



4 December 2023

Significant number of new LCT pegmatite targets generated from airborne LiDAR at Aqua Property, James Bay – Quebec, Canada

Highlights:

- Airborne LiDAR and high-resolution photography flown across the La Grande Lithium Project.
- Assessment of data from LiDAR and high-resolution photography has generated a total of 123 LCT pegmatite targets across the Aqua Property.
- High-priority targets commence just ~200m to the east of FIN Resources' significant spodumene showings¹, which have returned assayed grades of up to 6.85% Li₂O².
- The La Grande Project is a highly prospective lithium property located along trend from Winsome Resources' (ASX: WR1) Cancet Lithium Project and Patriot Battery Metals (ASX: PMT).

James Bay Minerals (ASX: **JBY**) ("**James Bay Minerals**" or "**the Company**") is pleased to advise that it has generated a significant number of high-priority LCT pegmatite targets across its Aqua Property. The targets were identified following assessment of the airborne LiDAR and high-resolution photography recently flown by Perron Hudon Belanger (PHB) across the Company's La Grande Project and Troilus Projects.

LiDAR has been utilised to measure and map out the variations in slope, aspect and elevation to study landforms. The Company's exploration team has examined all the variations in slope and elevation to identify and confirm high-priority areas which sit proud of other structures, as these are some of the key geological features expected of Lithium-Caesium-Tantalum (LCT) pegmatites in the region. Once structures have been identified utilising LiDAR, the James Bay Minerals team overlaid these onto high-resolution photos where white outcropping is visible generating key targets. This methodology will also be deployed in the assessment of JBY's other La Grande Properties and its Troilus Project.

James Bay Executive Director, Andrew Dornan, commented:

"This is another exciting development for the Company with over 120 LCT pegmatite targets identified across our Aqua Property. Given we have the three key geological ingredients for giant LCT lithium-pegmatite deposits – along with FIN Resources' spodumene discovery on the border of our Property – our confidence in the prospectivity at Aqua and the potential for a significant lithium discovery continues to grow."

¹ See Fin Resources Announcement dated 9 October 2023: "Large Spodumene Crystals discovered in Pegmatite Outcrop"

² See Fin Resources Announcement dated 20 November 2023: "EXCEPTIONALLY HIGH-GRADE LITHIUM CONFIRMED AT CANCEL WEST"

In conjunction with its exploration partner, Breakaway Exploration, JBY is in the process of planning a targeted field program across the Aqua Property focused on field mapping the new LCT pegmatite targets generated from LiDAR and high-resolution photography. This program is planned to commence in the first half of 2024.

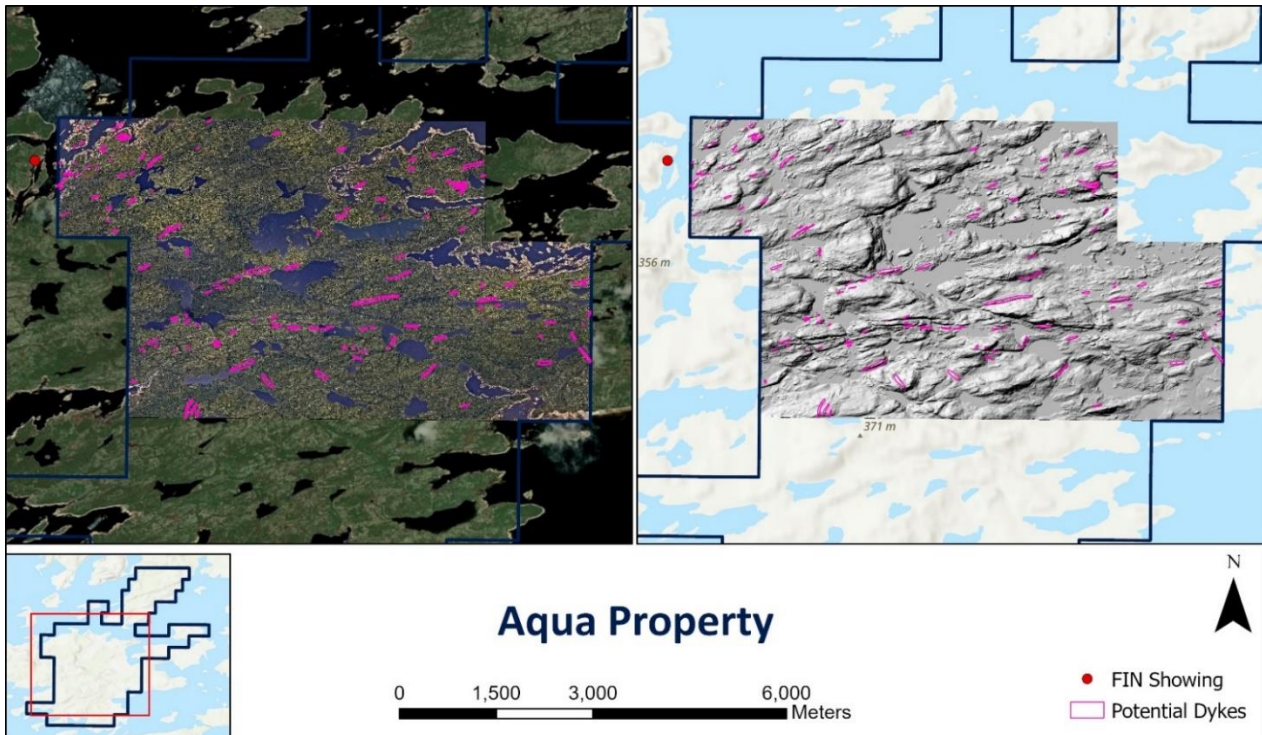


Figure 1 – High-priority LCT pegmatite targets across the Aqua Property.

