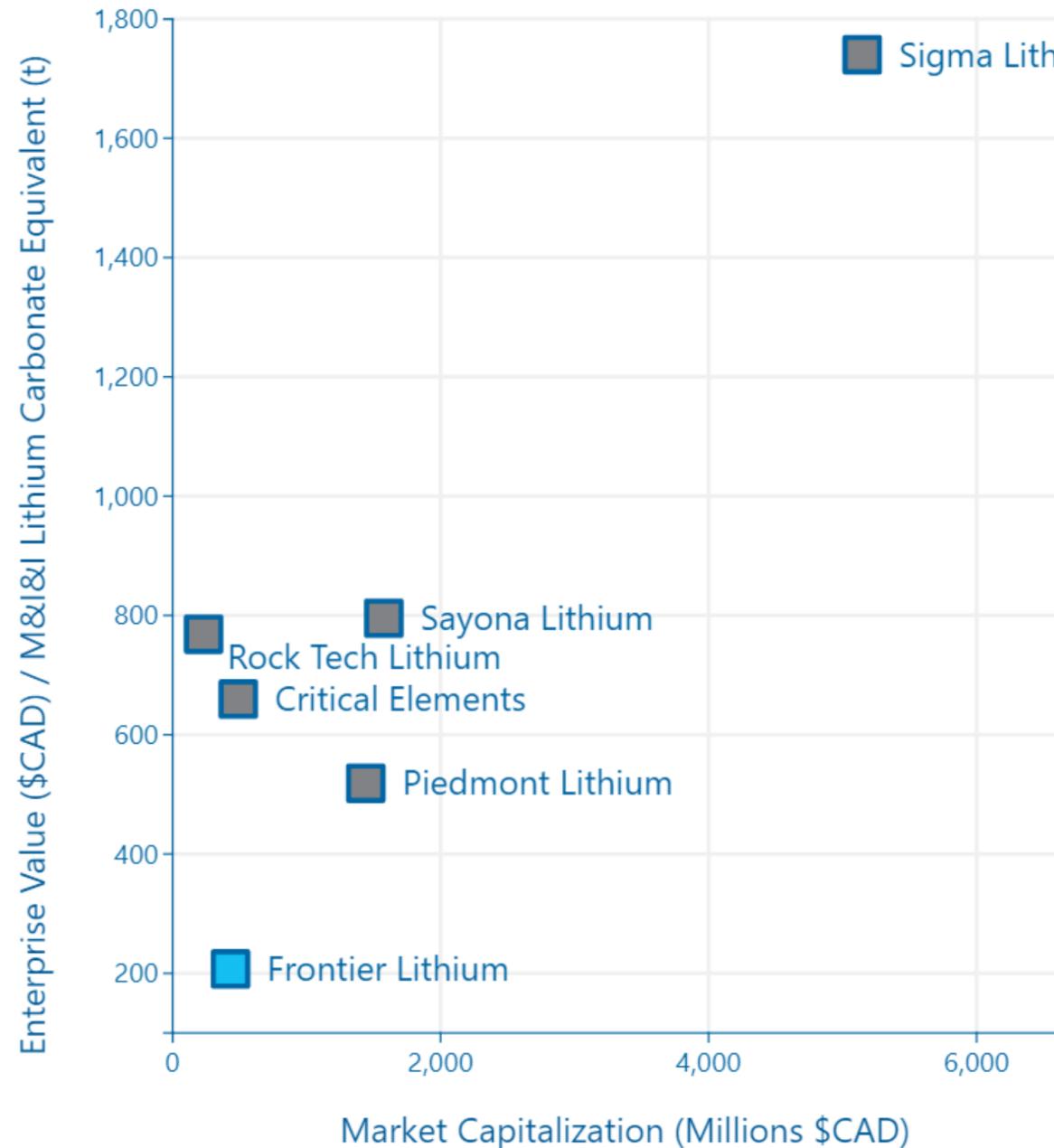


Strip Ratio



Comparative Peer Valuation Analysis

Peer Lithium Carbonate Equivalent (LCE) and Current Market Evaluation



High Quality & Low Impurity



7.2 % Li_2O , 0.135 % Fe_2O_3

Technical Grade – Spodumene Concentrate
from mini-piloting



56.5 % $\text{LiOH}\cdot\text{H}_2\text{O}$

Battery-Quality Lithium Hydroxide
from mini-piloting

