

## Critical Resources: Focussed on future production in North America's premier lithium district Prospectors and Developers Association of Canada (PDAC) March 2024 Booth 2415B

# Highlights

#### **Class-leading location**

Immediate access to utilities, services and infrastructure (road, rail and port) necessary to support a future mining operation

#### **Robust lithium fundamentals**

Significant supply deficit forecast, limited development pipeline from Tier 1 jurisdictions

#### **Experience and focus**

Management team with handson, hard-rock lithium project delivery and operations experience

#### **Resource\* backed**

Maiden MRE (8Mt @ 1.07% Li<sub>2</sub>O) with Resource modelling underway for a future Resource upgrade

**Critical Resources** Limited

#### **Growth potential**

Multiple large, spodumene bearing outcrops yet to be drill tested – significant potential for continued Resource growth

#### **Excellent metallurgy\***

Testwork delivered spodumene concentrate grades of 5.8% -6.4% Li<sub>2</sub>O, with global lithia recoveries ranging from 77% to 87%.

## **Strategy for Value Creation**

The rapid growth and development of the Mavis Lake Lithium Project will position the Company to capitalise on the unprecedented investment and demand growth for lithium raw materials necessary to underpin the North American automotive industry



#### **Grow to Full Potential**

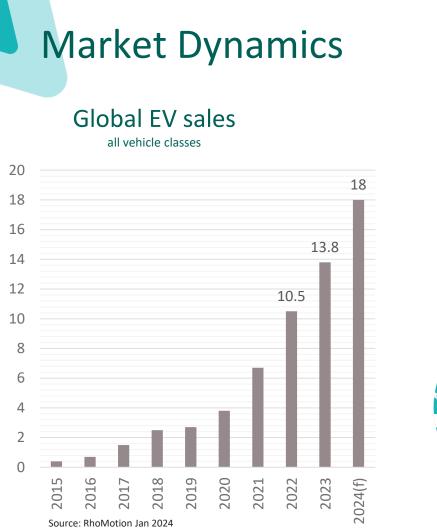
Continued year on year Resource growth through exploration success and organic Resource expansion

#### Advance Towards Production Project development through

permitting, technical and economic studies with ongoing Community engagement

#### **Secure Strategic Partners**

Leverage early mover advantage and management credentials to secure value accretive strategic partnerships



2020-2023 EV sales increased ~365%



Source: RhoMotion Jan 2024

2023 Strongest EV sales performance USA & Canada = 68% growth

2023 Supply 914 kT LCE 2030 Supply(f) 1,746 kT LCE 2030 Demand (f) 2,760 kT LCE

> \*Average Mine/Concentrator: 45,000 T LCE per annum
> ~ 300,000 T SC6 per annum