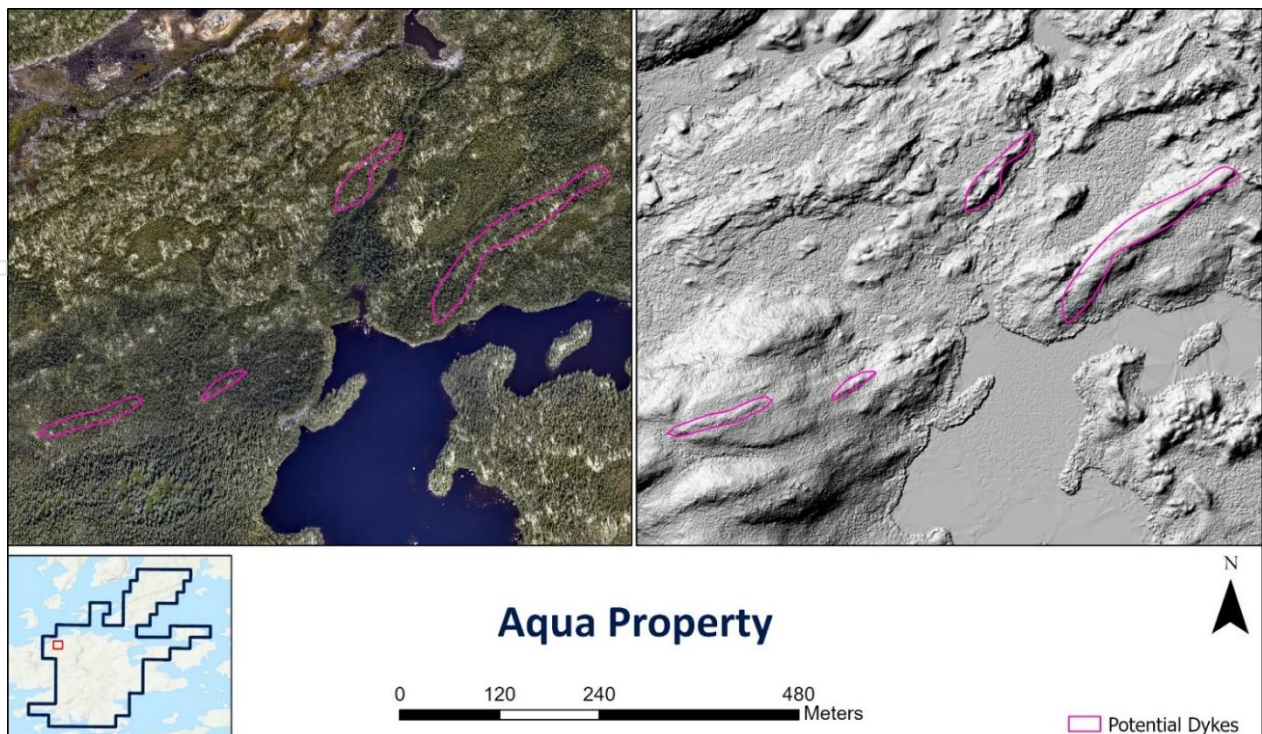


Figure 2 – Aqua Property high-priority LCT pegmatite targets within the north-western section of the Property, within proximity to FIN Resources' discovery.

