

2 November 2023

## District-Scale Potential at Mavis Lake Northern Prospects with Multiple Drill Targets

### Highlights

- Multiple exploration techniques being deployed to refine future drill targets surrounding the large spodumene-bearing outcrops in the northern prospects of the Mavis Lake Project Area (Gullwing and Tot).
- Comprehensive Mobile Metal Ion (MMI) soils program completed by CRR field crews, with 1,356 soil samples collected proximal to the outcropping Tot Pegmatite.
- UAV-Borne Magnetometry Survey commenced flying in late October, at low elevation, with tight 25m line spacing to deliver granular detail for structural delineation.
- Capture of LiDAR survey and orthometric imagery completed with data analysis ongoing.
- District-scale potential highlighted with up to 8km in length of known LCT-Type pegmatite clusters identified.
- Active drilling program continues to test and extend the significant Swell Zone at Mavis Lake.

Lithium exploration and project developer Critical Resources Limited (**ASX:CRR**) ("Critical Resources" or "the Company") is pleased to report highly encouraging workstreams underway over the northern prospects at its flagship 100%-owned Mavis Lake Lithium Project in Ontario, Canada.

### High-Confidence Target Development

Since acquiring the Gullwing and Tot properties in late 2022, the Company has been diligently developing and refining drill targets around this large-scale prospect. Fieldwork has continued during the month of October, following on from successful highly encouraging litho-geochemical results from the earlier 2023 spring field program and taking advantage of the final fieldwork window before snowfall sets in.

Combining and layering multiple exploration techniques and outputs – including geological mapping, litho-geochemical sampling as well as LiDAR and airborne-magnetometry surveys – will



help to refine higher-confidence drill targets around the already known large-scale spodumene-bearing outcrops.

The results of the current programs are pending and will be used to produce geological, geochemical and geophysical overlays, which in combination with previous field work programs, will be extremely useful to determine high priority, high-confidence drill targets.

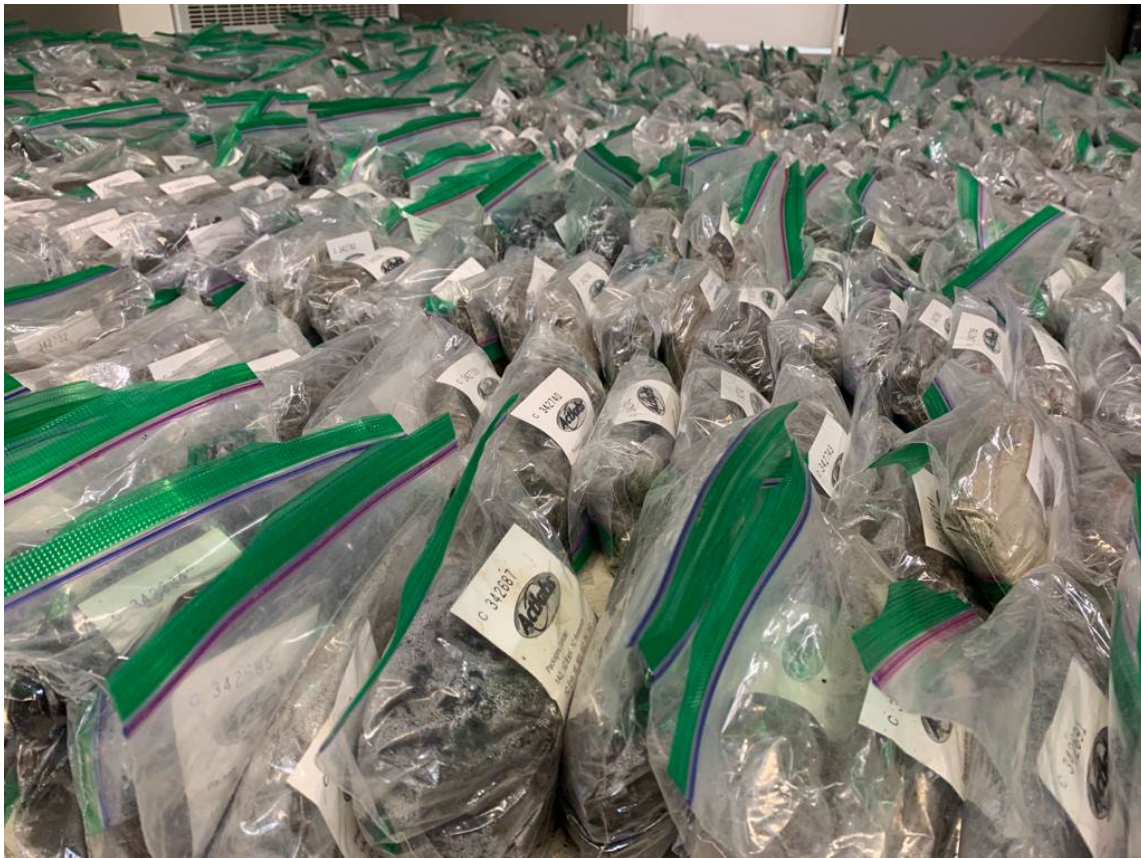
## **Mobile Metal Ion (MMI) Soil Survey**

