



A NORTH AMERICAN FOCUSED
LITHIUM LED BATTERY MINERALS COMPANY

Investor Presentation

JMM & TRIBECA CHINESE NEW YEAR EVENT
JMM & STOCKHEAD PERTH BROKER EVENT

FEBURARY 2024

ASX:LLI

DISCLAIMER



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The information in this report that relates to Exploration Results is based on information either compiled or reviewed by Mr Darren Allingham FAIG who is an employee of Loyal Lithium Limited. Mr Allingham is a Fellow of the Australian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. Mr Allingham consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

This presentation has been approved by the Board of Loyal Lithium Limited.

THE NORTH AMERICAN LITHIUM OPPORTUNITY

SET TO PLAY AN ACTIVE ROLE IN OUR SUSTAINABLE FUTURE

LITHIUM IS CHANGING THE
WAY WE TALK, DRIVE & LIVE
THIS IS JUST THE BEGINNING



The Lithium-Ion battery has the highest energy density with battery tech continuing to advance.

Over 400 million registered vehicles in North America - a percentage will transition to electric vehicles (EV)

Spodumene is the king of Lithium Natural Resources

- *SC6 >50% global supply*
- *Investment support*
- *Decouples mining from refining*
- *Small scale traditional mining and processing techniques*

OUR MISSION & VISION



MANAGING DIRECTOR – ADAM RITCHIE BEng (hon), MEng, CPEng

“Loyal Lithium aims to play a key role in the North American lithium supply chain by building a business that attracts development opportunity, whilst also adding value to communities and shareholders.”

“We are passionate about lithium and believe we can do it better.”

Highly experienced lithium and development professional



Over 20 years' experience in the resources sector having held senior positions at Australia's leading resources companies including Pilbara Minerals, FMG, Rio Tinto & BHP



Former Project Director of Pilbara Minerals (ASX: PLS) flagship Pilgangoora Lithium Project



OUR LITHIUM PORTFOLIO

NORTH AMERICAN FOCUSED



2 HIDDEN LAKE LITHIUM PROJECT
NWT, CANADA ★

1 TRIESTE LITHIUM PROJECT
QUEBEC, CANADA ★

3 SCOTTY LITHIUM PROJECT
NEVADA, USA ★

CAPITAL STRUCTURE

STRONG CASH POSITION WITH \$6.4m⁽²⁾



0.23

(1) Share price at 3 February 2024 (2) \$6.4m at 31 December 2023



TRIESTE LITHIUM PROJECT
JAMES BAY LITHIUM DISTRICT
QUEBEC, CANADA

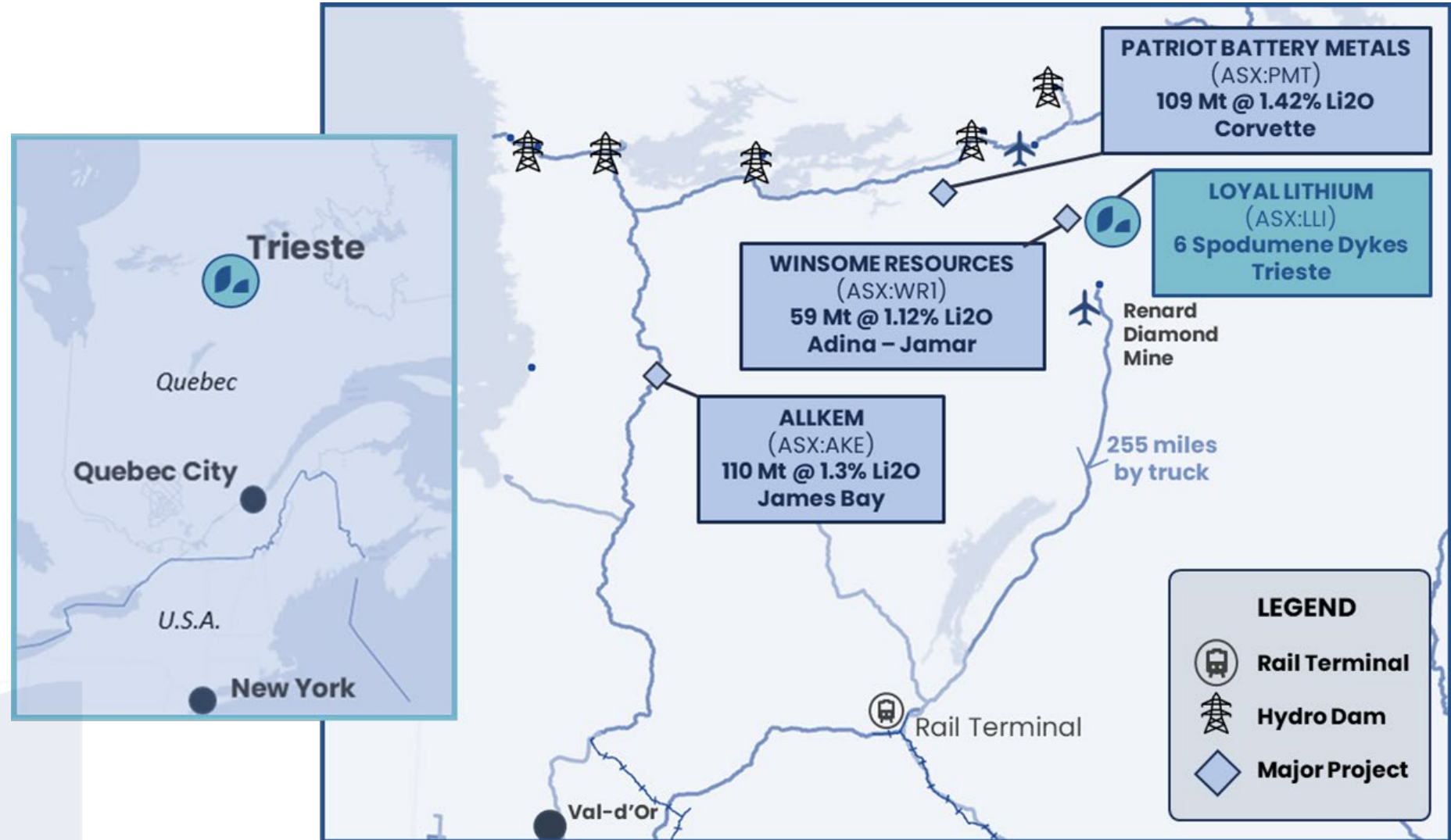
TRIESTE LITHIUM PROJECT

JAMES BAY LITHIUM DISTRICT

Surrounded by large scale advanced lithium projects in the Tier 1 mining jurisdiction of Quebec, Canada.

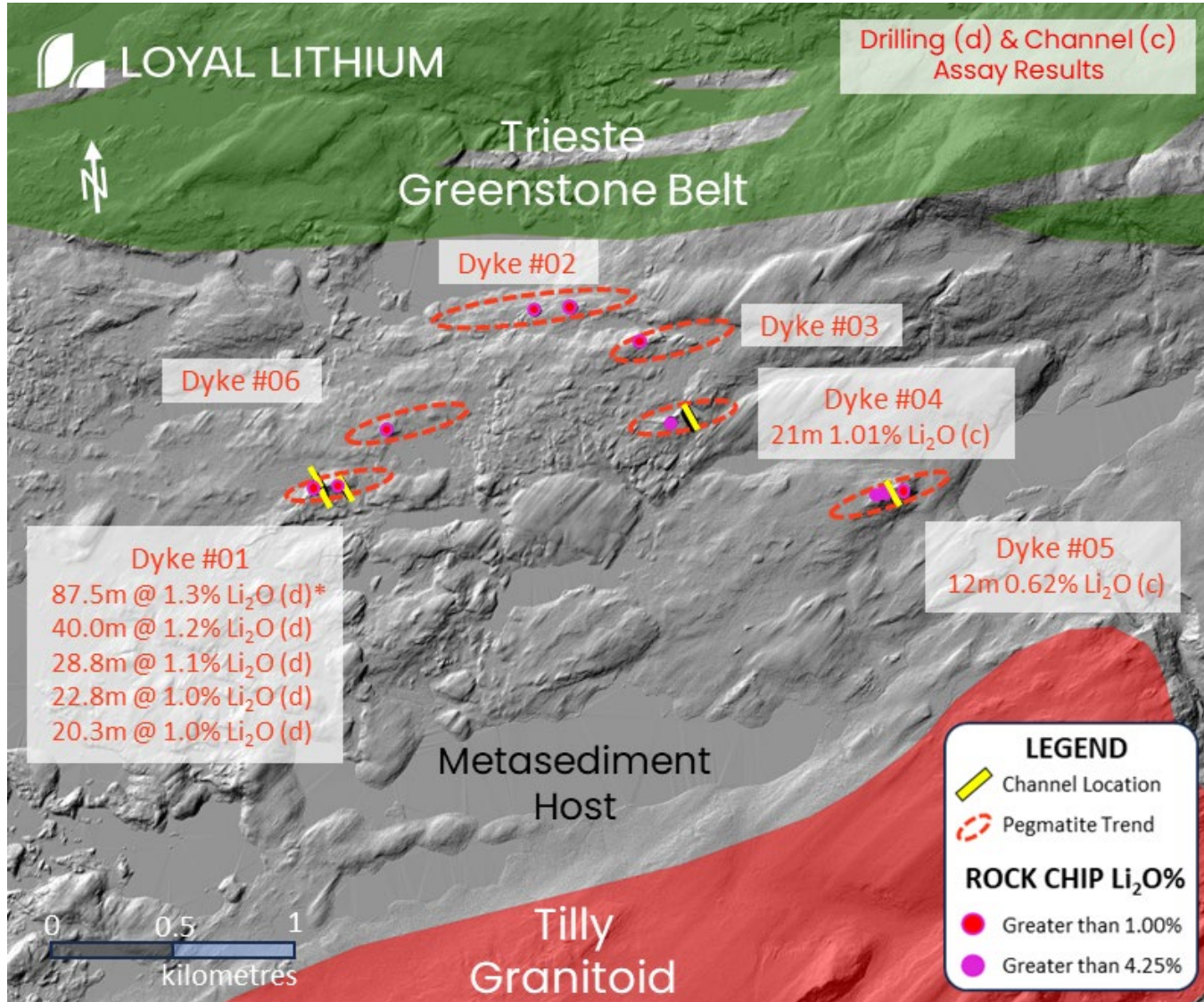
Six spodumene bearing pegmatites discovered in maiden field program.