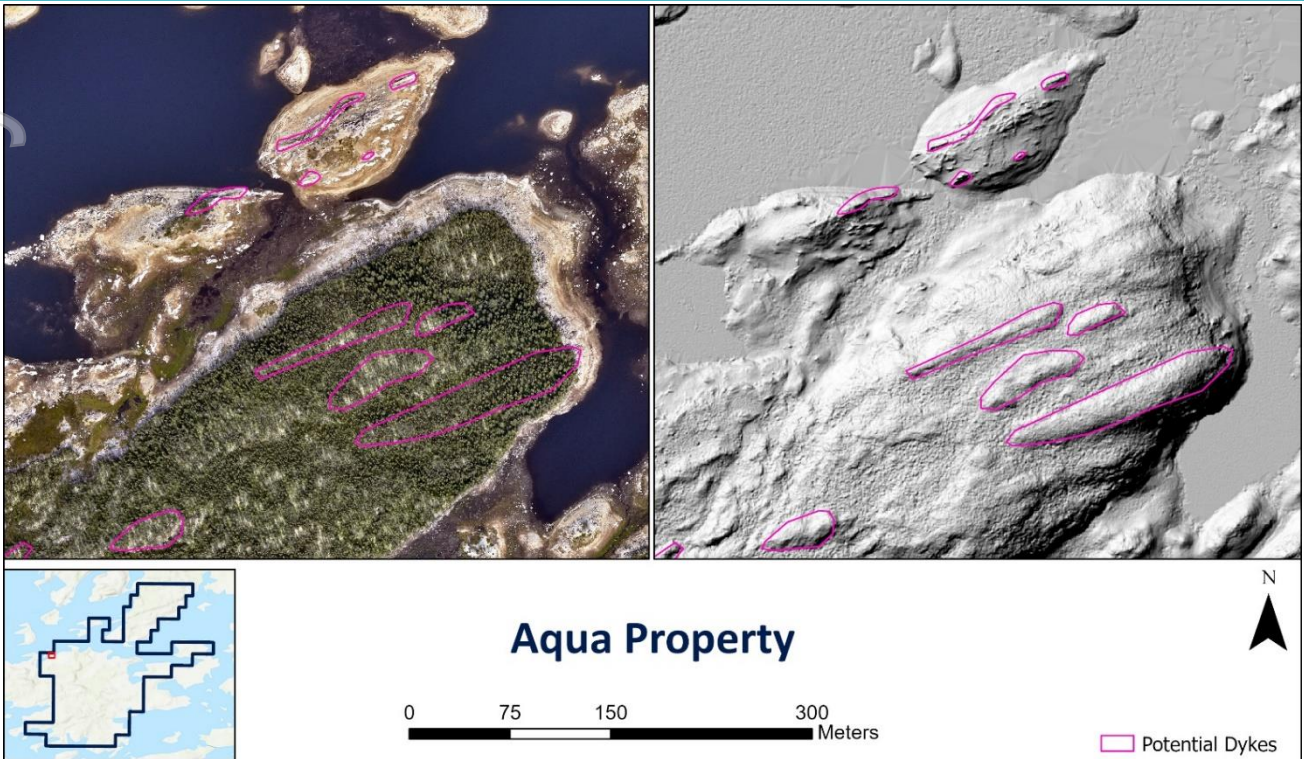


Figure 3 – Aqua Property high-priority LCT pegmatite targets within the north-western section of the Property, within proximity to FIN Resources' discovery.

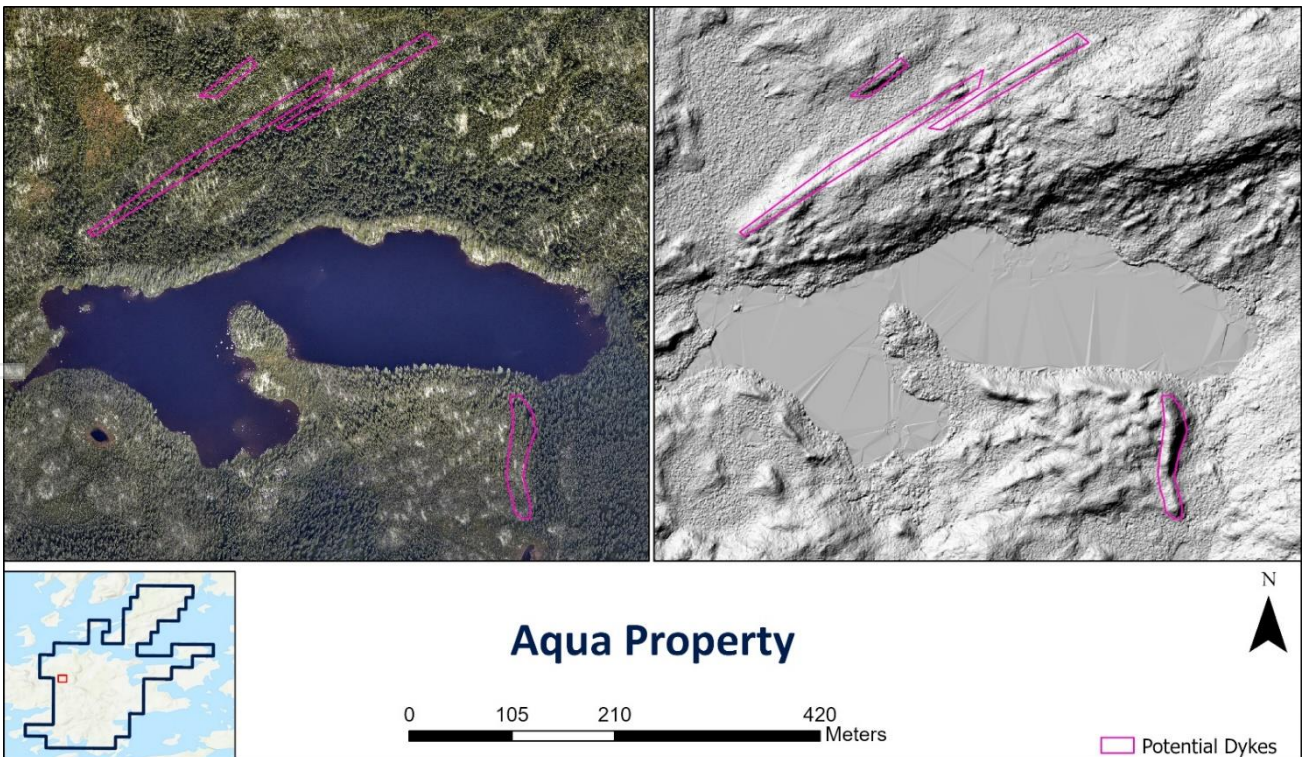


Figure 4 – Aqua Property high-priority LCT pegmatite targets within the north-western section of the Property. Within proximity to FIN Resources' discovery.