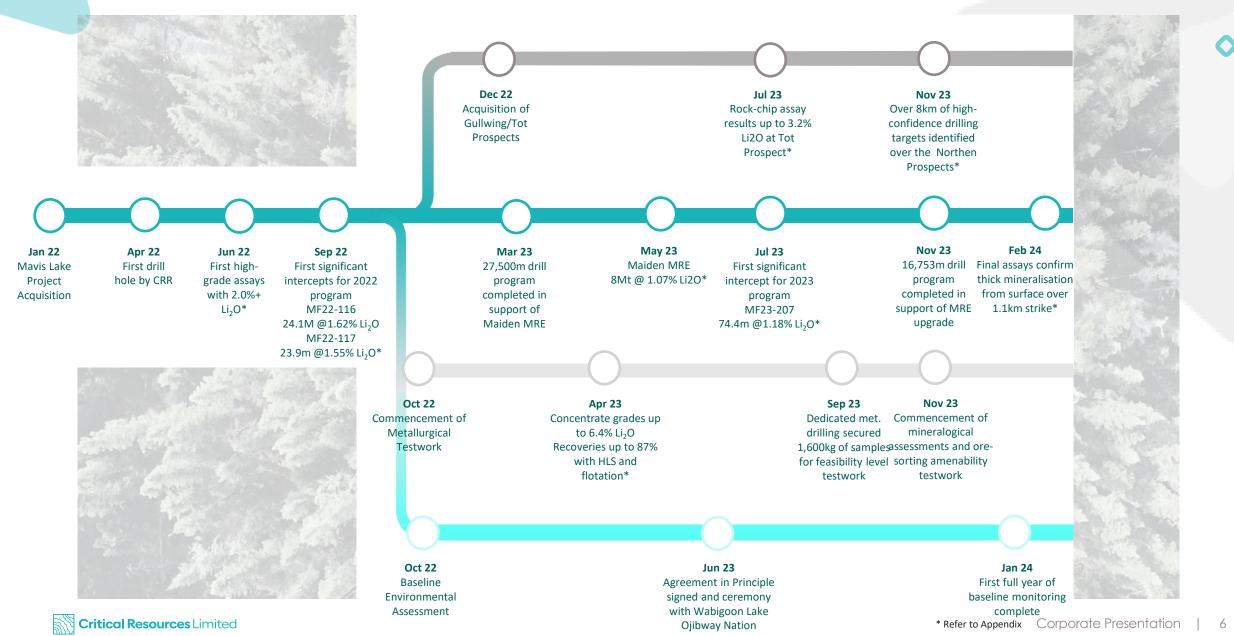
Source: Bell Potter Feb 2024

41\* new Mine/Concentrator operations required to meet 2030 demand

# **Mavis Lake Project**

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## **Generating Momentum since Project Acquisition**



## Momentum Continues in 2024

#### **Northern Prospects**

Geophysical and soils sampling results pending for Northern Prospects Results to underpin development of high-confidence future drill targets Initial drill testing of Northern Prospects subject to Board approval

#### Main Zone

2023 drilling results to be incorporated into updated MRE Extension drilling of Main Zone subject to Board approval Prospecting for further LCT outcrops adjacent to Main Zone

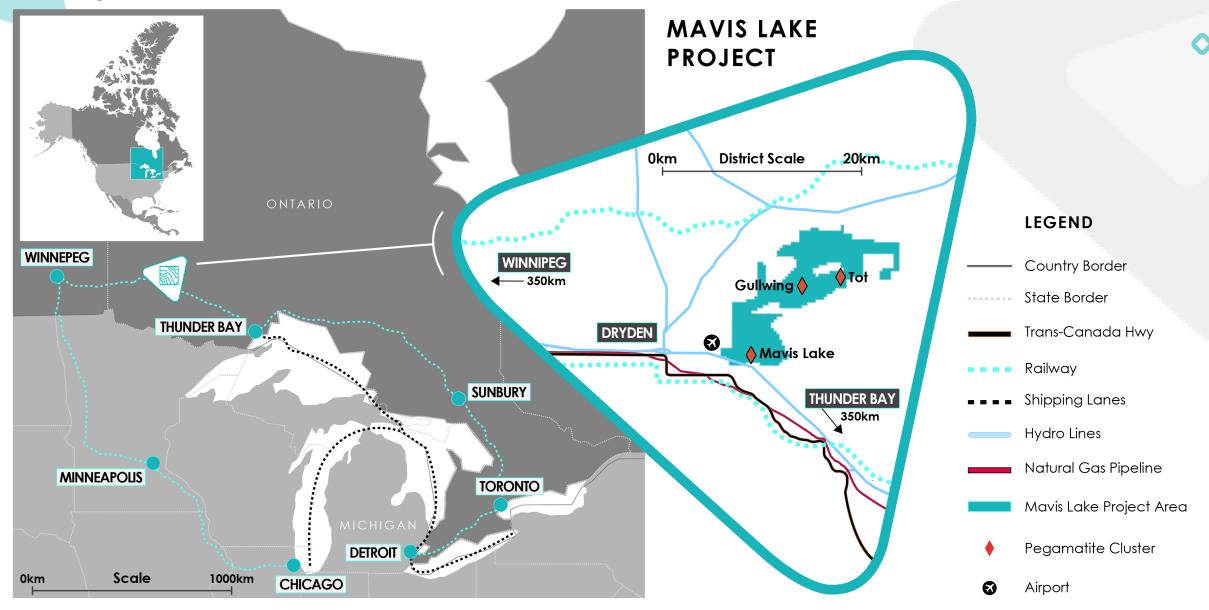
#### Metallurgy

Progress metallurgical development with bulk (1,600kg) DMS testwork program Ongoing ore-sorting amenability testwork Following successful amenability ore-sorting results, undertake bulk ore-sorting testwork

#### **Studies**

- Progress Year 2 environmental data collection and studies
- Complete mining study on updated MRE
- Complete preliminary hydrogeological and geochemistry studies
- Prepare Preliminary Economic Assessment/Scoping Study
- Prepare Initial Project Description in support of permitting
- Commence engagement with utilities and service providers for early contractor engagement and collaboration opportunities
- Undertake technical and administration works to convert exploration claims to mining leases