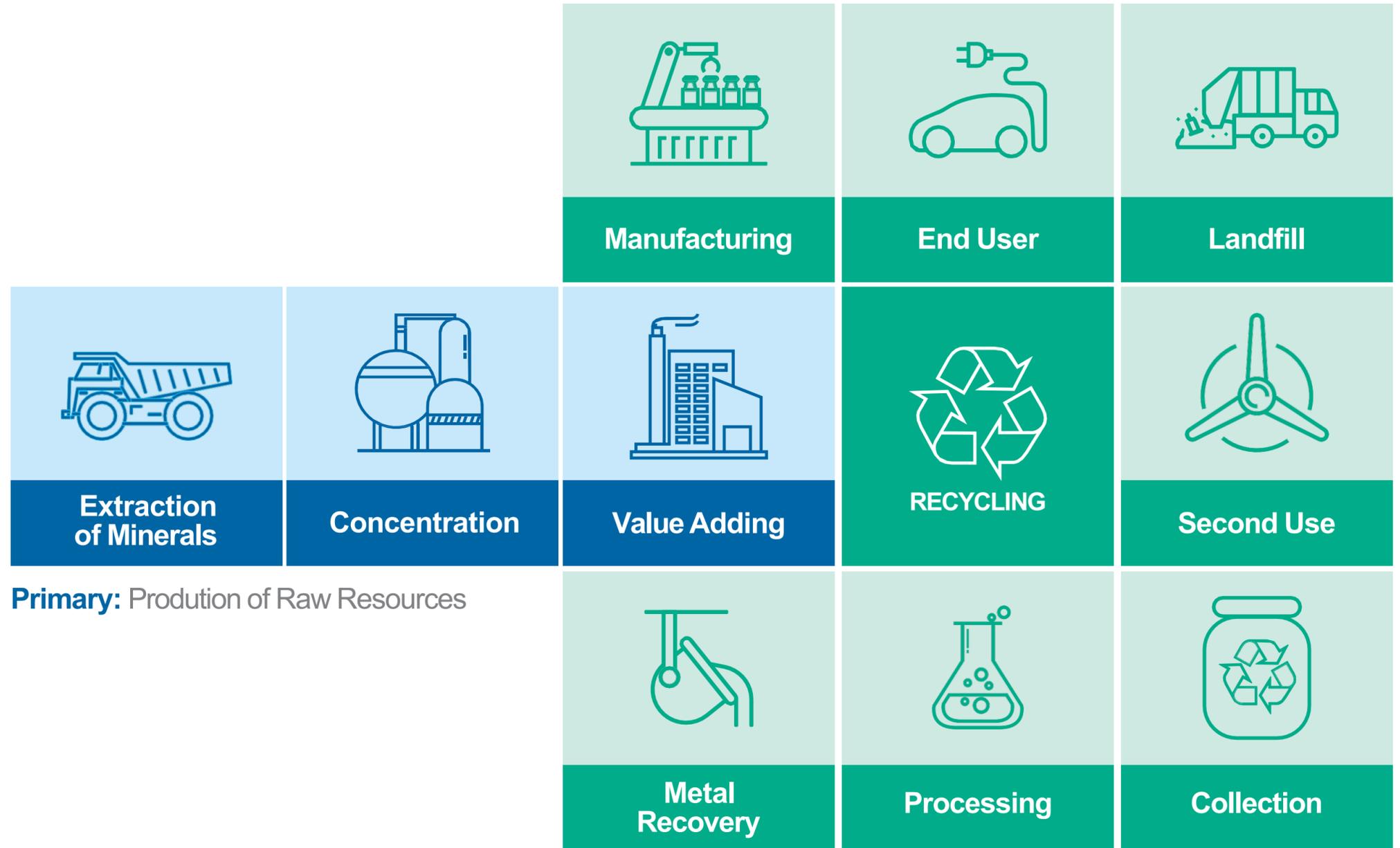
Chemical Compound	FL Composite Sample AVG	Albemarle ⁽¹⁾ SC 7.2 Premium	Albemarle ⁽¹⁾ SC 7.2 Standard
Li_2O	7.2 %	min 7.2 %	max 7.2 %
Al_2O_3	24.4 %	min 25.0 %	min 25.0 %
SiO_2	64.8 %	min 62.5 %	max 62.5 %
Fe_2O_3	0.135 %	max 0.12 %	max 0.17 %
Na_2O	0.16 %	max 0.35 %	min 0.35 %
K_2O	0.11 %	max 0.30 %	min 0.40 %
P_2O_5	0.05 %	max 0.25 %	min 0.35 %
CaO	0.03 %	max 0.10 %	min 0.10 %