An MMI survey was chosen to be carried out as it has a track record of success with identifying LCT pegmatite deposits, specifically when overlain by the glacial lacustrine overburden.

The Company engaged highly-credentialed lithium exploration company Coast Mountain Geological Ltd. to provide field personnel and equipment for the MMI program, which was completed over a two week period.

The MMI orientation survey consisted of 1,356 glacial lacustrine overburden samples being collected. A depth of 40-50cm below the organic-horizon was targeted, with each sample weighing approximately 300g.

Samples have been shipped from Critical Resource's Dryden Core Facility to an SGS Laboratory located in Burnaby, British Columbia, Canada. A 53 element Standard package – Mobile Metal Ion (MMI) leach, ICPMS will be conducted on the samples with results expected in 6-8 weeks.



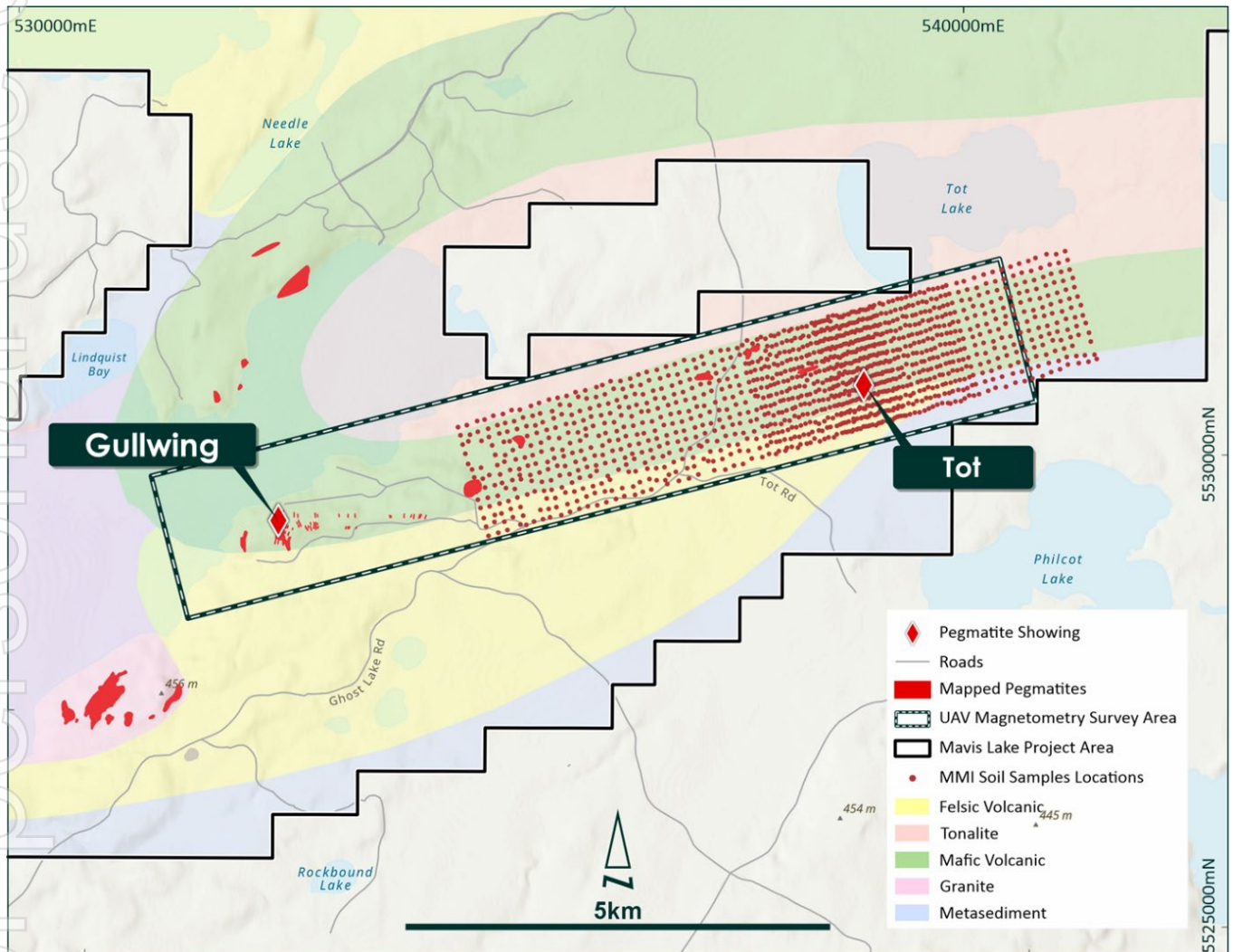
**Figure 1 – MMI Sample labeled and ready for shipment for MMI analysis.**