### **Project Location**



## Infrastructure Rich

### World-class infrastructure and utilities surround the Project

- Low-cost residential exploration (and future mining • operations) based out of Dryden
- Existing road rail and port infrastructure provides path to • global markets via dry-bulk shipping
- Utilities connections and non-process infrastructure design to advance during 2024



Key Infrastructure	Distance to ML Resource	
Trans-Canada Highway	4.5 km	
230Kv Power Lines (Hydro)	1.5 km	
Natural Gas Pipeline	5.7 km	
Public Road	588 m	
Airport	6 km	
Canadian Pacific Railway	5.5 km	
Canadian National Railway	21.2 km	

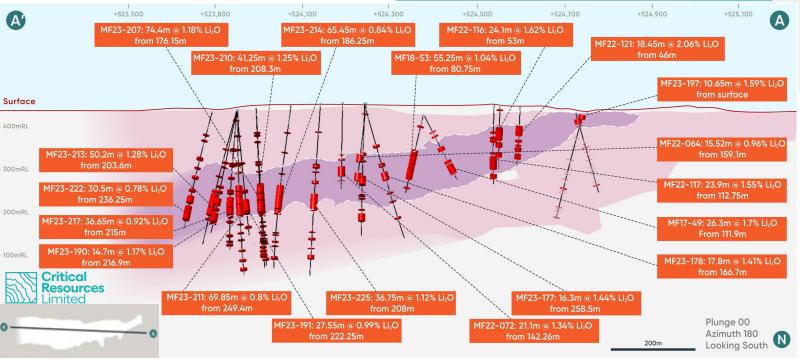


# **D**efined Resource

# Main Zone contains the Resource base to underpin a future mining operation

- Maiden Mineral Resource Estimate (MRE) released in May 2023 8Mt @ 1.07% Li<sub>2</sub>O\*
- A further 16,753 drill meters completed in 2023, all results to be incorporated into an updated MRE
- Thick, high-grade lithium mineralisation, starting from surface, over a 1.1km strike
- Mining study to be completed in H1 CY2024

**Critical Resources** Limited



Spodumene bearing pegmatite, at surface, drill-hole collar MF23-197\*

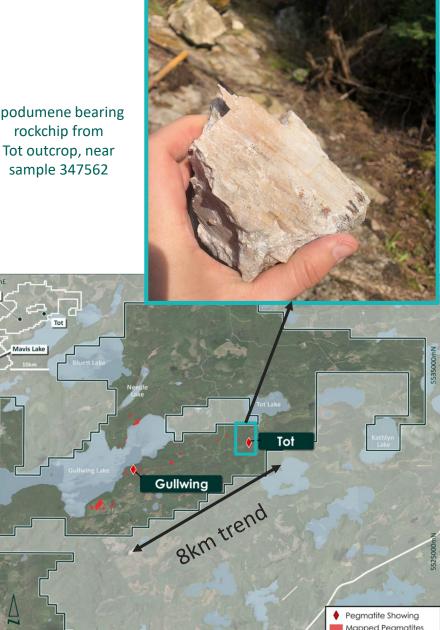


## Year on Year Growth Potential

#### **Multiple large spodumene bearing outcrops yet** to be drill tested

- Approximately 8km of strike with high-grade assays\* from rock chips and channel sampling across the Northern Prospects, including:
  - Sample 159082 Gullwing Pegmatite rock chip @ 6.78 % Li<sub>2</sub>O
  - Sample 157856 Tot Pegmatite 1.3m channel sample @ 2.88% Li<sub>2</sub>O
  - Sample 347562 Tot Pegmatite rock chip @3.21% Li<sub>2</sub>O
- Northern Prospects are approximately 15km from Mavis Lake Main Zone - providing operational synergies
- Large spodumene bearing outcrops yet to be drill tested
- Drill permits received in late 2023
- Detailed drill planning underway
- Further potential across the Project Area to be unlocked through Spring/Summer prospecting program