Fast-tracked maiden drilling program at Dyke #01 intercepted spodumene bearing pegmatite in all drill holes and remains open in all directions.



TRIESTE LITHIUM PROJECT

MEGA CRYSTAL & HIGH-GRADE ASSAYS



Dyke #05

* Drillhole inferred to be sub-parallel to pegmatite dyke contacts

TRIESTE LITHIUM PROJECT

DYKE #01 FAST-TRACKED DRILLING

HIGH GRADE ASSAYS CONFIRM MAJOR DISCOVERY



TRIESTE LITHIUM PROJECT

40.0m of 1.2% Li_2O from 15.0m - Dyke #01 DIS23-004

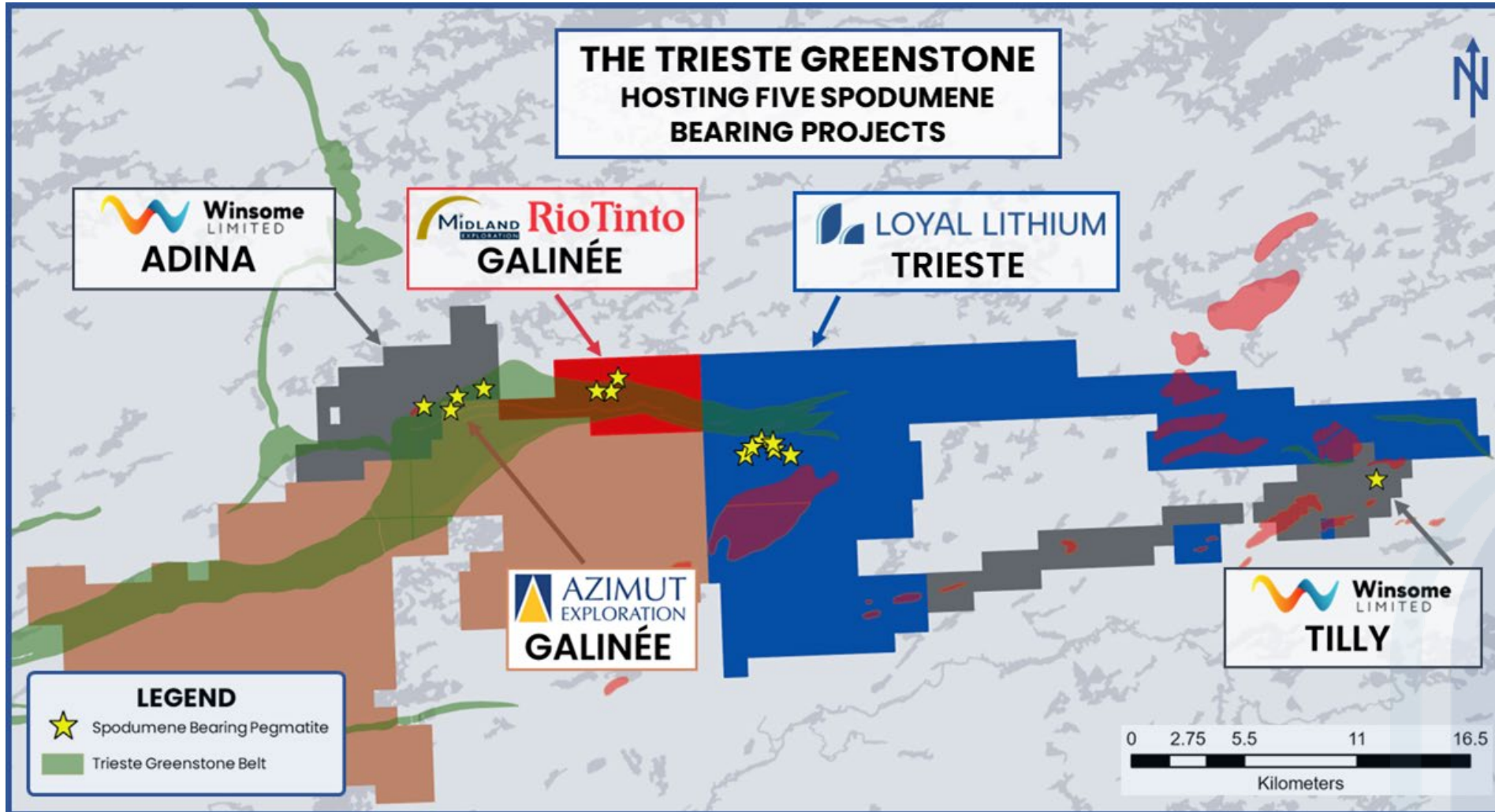


SPODUMENE MEGA CRYSTALS INTERCEPTED

5.8m at 3.0% Li_2O Interval shown

TRIESTE LITHIUM PROJECT

ALL EYES ON THE TRIESTE GREENSTONE REGION



WINSOME
MAIDEN MRE
59Mt at 1.1% Li₂O¹

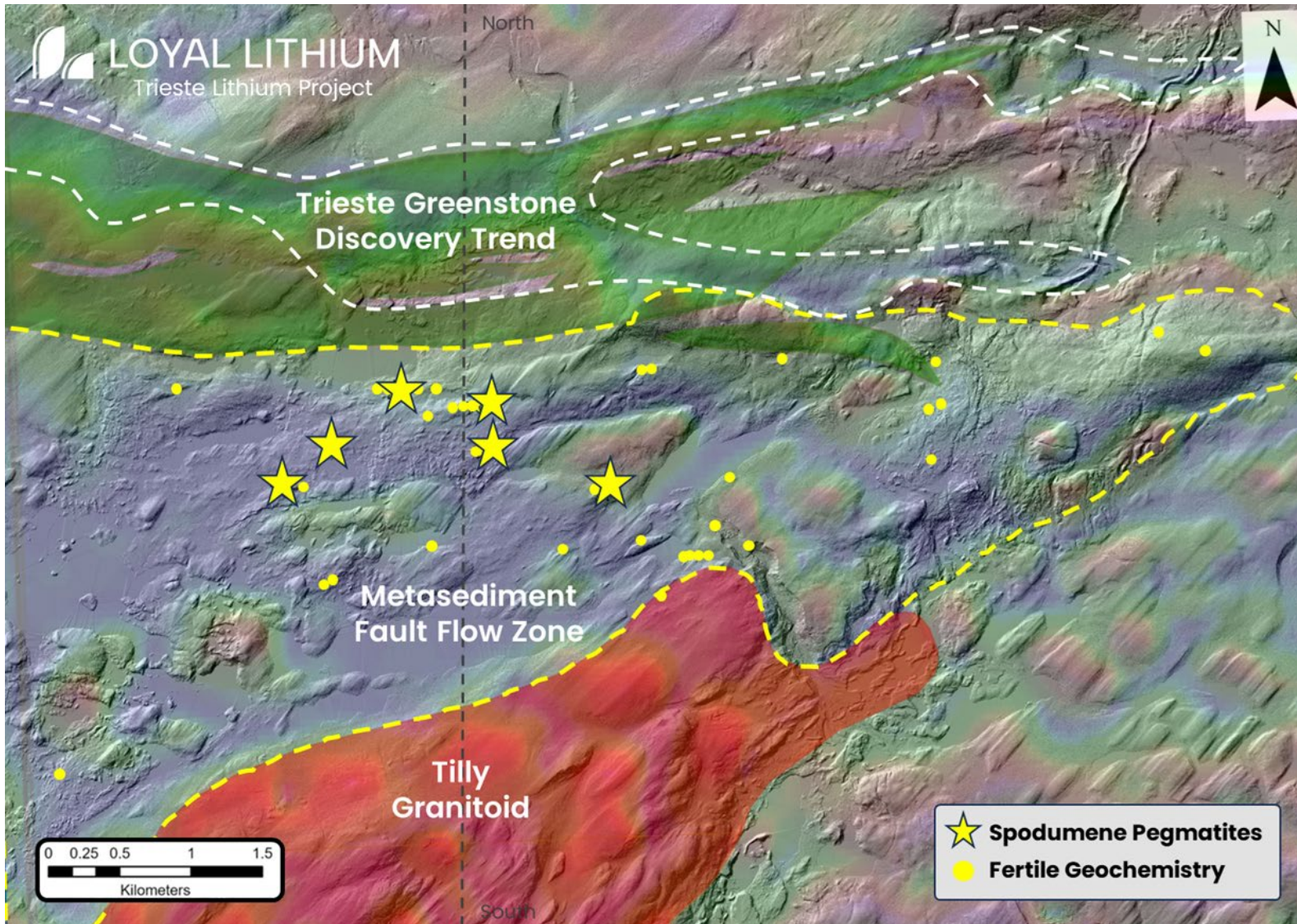
“Although early days - discoveries to date indicate that the Trieste Greenstone region could play an important role in the emerging North American lithium supply chain.”

