

ASX Announcement | 04 June 2024

Innovative Geophysical Survey Launched at the Trieste Lithium Project, James Bay, Quebec, Canada

Highlights

- Loyal Lithium has launched a comprehensive high resolution geophysical survey over a 75km² area of the Trieste Lithium Project, employing innovative sensors for in-depth analysis beyond 600 meters⁽¹⁾.
- The cutting-edge geophysical survey leverages natural electromagnetic fields to investigate and differentiate between highly resistive rock types (i.e. pegmatitic and metamorphic), which have been indistinguishable with prior technologies.
- The geophysical survey is also expected to reveal conductive and contrasting structural features within Trieste's unique 20km² Metasediment Fault Flow Zone, in which the six known prominent spodumene bearing pegmatite outcrops have been discovered.
- Multi-sensor data analysis will create a detailed 3D model, identifying drilling targets to build upon recent drilling campaigns that intersected thick, shallow, high-grade spodumene pegmatites, including 31.8m of 2.2% Li₂O from 2.9m.
- The \$3.3M recently raised bolsters Loyal Lithium's existing \$5.0M⁽²⁾ in funding to enable this geophysical survey and collaboratively advance the Trieste Greenstone Belt into a premier lithium hub.
- The Trieste Lithium Project is strategically located along the Trieste Greenstone Belt and connected to multiple spodumene-bearing lithium projects, including Rio Tinto/Midland Exploration, Azimut Exploration/SEQUEM and Winsome Resources' (ASX:WR1) Adina Lithium Project with a JORC Inferred Mineral Resource Estimate of 78Mt at 1.15% Li₂O⁽³⁾.

Loyal Lithium Limited (ASX:LLI) (**Loyal Lithium, LLI**, or the **Company**) is excited to launch an innovative geophysical survey at the Trieste Lithium Project, covering a 75km² area with a depth of investigation surpassing 600 meters. Expert Geophysics Limited is conducting this survey, which includes 2,173km of flight lines, utilising groundbreaking sensors that exploit natural electromagnetic fields. This advanced technology is a leap forward for hard rock lithium exploration, enabling the differentiation between highly resistive rock types such as pegmatitic and metamorphic, a capability not possible with previous technologies.



Figure 1: Trieste Lithium Project: Helicopter departing for geophysics survey, MTm broad band probe in background.

Loyal Lithium’s Managing Director, Mr. Adam Ritchie, commented:

“Launching this innovative geophysical survey at the onset of the Canadian summer field season is a testament to our commitment to advancing the Trieste Lithium Project. Our unique metasediment host rock environment and the cutting-edge suite of technologies employed have the potential to fast-track our exploration efforts and significantly reduce costs.”

“The Trieste Greenstone Belt is on the brink of transformation, with the recent upgrade of Winsome Resources’ Mineral Resource Estimate to 78Mt at 1.15% Li_2O and exploration results pending from Azimut Exploration and Rio Tinto. When considered with Patriot Battery Metals Corvette Lithium Project, with 109Mt at 1.42% Li_2O , this Northeastern region of James Bay, Quebec is shaping up to be a globally significant Lithium hub.”