## UAV Magnetometry

Critical Resources also scheduled a UAV-Magnetometry survey, at a tight 25m line spacing with 250m tie lines pattern, to be flown at low altitude across the entirety of the prospective LCT-Type pegmatite corridor of the Gullwing and Tot Prospects (see Figure 2).

The survey commenced in late October and is expected to conclude in early November with results expected in December 23/January 24.



**Figure 2 – MMI soil sample points and UAV Magnetometry flight area**

High-resolution magnetic data collected from a stable and accurately positioned platform (such as a UAV) also supports the production of detailed 3D models of the magnetic sources in the earth.

3D inversions of magnetic data provide greater spatial precision compared with other 3D inverted data, such as IP data, including information like depth to the source, dip of the body and the body's overall shape and size.





The 3D products from inversion of magnetic survey data provide excellent tools for drill-targeting magnetic sources, as well as non-magnetic bodies that may lie above or below them in the stratigraphic sequence.

UAV magnetic surveys produce data of significantly higher resolution relative to helicopter-borne or fixed-wing magnetic surveys. The superior efficiency of the UAV surveys and improved data quality from the slow-moving precise flight path, allows for precise target development.

## **LiDAR Survey**

A LiDAR survey has been completed across Gullwing and Tot property and data analysis and modelling is ongoing. A LiDAR survey provides highly accurate elevation models of the local terrain.

LiDAR was captured with > 10 pulses/m<sup>2</sup> LiDAR of the ~85.6 sq km. project area. The survey provides a digital 0.5m elevation model (DEM) and a digital surface model (DSM).

A high-resolution orthophoto was also captured to provide the most recent aerial imagery of the Gullwing and Tot Property. The elevation model is required for future drill-hole planning due to the variable topography in the areas.

## **About the Gullwing-Tot Prospect**

The Gullwing-Tot Prospect is located with the Sioux Lookout Terrane of the Superior Province, similar to the Mavis Lake Main Zone. The Gullwing-Tot claims are contiguous with Main Zone claims and form the broader Mavis Lake Project Area, covering approximately 23,000 hectares.

Pegmatites in the Gullwing-Tot Prospects are found within an E-NE trending cluster that has an approximate size of 0.8-2.2km by 8km.