Adam Ritchie
Managing Director
Loyal Lithium

¹ ASX Announcement WRI: 11 December 2023: Globally significant maiden Mineral Resource of 59 Mt at 100% owned Adina Lithium Project.

TRIESTE LITHIUM PROJECT

UNIQUE GEOLOGICAL SETTING EXPOSES POTENTIAL SCALE



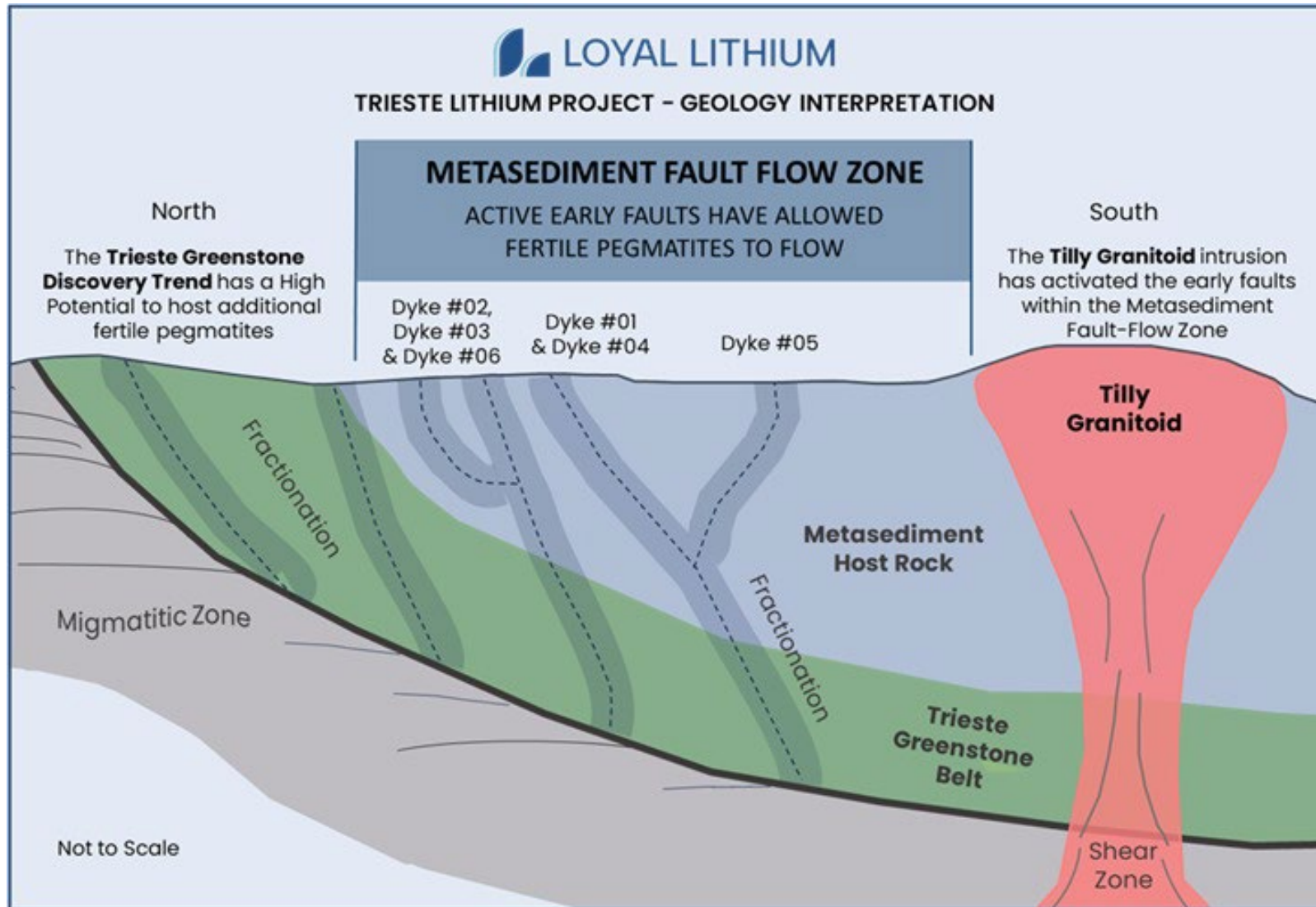
ADDITIONAL DISCOVERIES LIKELY WITHIN TWO HIGHLY PROSPECTIVE AREAS

To date, six spodumene bearing pegmatite dykes have been discovered within a 20km² Metasediment Fault Flow Zone with fast tracked drilling results confirming the significance of this major discovery at Trieste.

Additional discoveries are likely within two highly perspective areas – the underexplored Trieste Greenstone Discovery Trend and the Metasediment Fault Flow Zone, which is located south of the Trieste Greenstone Belt.

TRIESTE LITHIUM PROJECT

LARGE FERTILE LITHIUM PEGMATITE SYSTEM INTERPRETED



GEOLOGICAL INTERPRETATION PROVIDES INSIGHT

Geological interpretation suggests a large fertile pegmatite system located between the Tilly Granitoid and the northern boundary of the Trieste Greenstone Belt.

Whilst spodumene-bearing pegmatites are commonly associated with the greenstone, the geological interpretation suggests that the Tilly Granitoid has activated early faults within the metasediments, facilitating the flow of lithium-fertile pegmatites. This is precisely where our six spodumene-bearing dykes have been identified.