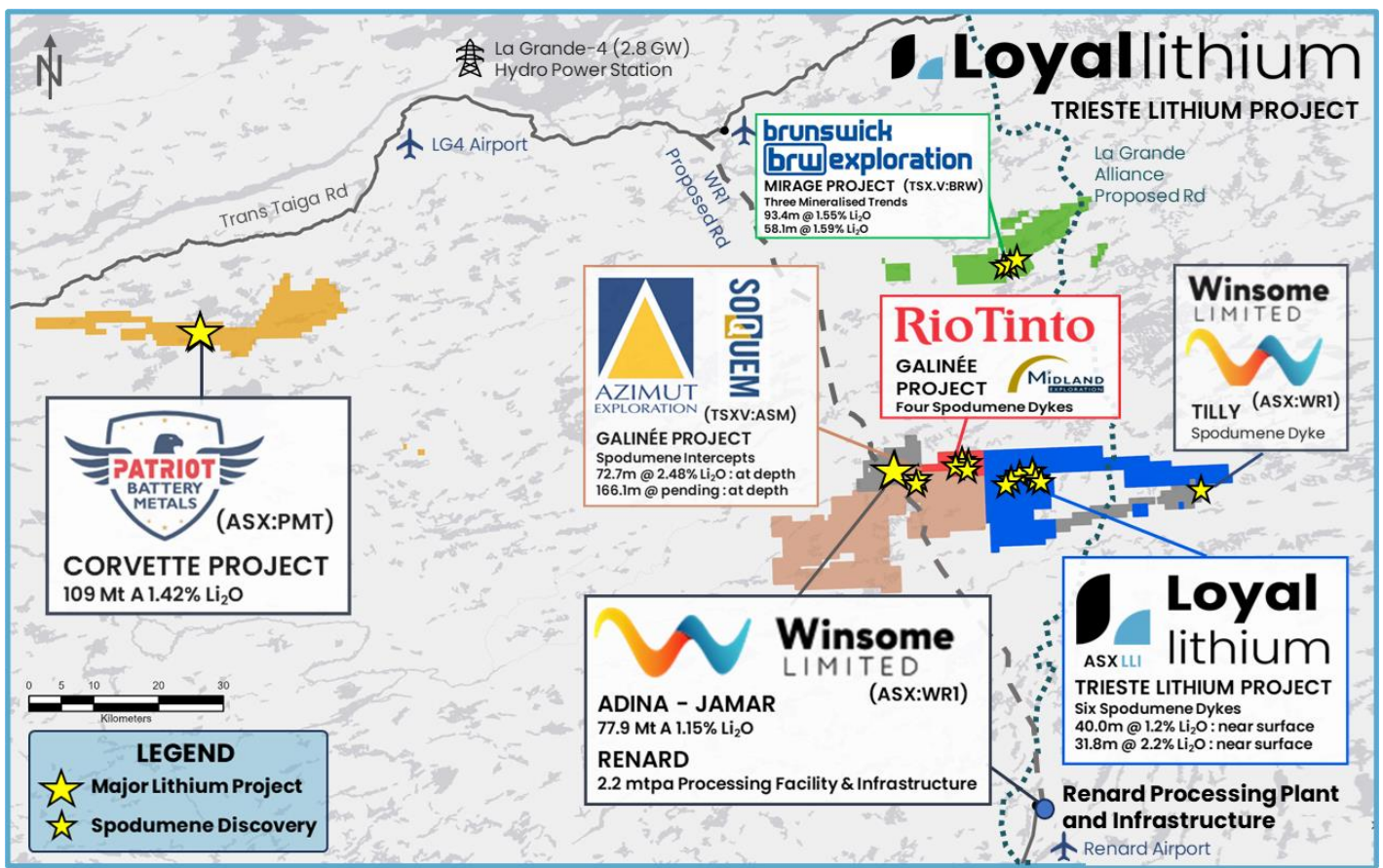


Figure 2: Location of the Trieste Lithium Project, and other nearby projects, located in Quebec, Canada.

Expert Geophysics' VP, Chief Geophysicist Dr. Alexander Prikhodko, commented:

"The geophysical survey will identify the multiple types of geophysical characteristics derived from magnetic gradiometer and natural field electromagnetic data which characterise the unique metasedimentary host rock setting of Loyal Lithium's spodumene rich pegmatites."

"It is proposed that the metasediments contain permeable and comparatively more conductive conduits that have allowed the access of deep-seated fluids from lithium rich sources. These formerly deep-seated structures, now on the present erosion land surface, will have geophysical signatures that will be searched for in the data. Layering within the metasediments due to metamorphism and hydrothermal alteration may also define potential pegmatite locations and their morphology, as they are both more resistive and less magnetic than the metasedimentary host rocks and therefore can be distinguished from both these host rocks and structures within these rocks."

The survey is integral to Loyal Lithium's summer field program, aiming to uncover additional spodumene-rich pegmatites and expand the known spodumene pegmatite trends. The anticipated detailed 3D model from the multi-sensor data analysis will fine tune drilling targets, to enhance the recent drilling campaigns that have already intersected thick, shallow, high-grade spodumene pegmatites - including 31.8m of 2.2% Li₂O from 2.9m.