Spodumene bearing rockchip from Tot outcrop, near sample 347562



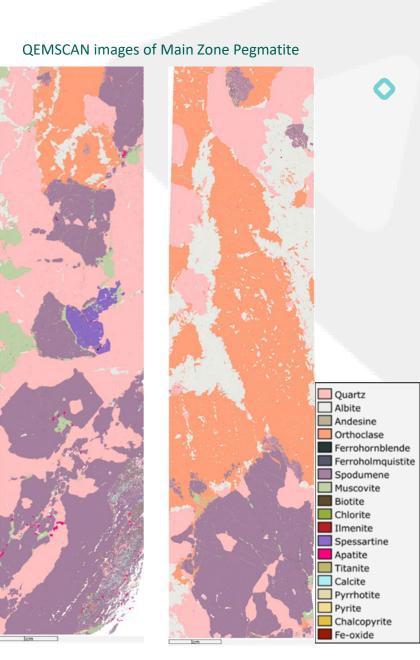
\* Refer to Appendix Corporate Presentation

Mavis Lake Project Are

# Mineral Mapping

# **Developing a detailed understanding of flowsheet requirements**

- Mavis Lake Pegmatites exhibit typical mineral suite
- Spodumene is the predominant lithium mineral
- QEMSCAN has identified predominantly large spodumene crystals within the Main Zone
- Host rock is predominantly hornblende amenable to removal by XRT ore sorting or magnetic separation
- 1-12% muscovite in pegmatite requires reflux classification prior to DMS (as seen in Altura/Pilgangoora plant) and mica flotation for any concentration by flotation



# Ongoing Studies and Assessment

# Positioning the Project as a future supplier of lithium raw materials

- Year 2 baseline studies to commence in Spring and include hydrology, archaeology, terrestrial and wetlands
- Baseline noise, air and water quality to be captured during 'Year 2' fieldwork
- Mining study and optimisation to be completed following MRE update
- Preliminary Economic Assessment/Scoping Study to drive the permitting process through completion and submission of the *Initial Project Description*
- Project Description to underpin long lead-lead utility applications (hydro-power and main gas connections)

Trailcam images captured during the Fall-Winter fauna classification



Lynx (top image) and deer (bottom image) observed in the Mavis Lake Project Area



## 2024 Project Work Streams

#### **Catalysts for Value Creation**



#### **Exploration and Resource Growth**

- Strategic asset/opportunity review
- Drill testing Northern Prospects/Main Zone extension Mineral Resource Estimate – Upgrade (from 2023 drilling) Mineral Resource Estimate – Upgrade (from 2024 drilling) Prospecting and target generation

#### **Project Advancement and Technical Development**

- **Baseline Environmental Studies**
- Mine Planning and optimisation
- Ore sorting testwork
- Scoping Study/Preliminary Economic Assessment
- Project Description (Ontario/Canadian Government)
- Feasibility-level metallurgical test-work
- Hydrogeology and geotech drilling/testing
- Community engagement



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## **Exploration Disclosure**

#### **COMPLIANCE STATEMENT**

This document contains information relating to Exploration Results in respect of the Mavis Lake project extracted from ASX market announcements reported previously and published on the ASX platform on those dates noted below.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the original market announcement continue to apply and have not materially changed.

- Drill Hole MF22-177 refer to ASX announcement dated 27 March 2023
- Drill Hole MF22-178 refer to ASX announcement dated 27 March 2023
- High grade low impurity Spodumene concentrate produced 9 February 2023
- First Concentrate Produced form Mavis Lake dated 23 January 2023
- Excellent Results from Metallurgical Test Work dated 3 April 2023
- Drill Hole MF22-121 refer to ASX announcement dated 24 October 2022
- Drill Hole MF22-116 refer to ASX announcement dated 13 September 2022
- Drill Hole MF22 -117 refer to ASX announcement dated 13 September 2022
- Drill Hole MF22-64 refer to ASX announcement dated 16 June 2022
- Drill Hole MF22-72 refer to ASX announcement dated 21 July 2022
- Drill Hole MF23-207 refer to ASX announcement dated 24 July 2023
- Drill Hole MF23-190 refer to ASX announcement dated 27 March 2023
- Drill Hole MF23-210 refer to ASX announcement dated 21 August 2023
- Drill Hole MF23-211 refer to ASX announcement dated 21 August 2023