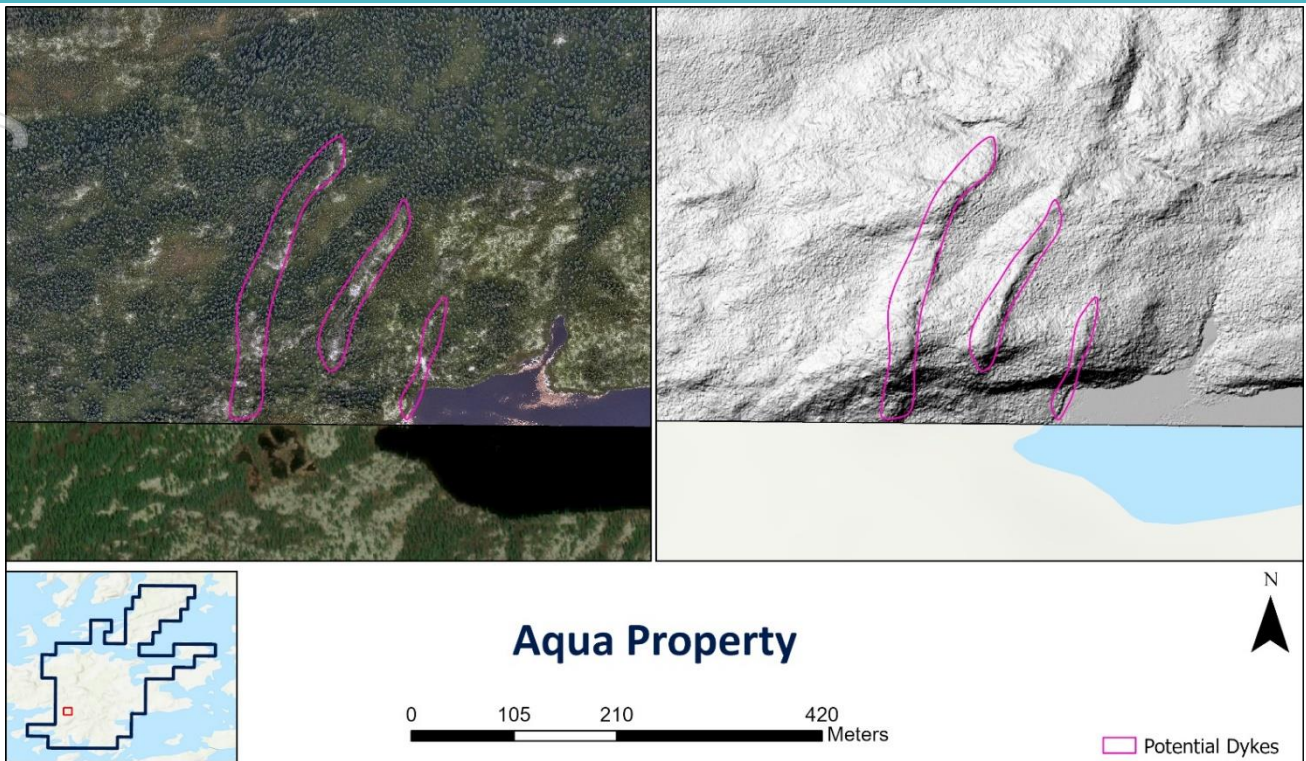


Figure 5 – Aqua Property high-priority LCT pegmatite targets within the south-western portion of the Property.

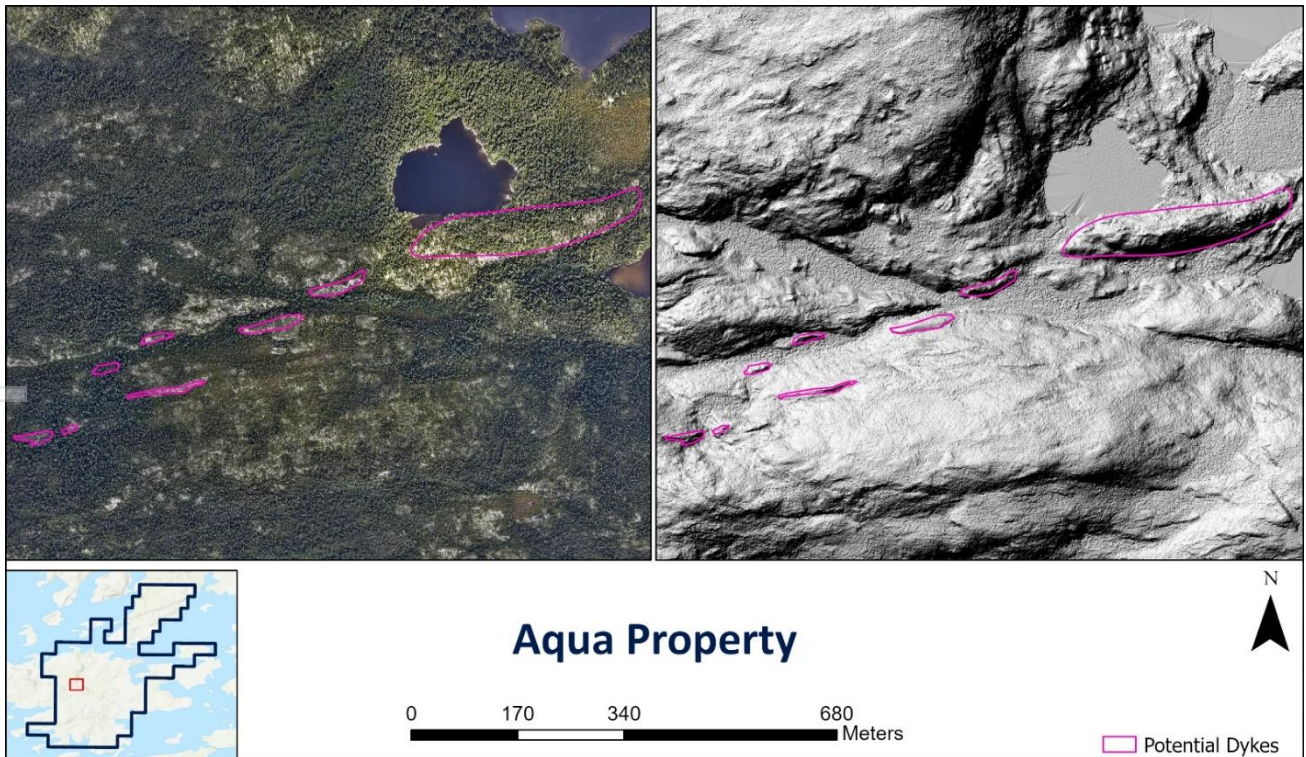


Figure 6 – Aqua Property high-priority LCT pegmatite targets within the western portion of the Property.