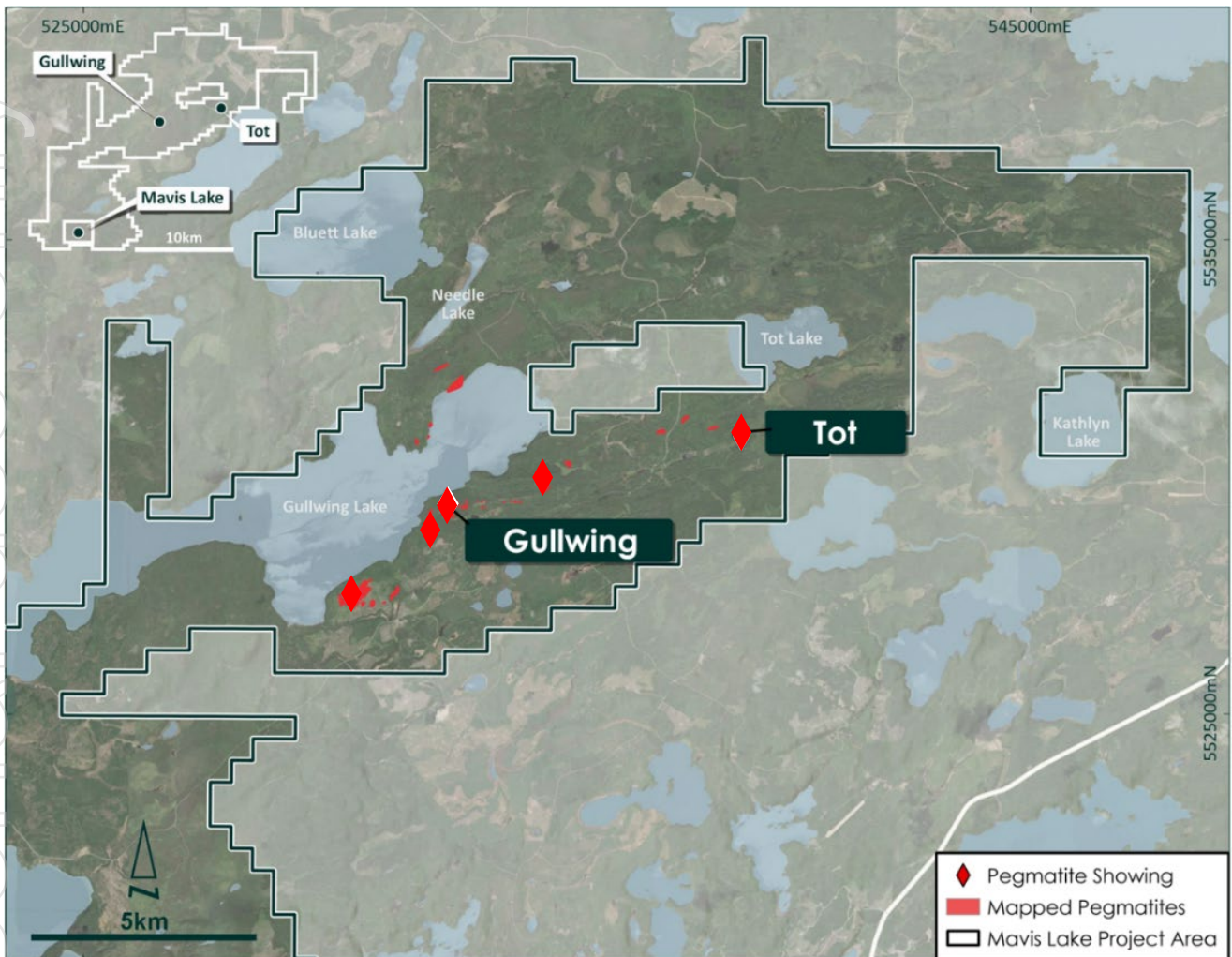
This highly-prospective area consists of multiple pegmatite dykes including the Gullwing spodumene-bearing pegmatite swarm, Tot spodumene-bearing pegmatite, Coates beryl-molybdenite pegmatite and a further 15 Rb-Cs pegmatite dykes.

The pegmatite group contains two key known Li-Cs-Rb-Be-Ta bearing pegmatites, the namesake Gullwing and Tot pegmatites. Previous exploration<sup>1</sup> has returned high-grade lithium content (ranging from 2.2% to 6.78% Li<sub>2</sub>O from spodumene).

The district-scale of this area and confirmed high-grade lithium presence makes the northern prospects highly prospective for continued Resource growth at the Mavis Lake Project.

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<sup>1</sup> Refer to ASX announcements released on 20 December 2022 *Strategic Acquisition Increases Mavis Lake Lithium Project Footprint by 324%*; 18 May 2023 *Exploration Program Commences On 8km Pegmatite Trend at Gullwing-Tot Lake Property* and 17 July 2023 *Rock chips up to 3.2% Li<sub>2</sub>O at Gullwing and Tot Prospects*