TRIESTE LITHIUM PROJECT

FOCUSED LOW-COST DRILLING PROGRAM TARGETS DYKE #04 & Dyke #05



TRIESTE LITHIUM PROJECT

Dyke #05

TRIESTE LITHIUM PROJECT

WINTER DRILLING UNDERWAY



HIDDEN LAKE LITHIUM PROJECT
YELLOWKNIFE LITHIUM BELT
NORTHWEST TERRITORIES, CANADA



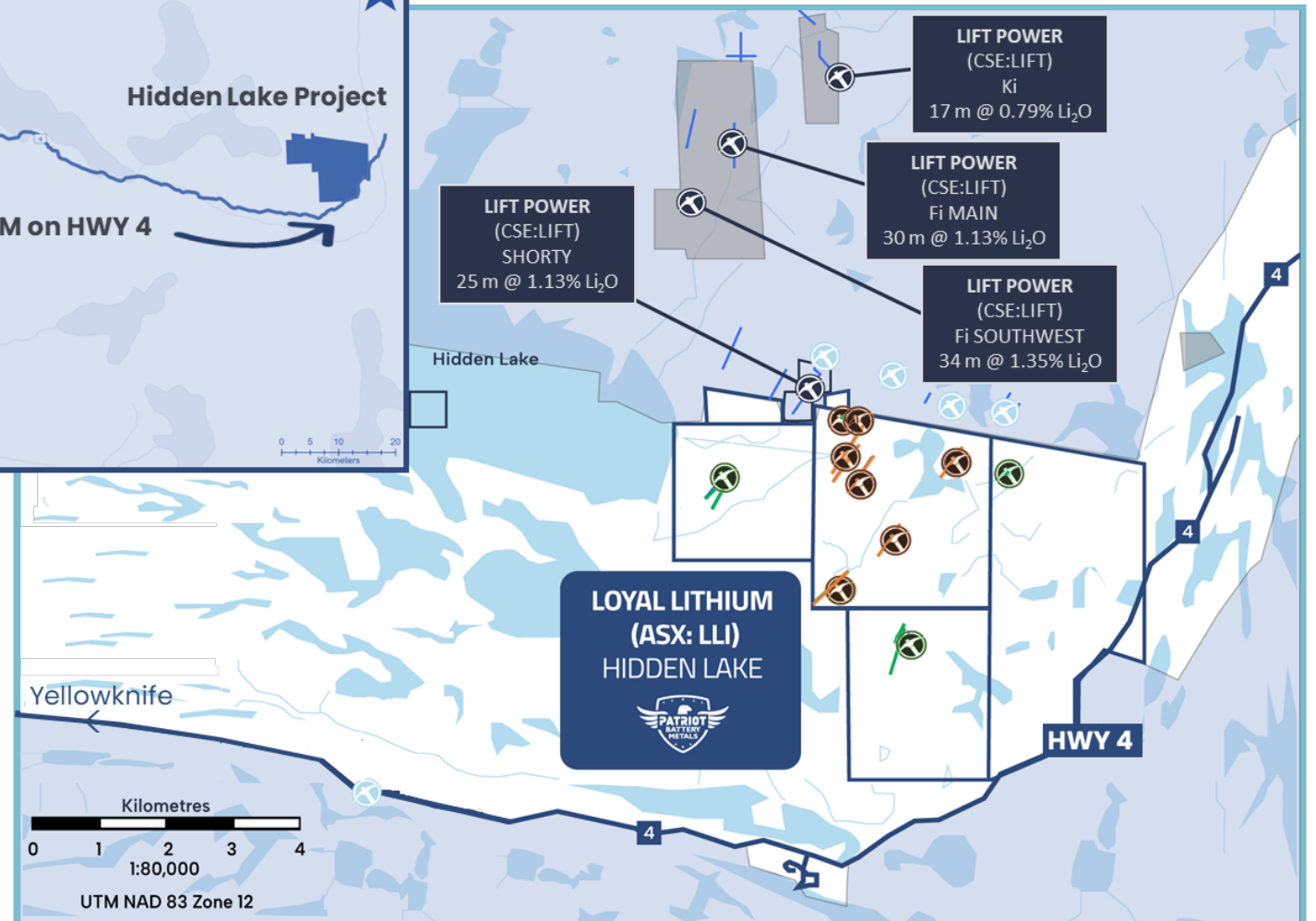
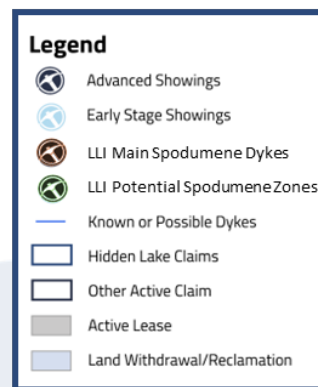
HIDDEN LAKE LITHIUM PROJECT

WE LOVE IT – UNDER EXPLORED YET UNDERSTOOD



“We are excited to bring fresh ambitions to this notable spodumene project alongside our joint venture partners, Patriot Battery Metals.”

Adam Ritchie
 Managing Director
 Loyal Lithium

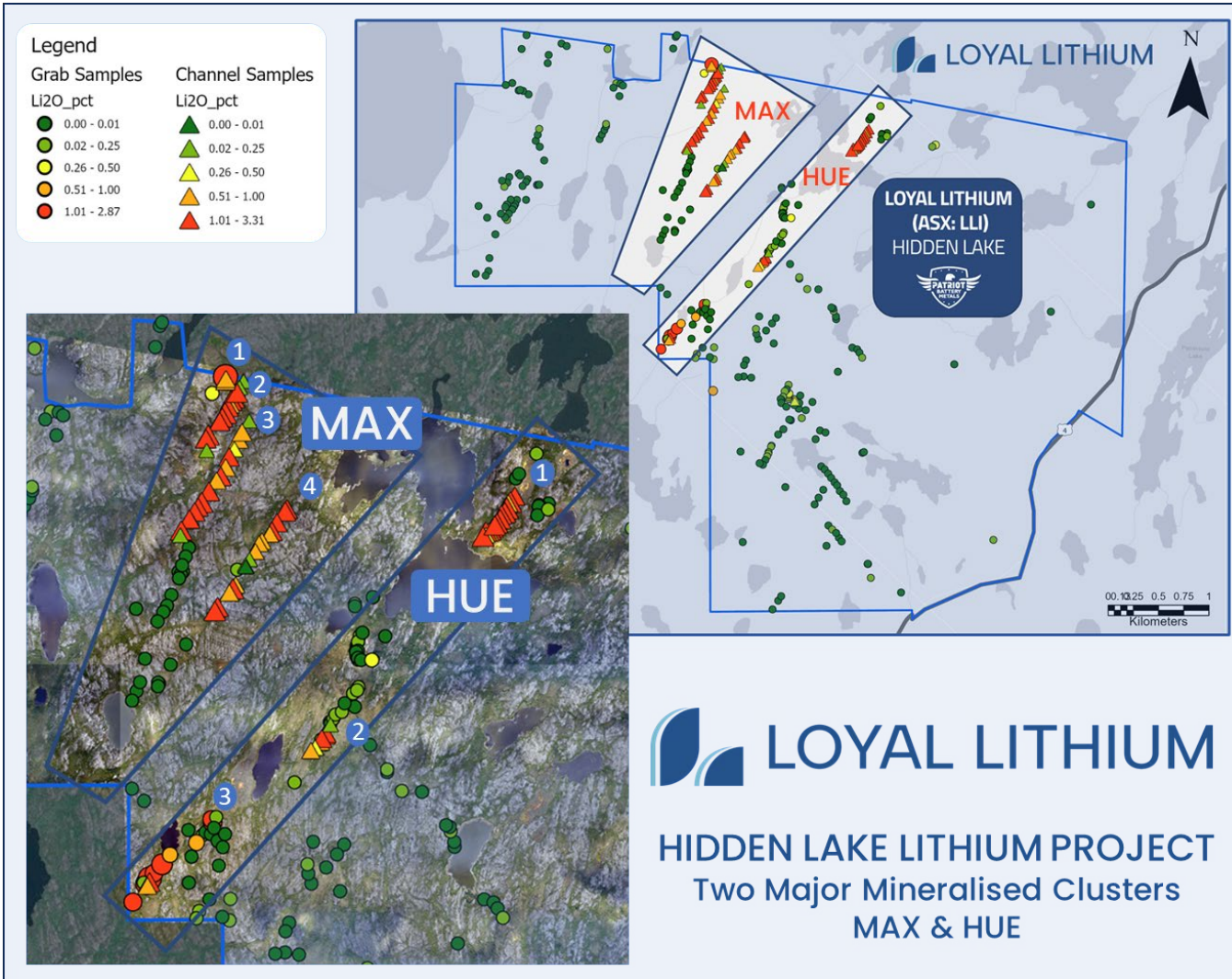


LIFT Drilling Data:

1. September 2023, LIFT Corporate Presentation
2. September 6, 2023 LIFT Intersects 22 m at 1.46% Li₂O at the Fi Southwest, 24 m at 1.12% Li₂O at the Fi Main, and reports first results from BIG East and Shorty Pegmatites, Yellowknife Lithium Project, NWT Intercepts of up to 1.6% Li₂O over 9.2 metres.
3. November 7, 2023, LIFT intersects 21m at 1.40% Li₂O at the BIG East pegmatite and 19m at 1.16% Li₂O at the Shorty pegmatite, Yellowknife Lithium Project, NWT.