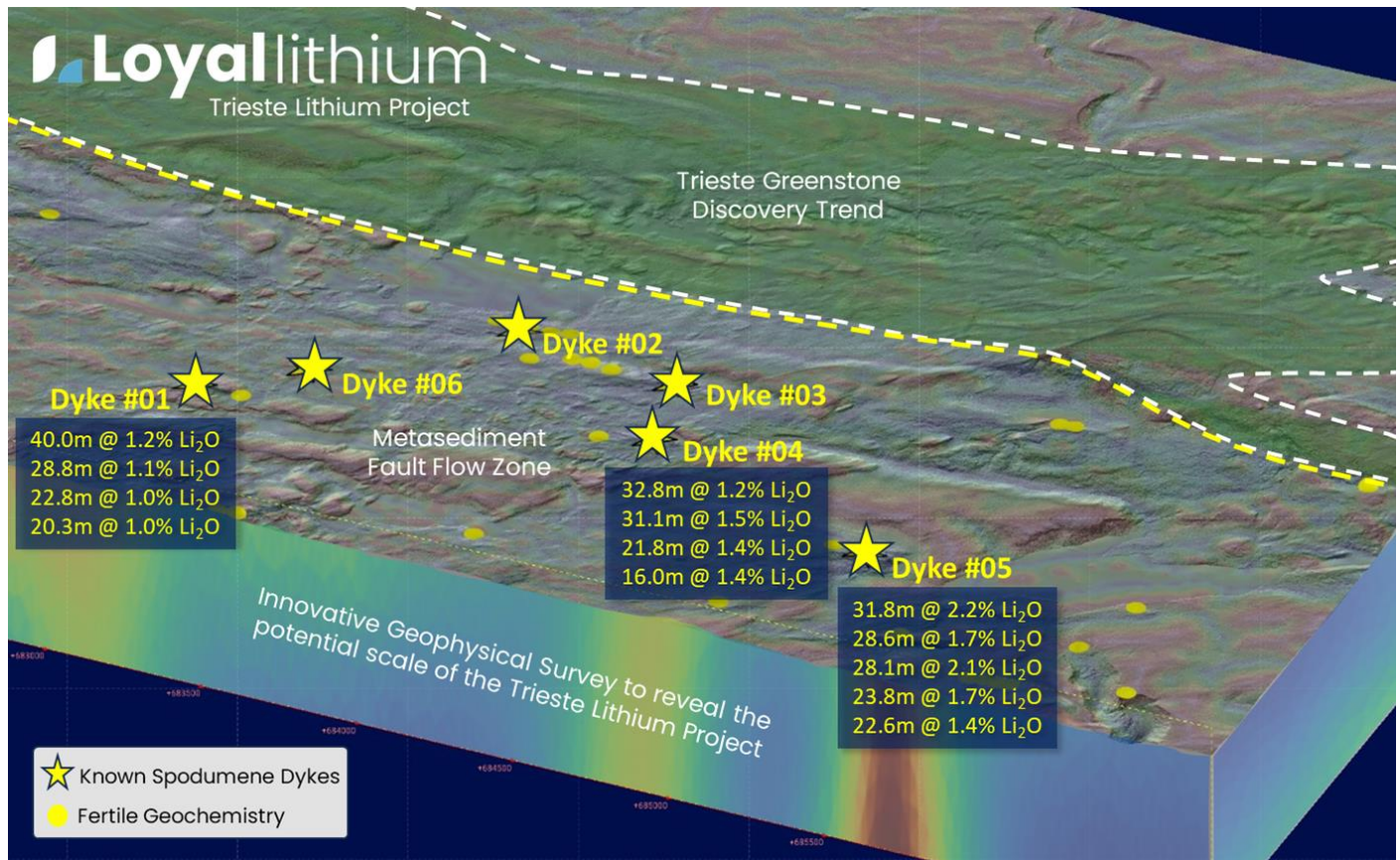


Figure 3: Trieste Lithium Project – Notable Drill intercepts displayed across a 3D Trieste landscape.

In the metavolcanic rocks of the Trieste Greenstone Discovery Trend, known for containing interflow VMS-style copper-rich silica iron formations and hosting the Midland-Rio Tinto Iceberg (ASX:RIO) and Winsome Resources' Adina spodumene pegmatites (ASX:WRI), distinct geophysical characteristics indicative of spodumene pegmatite emplacement will be observed. The survey will also delineate the signature of the large Tilly pegmatitic two mica granite to the south, clarifying its relationship to Loyal Lithium's spodumene pegmatites. Additionally, the structural geology of the area will be interpreted from the patterns in the multi-sensor geophysical data.

The anomalies identified by this geophysical survey will be prioritised and subsequently investigated during the upcoming summer field program. This groundwork will inform a targeted drilling program designed to explore these anomalies further.

This announcement has been authorised for release by Loyal Lithium's Board of Directors

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About Loyal Lithium

Loyal Lithium Limited (ASX: LLI) is a well-structured listed resource exploration company with projects in Tier 1 North American mining jurisdictions in the Northwest Territories, Canada, James Bay Lithium District in Quebec, Canada and Nevada, USA. Through the systematic exploration of its projects, the Company aims to delineate JORC compliant resources, creating value for its shareholders.

Future Performance

This announcement may contain certain forward-looking statements and opinion. Forward-looking statements, including projections, forecasts and estimates, are provided as a general guide only and should not be relied on as an indication or guarantee of future performance and involve known and unknown risks, uncertainties, assumptions, contingencies and other important factors, many of which are outside the control of the Company and which are subject to change without notice and could cause the actual results, performance or achievements of the Company to be materially different from the future results, performance or achievements expressed or implied by such statements. Past performance is not necessarily a guide to future performance and no representation or warranty is made as to the likelihood of achievement or reasonableness of any forward-looking statements or other forecast. Nothing contained in this announcement, nor any information made available to you is, or and shall be relied upon as, a promise, representation, warranty or guarantee as to the past, present or the future performance of Loyal Lithium Limited.

References

¹ ASX Announcement LLI: 18 April 2024: Innovative Geophysical Survey to Reveal the Potential Scale of the Trieste Lithium Project, James Bay, Quebec, Canada

² ASX Announcement LLI: 30 April 2024: Quarterly Activities Report – For the Quarter Ending 31 March 2024.

³ ASX Announcement WRI: 28 May 2024: Adina Mineral Resource increases 33% to 78Mt at 1.15% Li₂O with 79% Indicated.