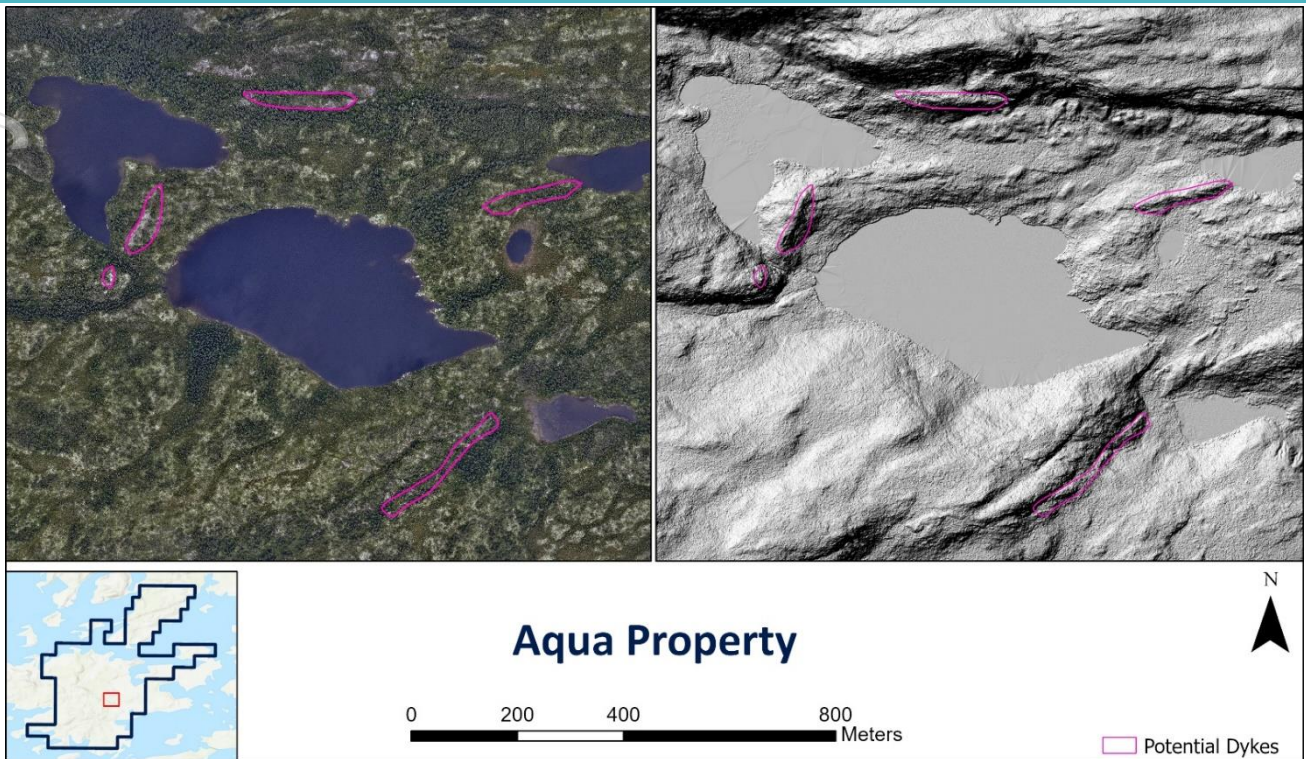


Figure 7 – Aqua Property high-priority LCT pegmatite targets within the central portion of the Property.