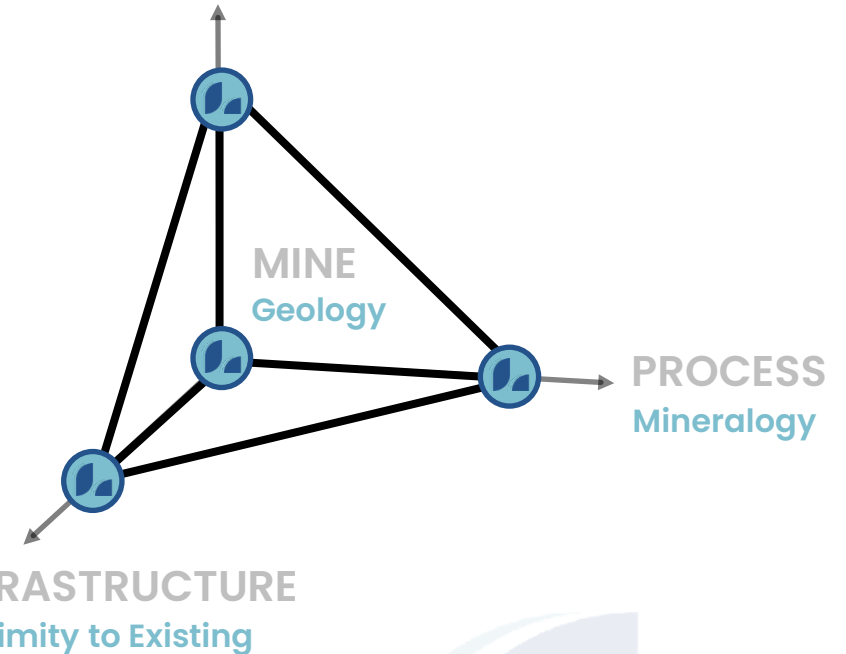
HIDDEN LAKE LITHIUM PROJECT

WHY WE LOVE IT – RESOURCE POTENTIAL



RESOURCE POTENTIAL

Exploration Work

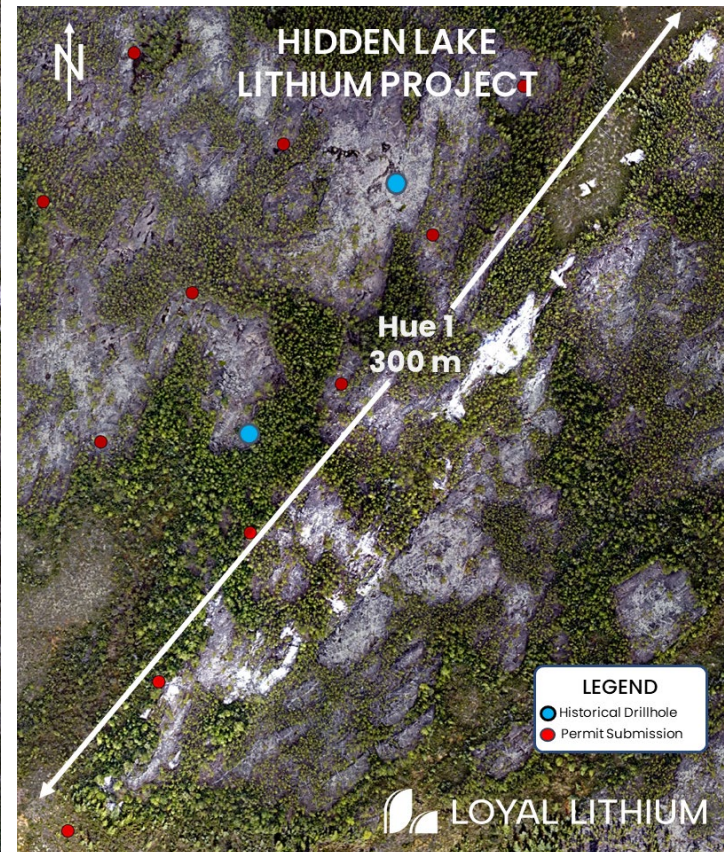
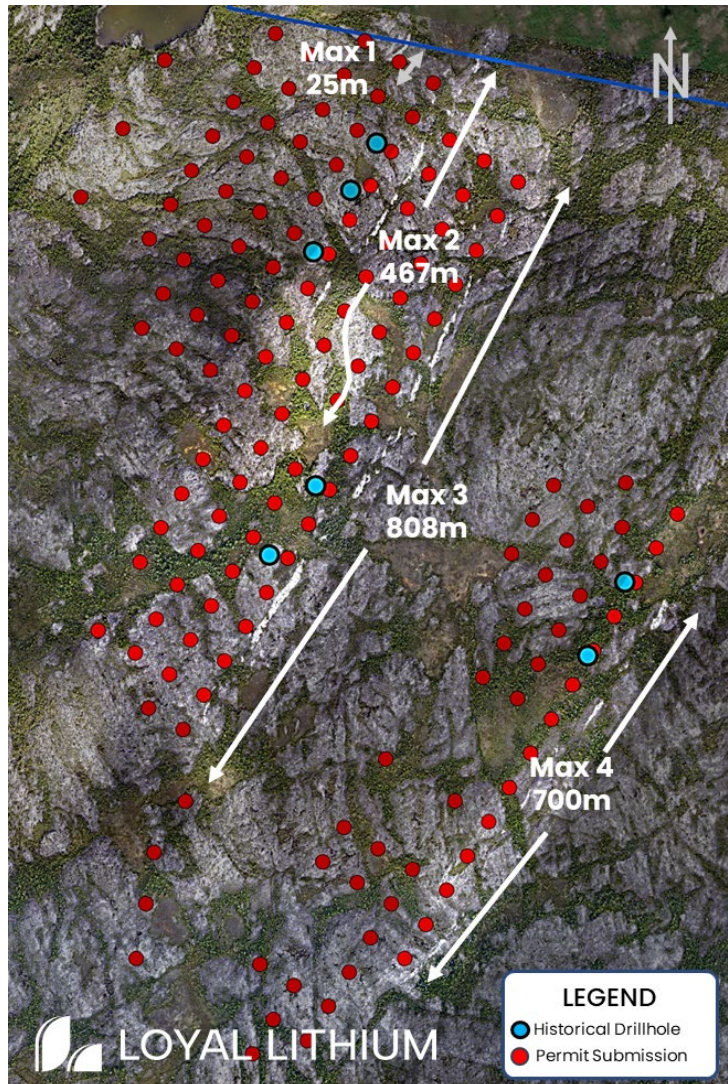


Extensive spodumene bearing pegmatite outcrops identified – 3,250m of Strike Length:

- 2 major mineralized clusters – MAX & HUE
- 4 main spodumene bearing dykes drill tested
- 3 additional spodumene dykes discovered
- Drilling preparations for the Canadian winter

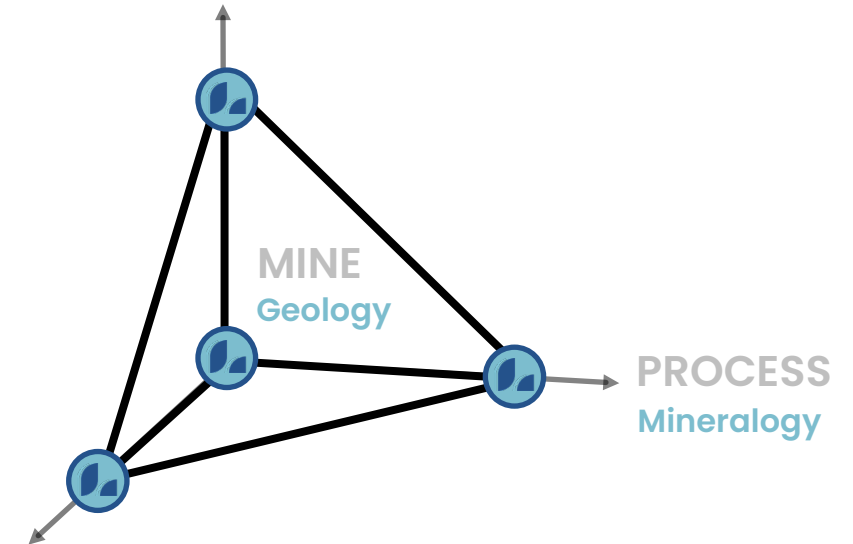
HIDDEN LAKE LITHIUM PROJECT

WHY WE LOVE IT – RESOURCE POTENTIAL



RESOURCE POTENTIAL

Exploration Work



INFRASTRUCTURE

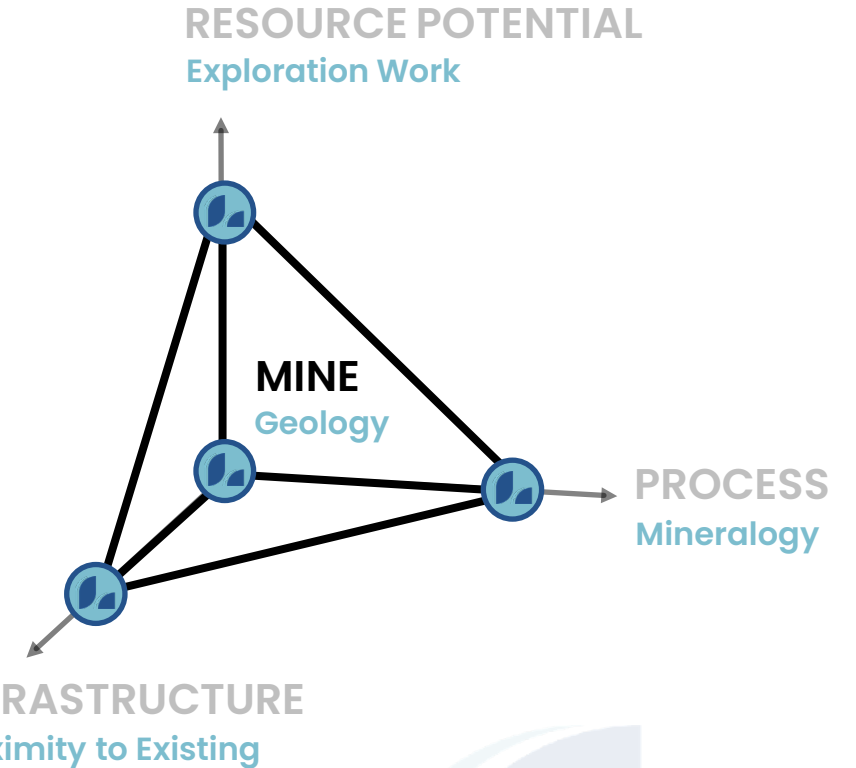
Proximity to Existing

All dykes are clearly visible from surface with the 4 historical Dykes drill tested

- 10 drill holes conducted to 30-50 m vertical confirming mineralisation with grades up to 1.81% Li_2O
- Open along strike and depth

HIDDEN LAKE LITHIUM PROJECT

WHY WE LOVE IT – MINEABLE



Prominent spodumene pegmatite outcrops have a cumulative strike length of ~3,250 m. Surface exposures and drill intercepts imply favourable mining geometries for both open cut and underground operations.