Element Compound	Unit	FL Composite Sample AVG	China Spec.	N.A. Supplier Spec.
LiOH	%	56.5	≥ 56.5	56.5
Na	ppm	6	20	20
K	ppm	<10	10	10
Fe	ppm	Below detection	8	5
Ca	ppm	4	150	15
Cu	ppm	Below detection	5	5
Mg	ppm	<1	10	10
Si	ppm	34	30	30
Cl	ppm	<20	20	20
SO_4	ppm	<30	100	100

Battery Materials Ecosystem

Frontier Lithium is assessing options for producing battery materials production and recycling through advancing the lithium chemicals piloting and demonstration.

In part, this process is supported by the Ontario government. The process and technology selection taking place during Pre-Feasibility Study.



Infrastructure

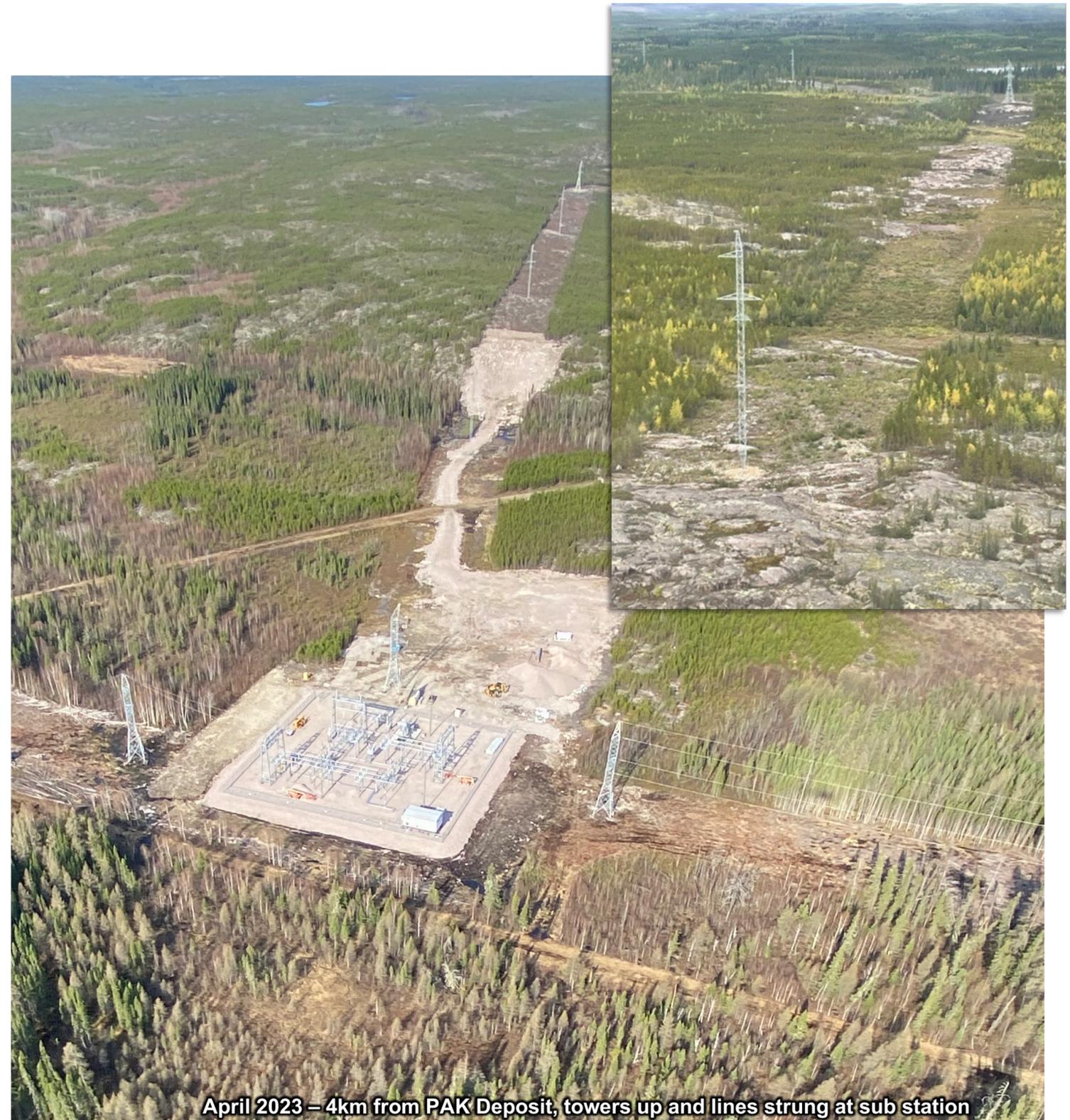
Partnered First Nation Communities seeking infrastructure upgrades.