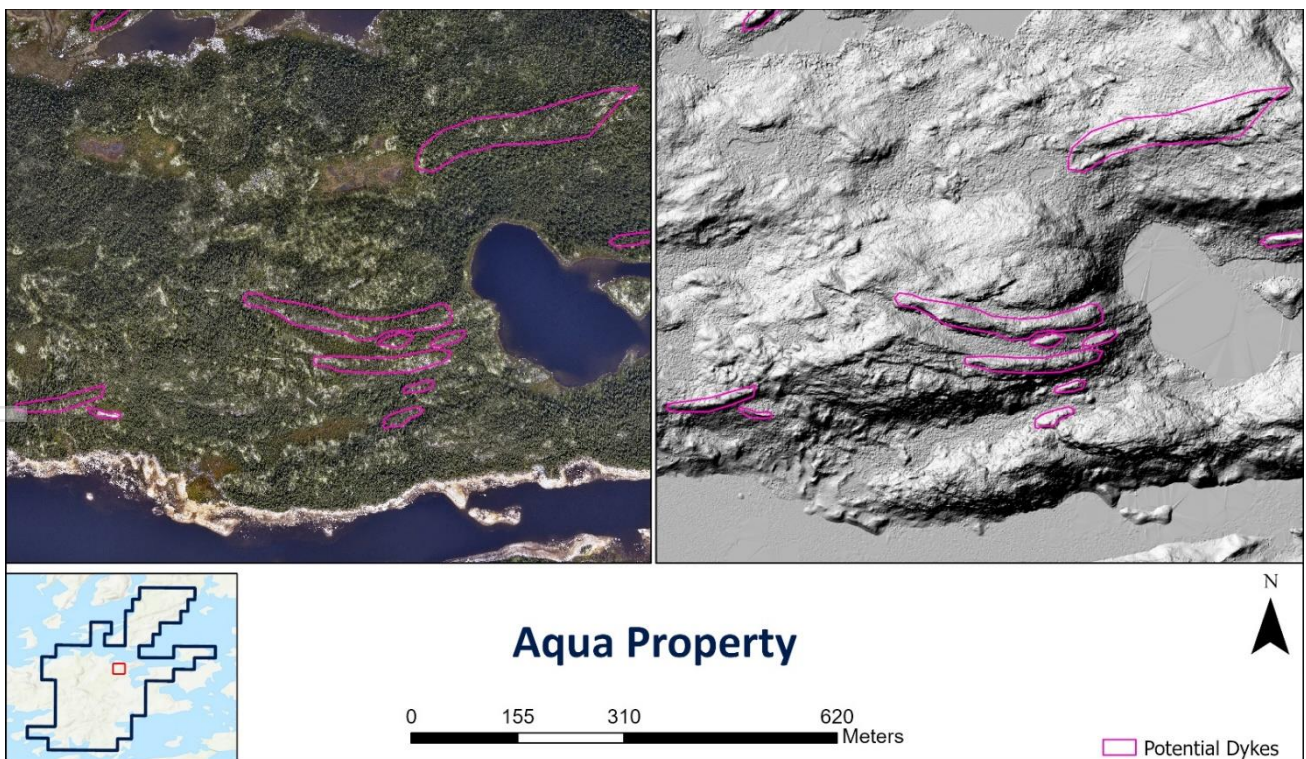


Figure 8 – Aqua Property high-priority LCT pegmatite targets within the central portion of the Property.

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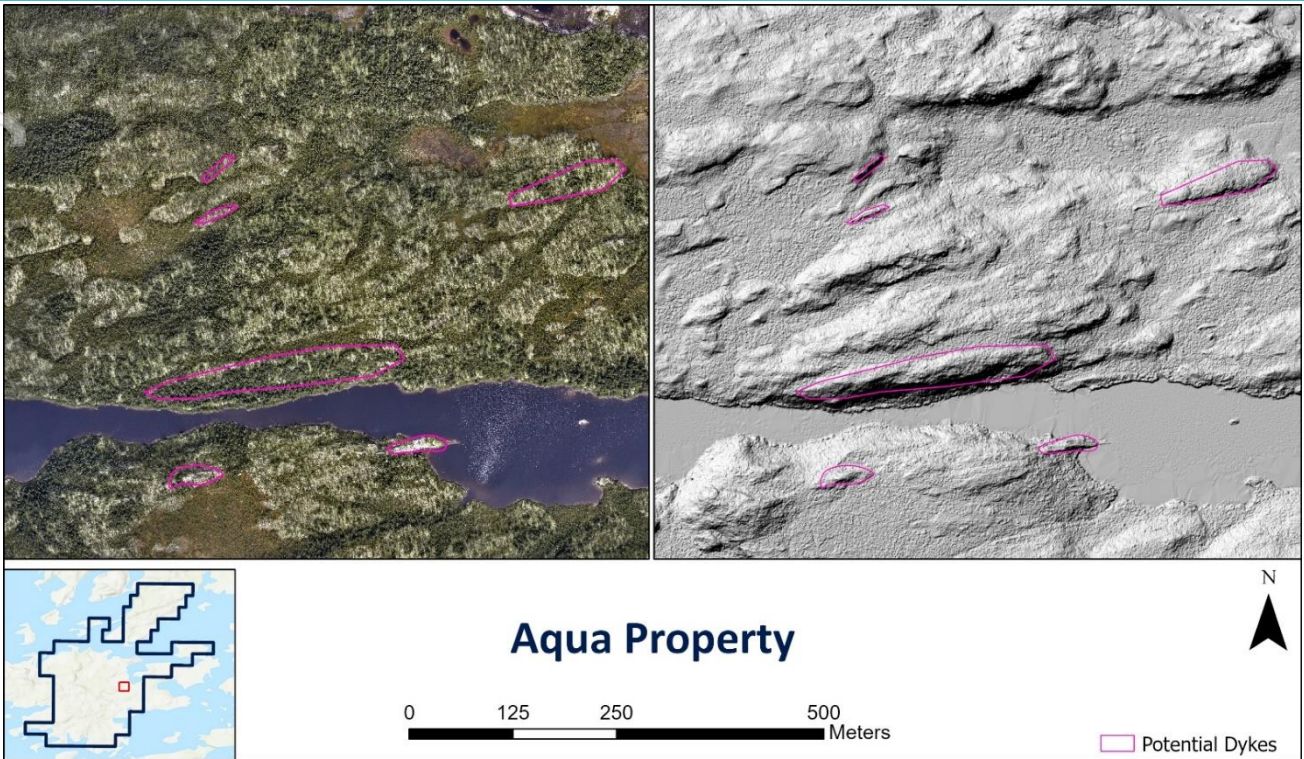


Figure 9 – Aqua Property high-priority LCT pegmatite targets within the central-eastern portion of the Property.