**Figure 3 – Mavis Lake Northern Prospects with primary Spodumene bearing Pegmatites identified**

## Future Work

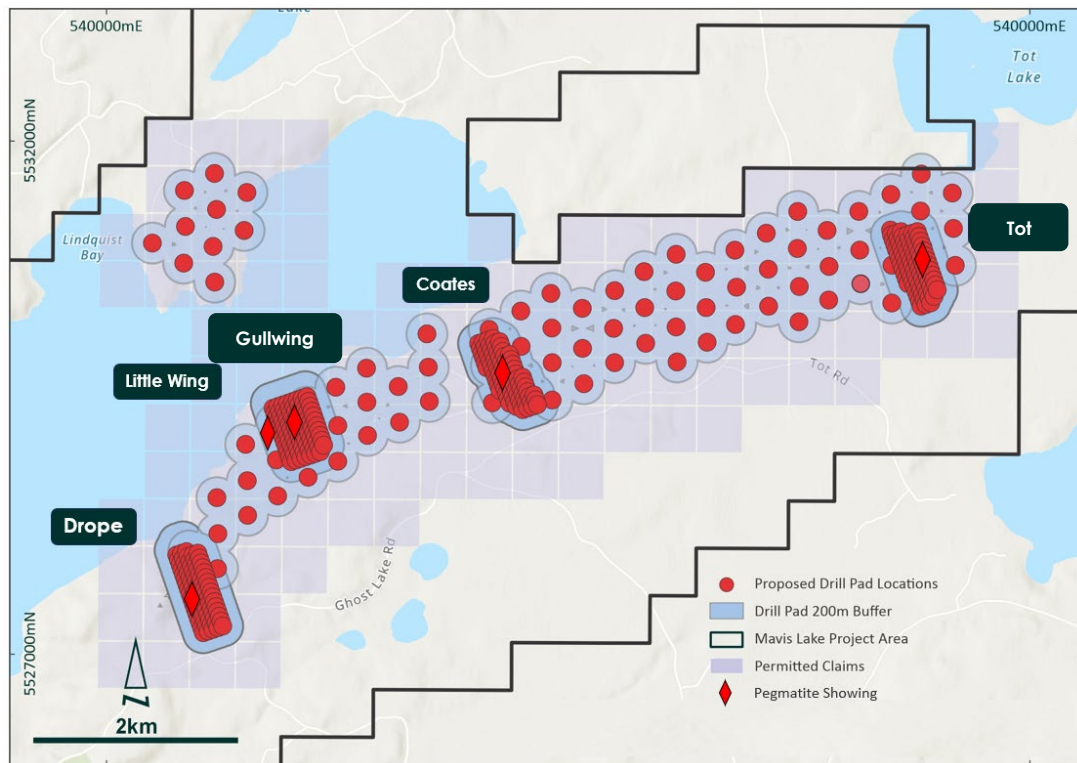
The results from fieldwork across the Northern Prospects are expected over the coming months and will be released as they become available.

Data analysis, integration and interpolation will be completed as the exploration results are received. The ability to layer multiple datasets will be instrumental in developing high-confidence drill targets.

The Company has drill pad permits for the Northern Prospects under application and expects to conduct an initial drill program centred on the Gullwing and Tot pegmatites in H1 2024.

Proposed Drill pads under permit can be seen in Figure 4. Pending results and data analysis will be used to refine drill collar location and drill-hole planning.

Drilling is continuing at the Mavis Lake Lithium Project. Current drilling continues to test and extend the significant Swell Zone discovery, with assays pending from 20 drill holes.



**Figure 4 – Proposed drill pad locations under permit**

**Critical Resources' Managing Director, Alex Cheeseman said:**

*"The Northern Prospects represent an exciting opportunity to rapidly add to our growing resource base at Mavis Lake."*

*"The large, spodumene-bearing outcrops, identified in a clean, linear strike over 8km in length, represent an outstanding future drilling target. The opportunity to replicate the drilling success we have enjoyed at Mavis Lake Main Zone is compelling."*

*"Comprehensive target generation and drill planning will ensure that we continue to extract the maximum value possible from every future drill-hole. We look forward to drill testing the Northern Prospects in early 2024."*

**This announcement has been approved for release by the Board of Directors.**

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**ABOUT CRITICAL RESOURCES LIMITED** Critical Resources is advancing and developing critical metals projects for a decarbonised future. The Company holds a suite of lithium prospects across Ontario, Canada, including Mavis Lake, Graphic Lake, Plaid and Whiteloon Lake. The Company's other projects include a copper project in Oman, and a base metals project in Halls Peak NSW, Australia.

The Company's primary focus is the rapid development of its flagship Mavis Lake Lithium Project. Mavis Lake is an advanced exploration project with near-term development potential. The Company completed over 19,500m of drilling in 2022 and has commenced another significant drilling program in 2023. In early 2023, Critical Resources released its maiden JORC Code 2012 Compliant Inferred Mineral Resource Estimate (MRE) for Mavis Lake with 8.0Mt at 1.107% Li<sub>2</sub>O – making Critical Resources just one of two ASX-listed companies with a JORC Code 2012 compliant mineral resource in Ontario. In parallel with continued Resource growth, the Company has also commenced initial studies that will underpin the transition from explorer to developer.

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**COMPLIANCE STATEMENT** This announcement contains information relating to Exploration Results in respect of the Gullwing-Tot Lakes Project extracted from ASX market announcements dated 20 December 2022, 18 May 2023 and 17 July 2023 and reported by the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (2012 JORC Code) and available for viewing at [criticalresources.com.au](http://criticalresources.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in any original ASX market announcement.