POWERLINE: Under Construction

- Watay Power Project is being built to service 17 First Nation Communities
- The high-voltage transmission line to be 4km from the PAK resource
- Fully funded by the Government (\$2B)
- Completion target 2024



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

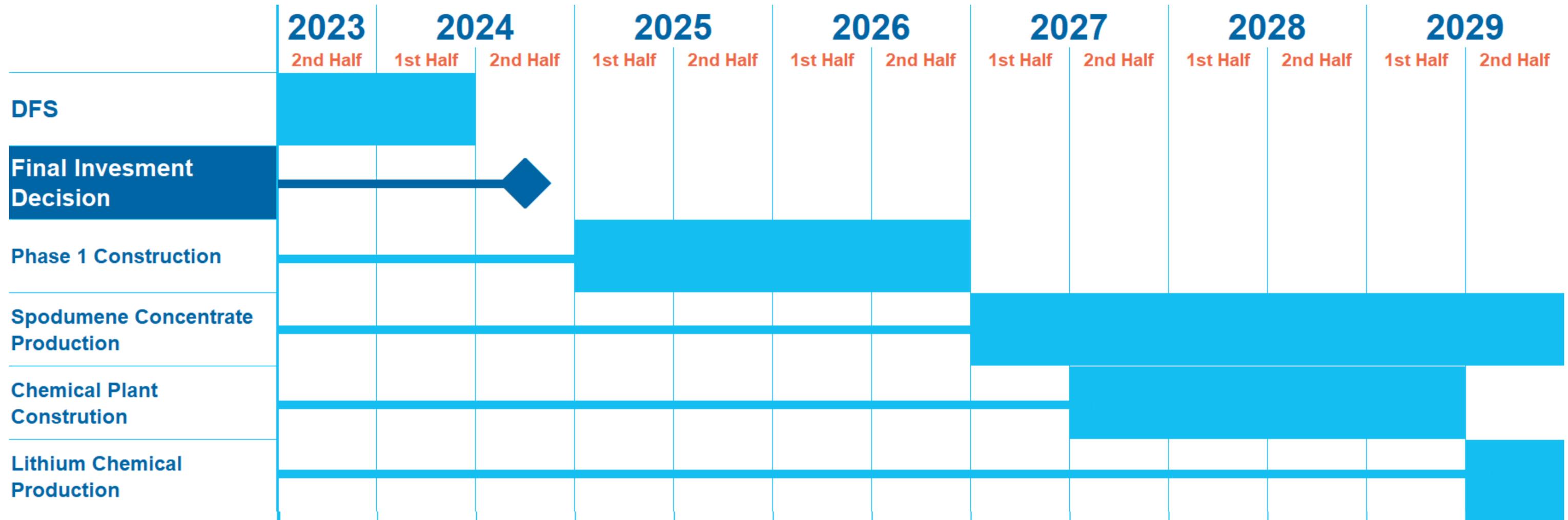
Partnered First Nation Communities seeking infrastructure upgrades.

ROAD: Under Scoping Study

- Power-line will reduce winter road usage
- Government funded engineering study is underway for “[Berens River bridge and Roads](#)” project to improve and extend the winter road season
- Internal scoping study assessing optimal all-season road access underway



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.