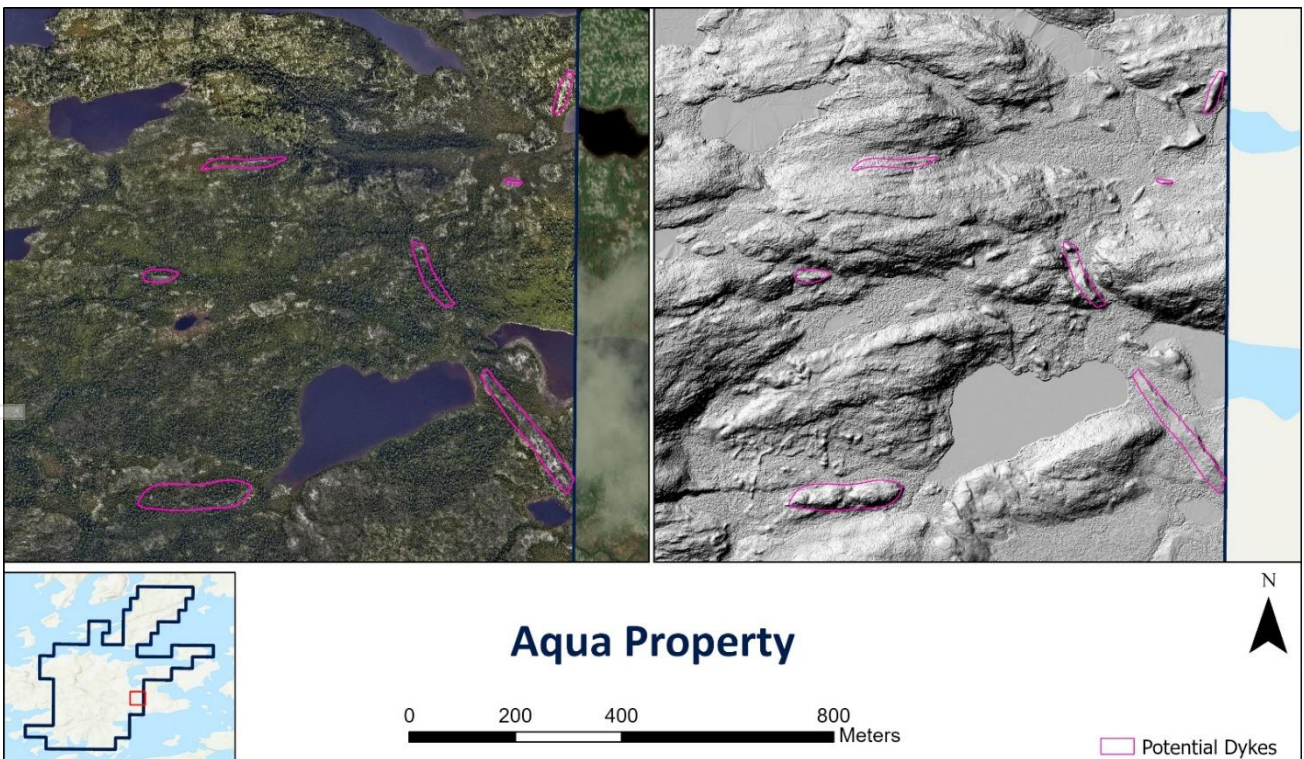


Figure 10 – Aqua Property high-priority LCT pegmatite targets within central-eastern portion of the Property.

LiDAR, an acronym of "light detection and ranging" or "laser imaging, detection and ranging" is a method for determining ranges by targeting an object or a surface with a laser and measuring the time for the reflected light to return to the receiver.

LiDAR surveys produce a high-resolution topographical image of the surface, allowing detailed desktop exploration of outcropping pegmatites and prospective geological features. The survey will deliver a digital elevation model (DEM) on a 1x1m grid scale with an overlying image of 16cm pixel resolution.

The high-resolution nature of the survey is designed to uncover undiscovered or hidden pegmatites beneath vegetation. Pegmatite outcrops are more resistant to weathering than other lithologies present in the project area and tend to present as topographic highs which can be detected by the high-resolution LiDAR survey. Importantly, this technique has been successfully used in the James Bay region by other explorers and producers in the discovery of lithium-bearing pegmatites.

Background on James Bay Minerals

James Bay has acquired a 100% interest in one of the largest lithium exploration portfolios in the James Bay region, covering an area of 34,572Ha or 346km². The Joule, Aero and Aqua properties are located in the La Grande sub province along trend from the Corvette deposit, where Patriot Battery Metals (ASX: PMT) recently reported a maiden Inferred Mineral Resource Estimate of 109.2Mt at 1.42% Li₂O and 160ppm Ta₂O₅ (0.40% Li₂O cut-off grade).³

The Troilus Project is located further to the south sitting only 5km to the north of Sayona's Moblan Lithium Project and proximity to Winsome Resources' Sirmac-Clappier Project.