HIDDEN LAKE LITHIUM PROJECT

WHY WE LOVE IT – PROCESSING SIMPLICITY

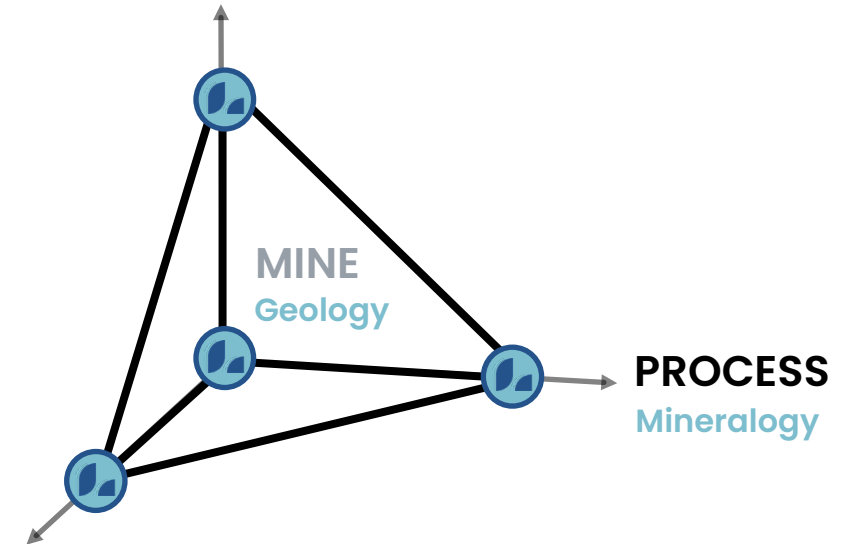
Mineralogy & Metallurgy fundamentals understood

Mineralogy is simple and consistent with low impurities

- Spodumene
+ Quartz
+ Feldspars
- < 0.25% FeO



RESOURCE POTENTIAL
Exploration Work



INFRASTRUCTURE
Proximity to Existing

Metallurgy supports DMS concentration

- DMS concentrate via pilot plant
- Highly liberated
- 50%+ mass rejection < 0.2% Li₂O loss

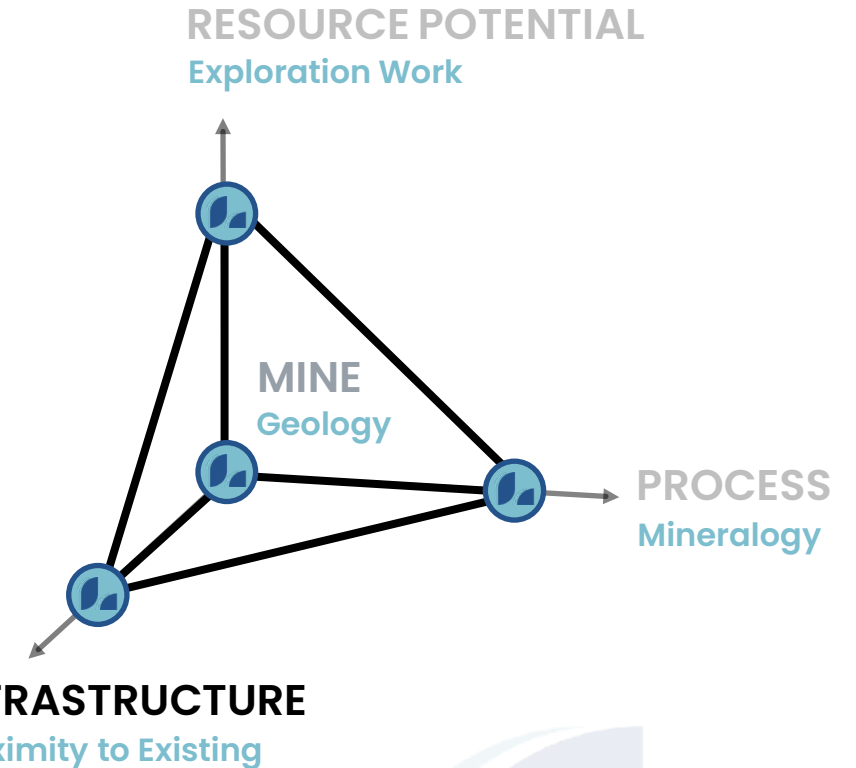
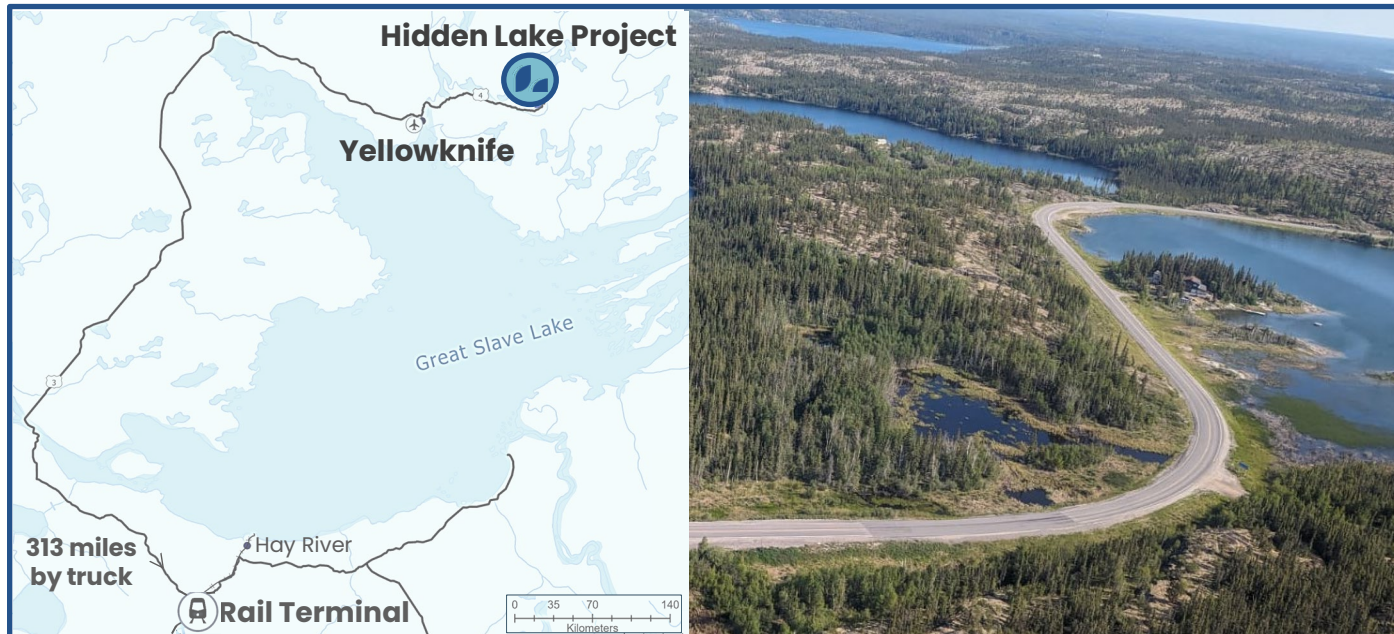
HIDDEN LAKE LITHIUM PROJECT

WHY WE LOVE IT – EXISTING INFRASTRUCTURE

65km drive Highway 4 – Hidden Lake to Yellowknife

Yellowknife – Capital of NWT population of ~20,000

- Well established workforce and support services
- Domestic Airport – daily connections to Canadian cities
- All-weather roads – south to Alberta and British Columbia
- Hydroelectric power – 2030 plans for the Lithium Belt