- Drill Hole MF23-214 refer to ASX announcement dated 19 September 2023
- Drill Hole MF23-225 refer to ASX announcement dated 19 October 2023
- Drill Hole MF23-197 refer to ASX announcement dated 27 June 2023
- Drill Hole MF23-222 refer to ASX announcement dated 19 October 2023
- Drill Hole MF23-213 refer to ASX announcement dated 19 October 2023
- Drill Hole MF23-191 refer to ASX announcement dated 27 June 2023
- Drill Hole MF23-217 refer to ASX Announcement dated 19 October 2023
- Drill Holes MF17-49 refer to ASX announcement date 25 October 2021
- Drill Holes MF18-53 refer to ASX announcement date 25 October 2021
- Northern Prospects sample 159082 refer to ASX announcement dated 20 December 2022
- Northern Prospects sample 157856 refer to ASX announcement dated 20 December 2022
- Northern Prospects sample 347562 refer to ASX announcement dated 20 December 2022
- District-Scale Potential at Mavis Lake Northern Prospects with Multiple Drill Targets date 2 November 2023

This document contains information relating to Exploration Results in respect of the Gullwing-tot Lakes project extracted from ASX market announcements reported previously and published on the ASX platform on 20 December 2022, 29 December 2022 and 17 July 2023. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the original market announcement continue to apply and have not materially changed.

All announcements are available for viewing at the Company's website www.criticalresources.com.au.

## Mineral Resource Estimate

#### **COMPLIANCE STATEMENT**

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The Mavis Lake MRE includes all applicable drilling results up to an including 29 March 2023.

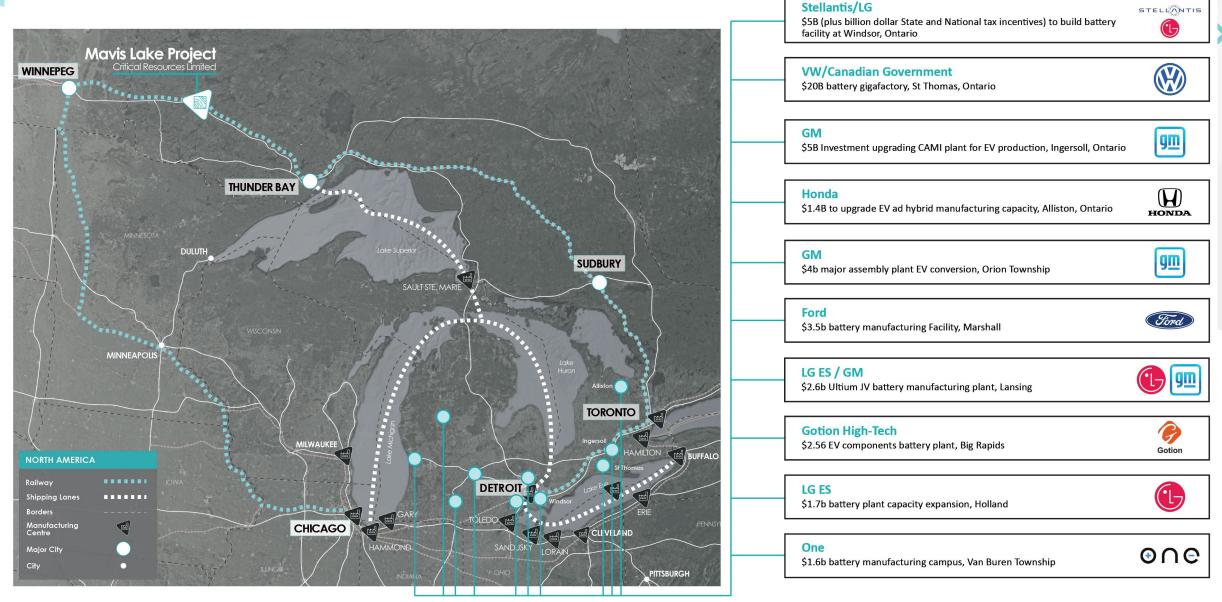
MRE has been reported at a cut-off grade of 0.3% Li2O and open-pit mining scenario. Bulk Density of 2.8 has been used for mineralised pegmatite. Estimation has been completed using inverse distance weighting. Resource classification is according to the JORC Code Mineral Resource categories

All announcements are available for viewing at the Company's website <u>www.criticalresources.com.au</u>.

JORC Classification	Li <sub>2</sub> O Cut-Off grade (%)	Tonnage (Mt)	Li <sub>2</sub> O (%)
Inferred	0.3	8.0	1.07



# Over \$47Bn of regional investment in Battery/EV production



Critical Resources Limited

## Main Zone Plan View and Section Reference