Project Advancement

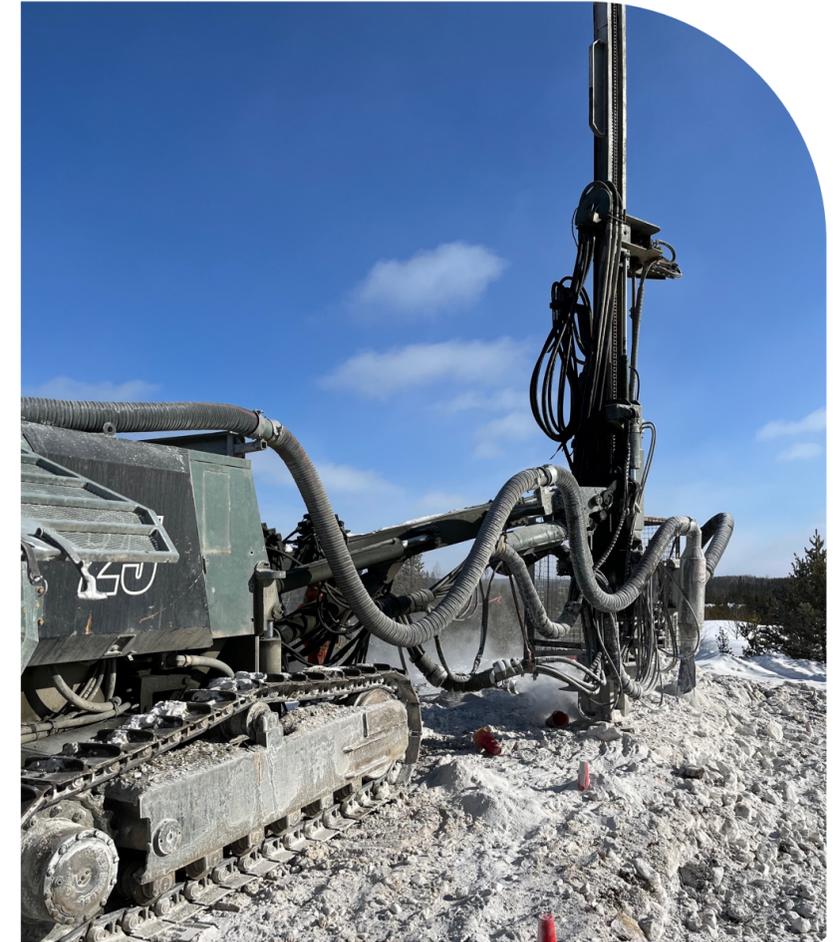


Current Activities

- Government funded "Berens River bridge and Roads" project fully engineered and permitted, pending funding.
- PAK deposit geotechnical and environmental drilling is currently underway
- Continuing to conduct environmental baseline studies to enable and advance permitting
- 1,000 metric tonne bulk samples taken from both the PAK and Spark deposits

Upcoming Catalyst

- Complete a Definitive Feasibility Study Phase 1
- Selection of a site for commercial chemical plant
- Complete and finalize community partnership agreements
- Complete formal submission of announced federal and provincial critical minerals grants and tax breaks
- Evaluate strategic partnership options and offtake agreements



Frontier is positioned to become a strategic regional battery metals supplier.



94% zero carbon energy

1 Resources
● Red Lake

2 Mining & Milling

Lithium Chemical Processing & Refining 3A

Thunder Bay

Lithium Chemical Processing & Refining 3B

Duluth, Minnesota

Lake Superior

Wawa

Sault Ste. Marie

Sudbury

Wisconsin

Lake Huron

Ottawa

Barrie

Kingston

umicore

Li Ion Cathode Anode Production

LG Energy Solution

STELLANTIS

gm

Ford

Toronto

Hamilton

5 Li Ion Cell Production



6 Electric Vehicle Production

Detroit

Windsor

Lake Erie

New York

Pennsylvania

Illinois

Indiana

Ohio

ONTARIO

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.
- Unprecedented level of competition for offtake for high quality projects.

Exceptional Spodumene Resource

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

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.

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.

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.

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**