Hay River Rail Terminal – CN Rail
Canada & United States of America

- Significant backhaul capacity

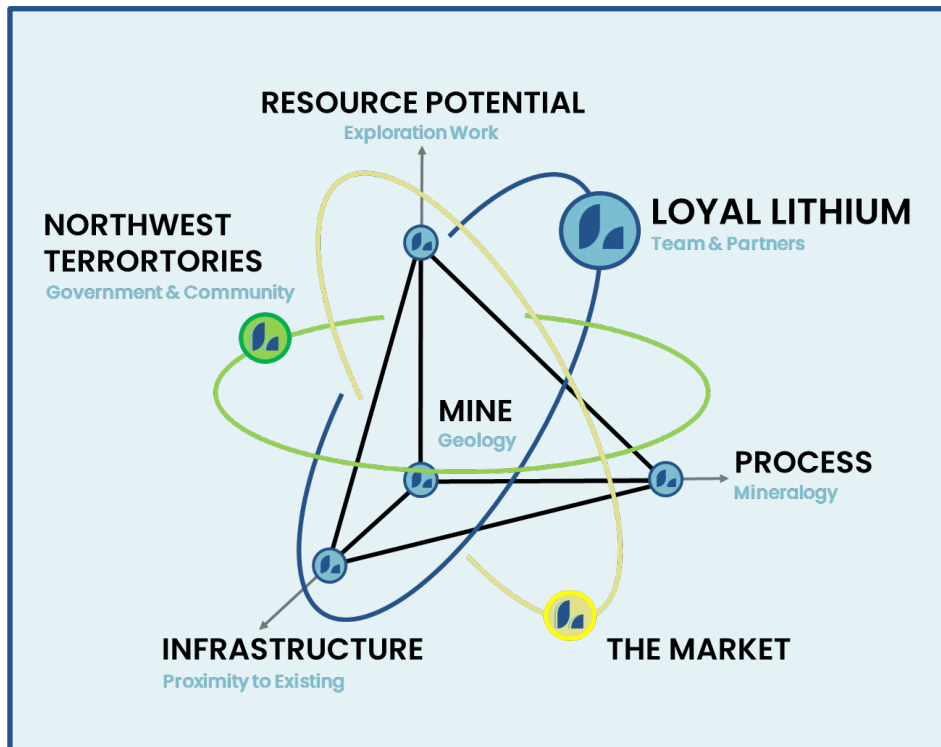
HIDDEN LAKE APPROACH

CONCURRENT WORKSTREAMS IN MOTION

2023 | 2024

LAND & COMMUNITY

- First Nations Engagement
- Yellowknife Community Engagement
- Government & Regulators
- Environmental & Cultural Surveys



EXPLORATION & DRILLING

- Field mapping extends mineralized Strike Length to 3,250m
- 2 major mineralized clusters – MAX & HUE
- Contains 7 mineralised dykes ready for drill testing
- Land Use Permit (exploration permit) obtained
- Drilling program in planning

STUDIES

- Environmental baseline
- Test work & flowsheet
- Scoping

SCOTTY LITHIUM PROJECT NEVADA, USA



SEDIMENT HOSTED LITHIUM EXPLORATION TARGET DEFINED SCOTTY LITHIUM PROJECT, NEVADA USA

Drilling assays confirm the presence of a ~165m deep mineralised lithium basin, from near surface, at the 100% owned Scotty Lithium Project, with an average grade of 1,120ppm lithium¹.

Geological modelling has determined a large and robust independent exploration target.³

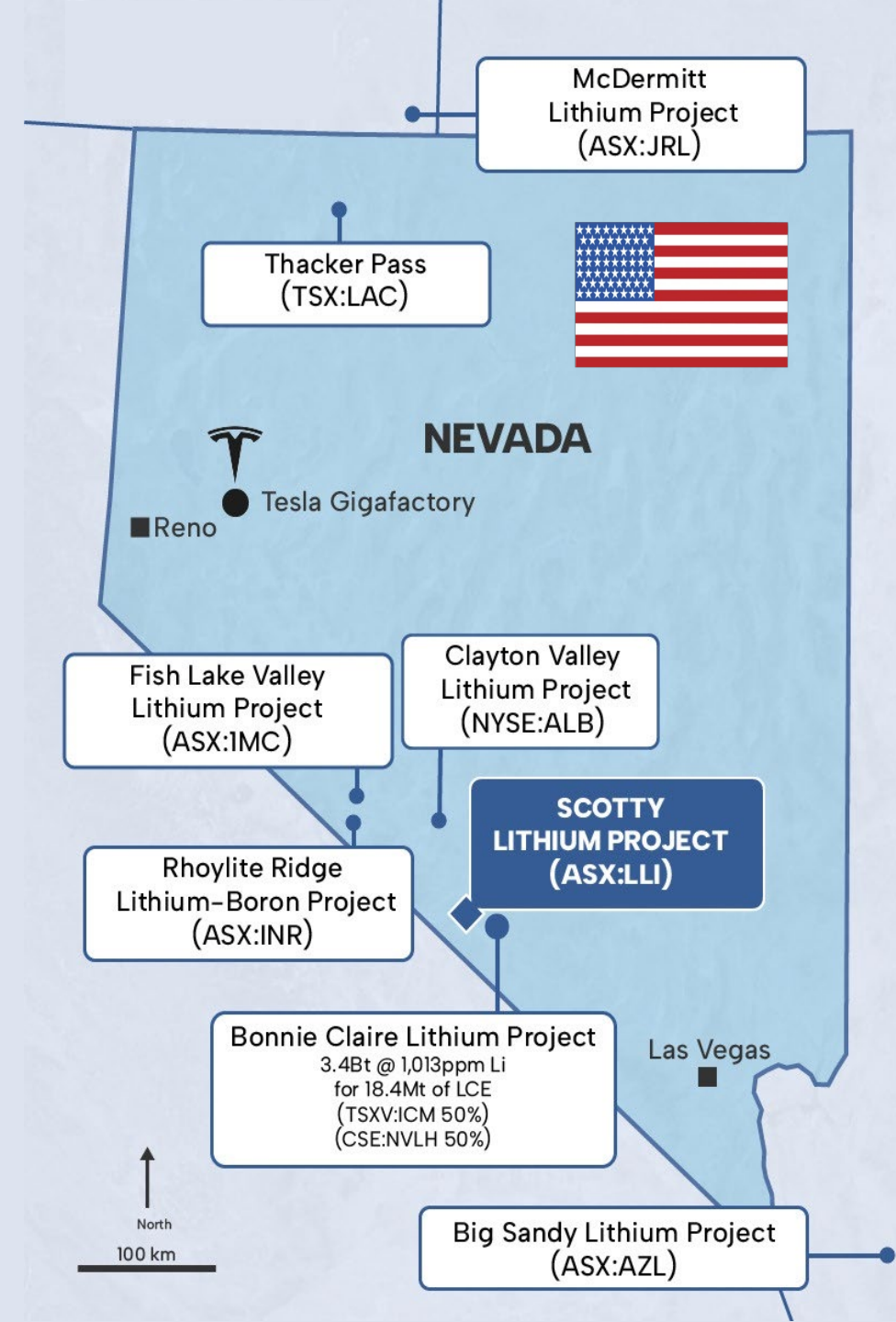
Lower Range

460 Mt
@ 1145 ppm^{1,2,3}

Upper Range

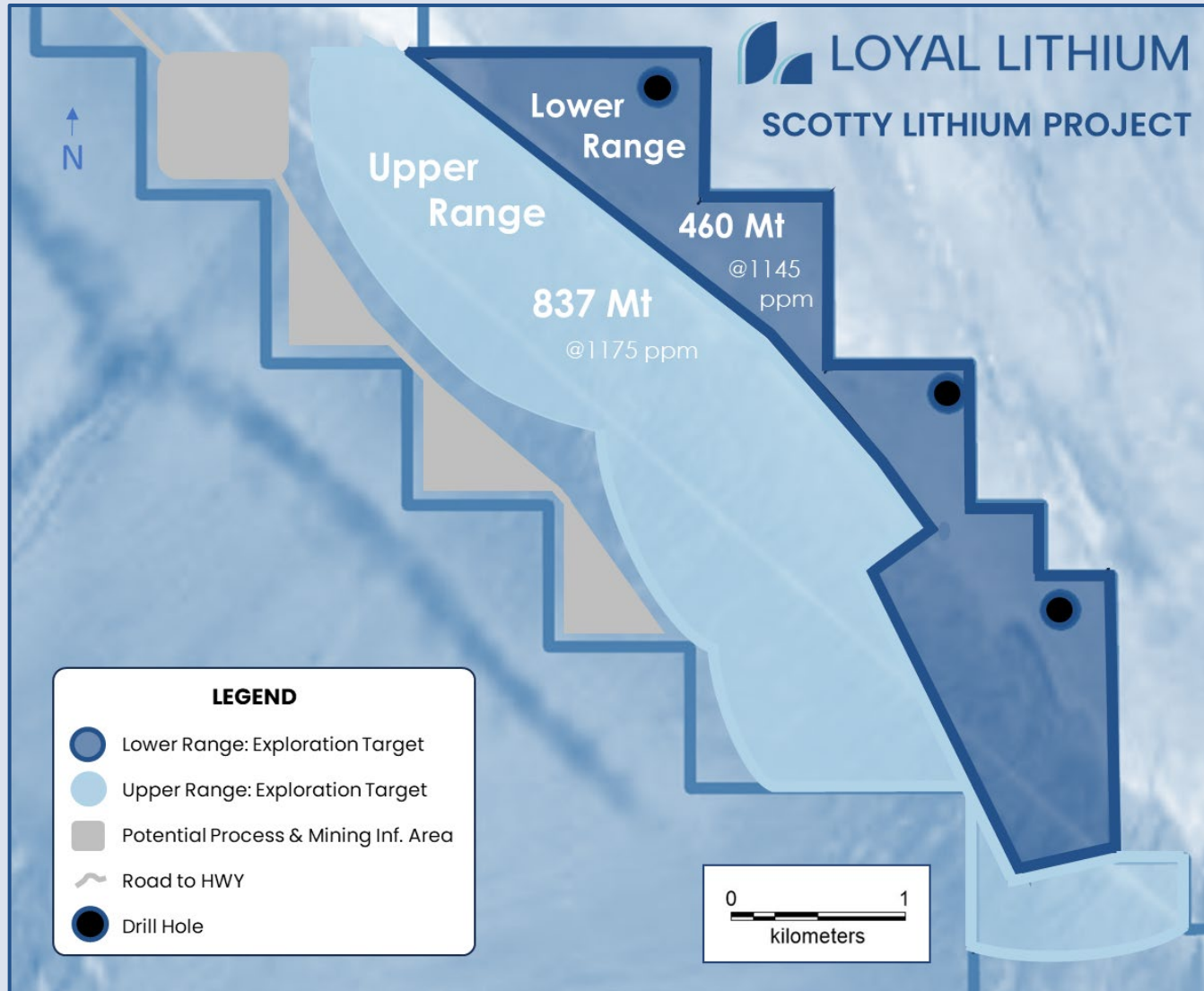
837 Mt
@ 1175 ppm^{1,2,3}

1. At a 700ppm lithium cut-off-grade.
2. The potential quantity and grade is conceptual in nature and there has been insufficient exploration to estimate a Mineral Resource and the Company is uncertain if further exploration will result in the estimation of a Mineral Resource.
3. LLI ASX Announcement 29 September 2023 - Sediment Hosted Lithium Exploration Target Defined at the Scotty Lithium Project, Nevada, USA.



EXPLORATION TARGET IS LARGE & ROBUST

SHALLOW MINERALISATION → DEVELOPMENT CONCEPTS



SHALLOW MINERALISATION

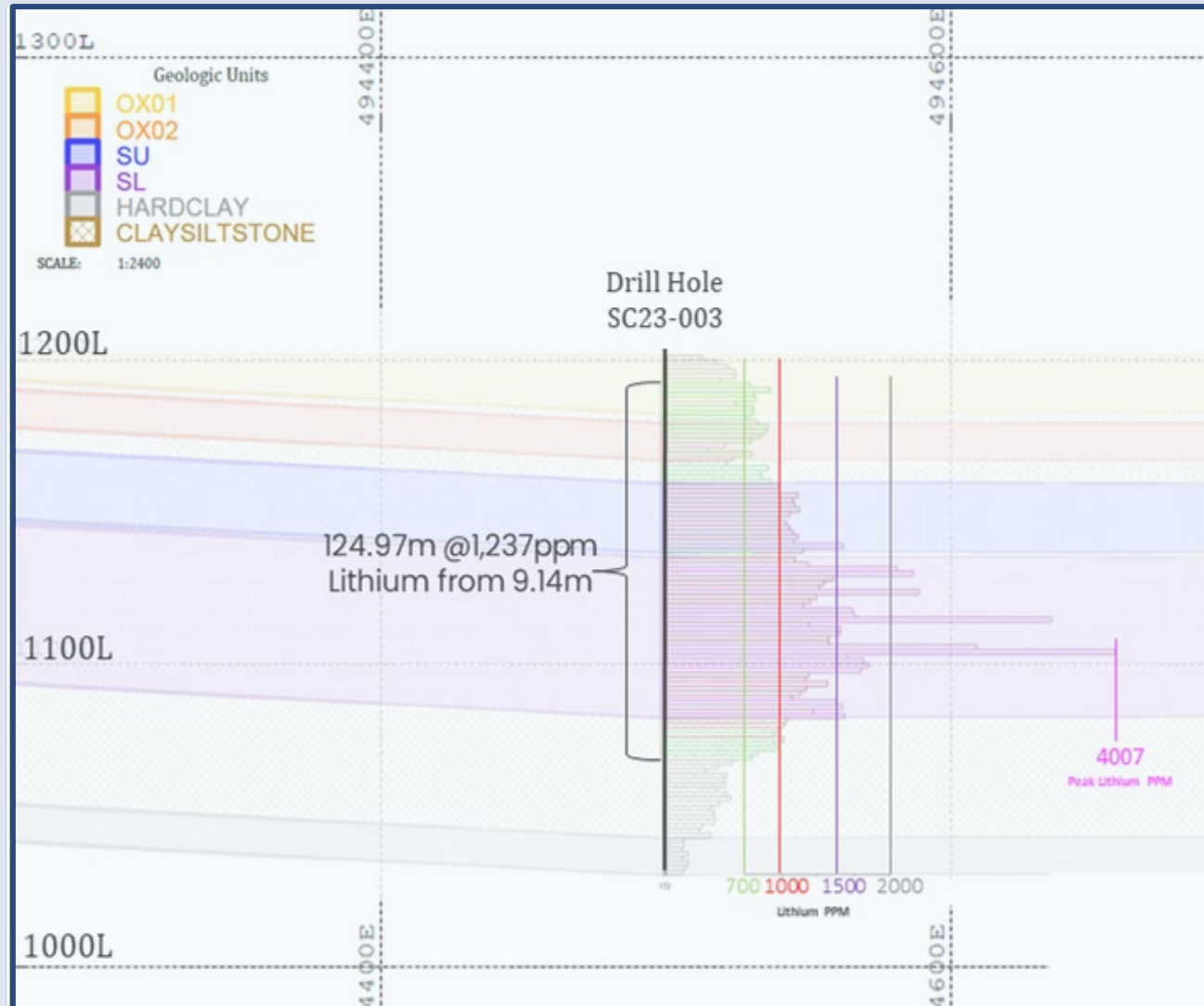
With strong mineralisation from **near surface** and close to the western edge of the basin, Scotty has the potential to adopt a traditional mining solution which supports strong development concepts.

DEVELOPMENT CONCEPTS

- Mining Solution: Traditional Truck & Shovel
 - Like Iron Ore and other bulk commodities
- Mining Parameters: Potentially Low Strip Ratio
 - Mineralisation from near surface
- Process & Mining Infrastructure: Western Edge
 - Alluvial fan basin edge is ideal for entering the potential pit and housing mining & processing infrastructure

DRILLING RESULTS

REPRESENTING SIGNIFICANT RESOURCE POTENTIAL



"The Scotty Lithium Project continues to deliver with outstanding drilling assay results confirming strong lithium mineralisation, representing significant resource potential."

"Nevada lithium is alive, and the Scotty Lithium Project has shown its potential to play a significant role in the emerging North American lithium supply chain."

Adam Ritchie
 Managing Director
 Loyal Lithium

Drill Hole	Intercept Metres	Lithium Grade ppm	Depth From metres	Lithium Max Assay ppm over 1.52m
SC23-001	117.35	813	15.24	1,228
SC23-002	82.30	1,106	21.34	2,156
SC23-003	124.97	1,237	9.14	4,007

LITHIUM EXPLORATION

NEWSFLOW AHEAD



Q4 2023

Q1 2024

Q2 2024

ONGOING

Hidden Lake Lithium Project, NWT, Canada

- Geological & Metallurgy Test Work Results
- Drilling Campaign
- Environmental Baselineing



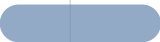
Trieste Lithium Project, James Bay Quebec, Canada

- Fast-Tracked Drilling Core Assay Results
- Geological Interpretation Exposing Potential Scale
- Focused Winter Drilling Campaign
- Focused Winter Drilling - Drill Core Assays
- Summer Field Program
- Further Drilling



Scotty Lithium Project, Nevada, USA

- Exploration Target
- Development Concept Study & Next Steps



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