³ See Patriot Battery Metals Announcement dated 31 July 2023: "Patriot Announces the Largest Lithium Pegmatite Resource in the Americas at CV5, Corvette Property, Quebec, Canada"

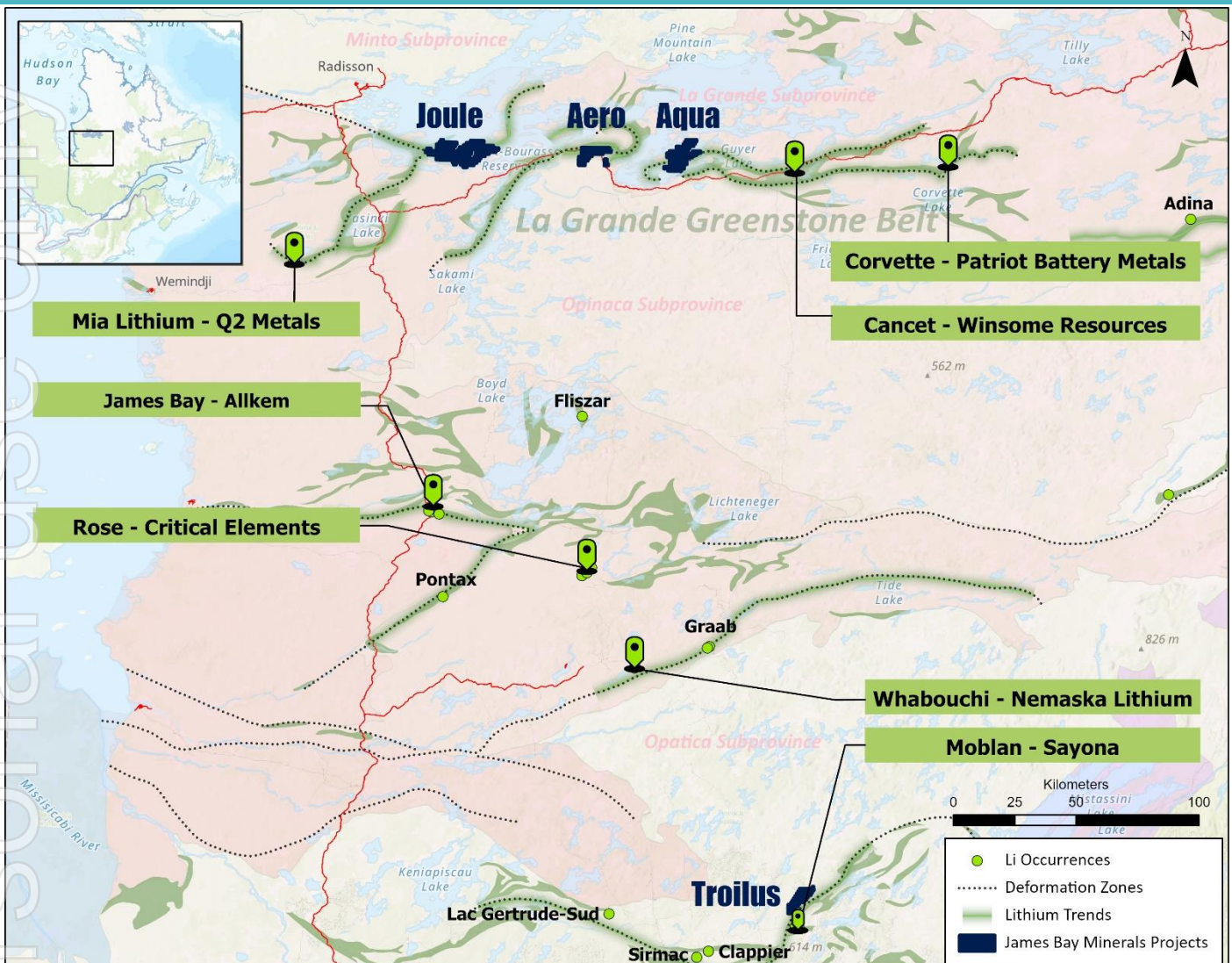


Figure 1 - James Bay Minerals' key lithium project locations in Quebec, Canada.

The flagship Joule Property encompasses a ~24km long prospective deformation zone along a regional fault which has been subject to minimal historical exploration. The eastern segment of the deformation zone extends for 14km and fan tails to reach a width up to 1.5km.

The Aero Prospect contains approximately 12km of deformation zones which are considered highly prospective for LCT pegmatites. Of note, the nearby Cancet (Winsome Resources Ltd) and Corvette (Patriot Battery Metals) properties both exhibit deformation zones upon which significant exploration success has occurred¹.

All the properties have the three key ingredients required to host massive lithium-caesium-tantalum (LCT) pegmatites:

- Neo Archaean rocks;
- placement along major regional faults; and
- lying on greenstone belts in proximity to granites.

This announcement is authorised for ASX lodgement by the Board of Directors of James Bay Minerals Ltd.

ENDS

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Forward-looking statements

This announcement may contain certain forward-looking statements, guidance, forecasts, estimates or projections in relation to future matters (Forward Statements) that involve risks and uncertainties, and which are provided as a general guide only. Forward Statements can generally be identified by the use of forward-looking words such as “anticipate”, “estimate”, “will”, “should”, “could”, “may”, “expects”, “plans”, “forecast”, “target” or similar expressions and include, but are not limited to, indications of, or guidance or outlook on, future earnings or financial position or performance of the Company. The Company can give no assurance that these expectations will prove to be correct. You are cautioned not to place undue reliance on any forward-looking statements. None of the Company, its directors, employees, agents or advisers represent or warrant that such Forward Statements will be achieved or prove to be correct or gives any warranty, express or implied, as to the accuracy, completeness, likelihood of achievement or reasonableness of any Forward Statement contained in this announcement. Actual results may differ materially from those anticipated in these forward-looking statements due to many important factors, risks and uncertainties. The Company does not undertake any obligation to release publicly any revisions to any “forward- looking statement” to reflect events or circumstances after the date of this announcement, except as may be required under applicable laws.

Competent Person Statement

The Exploration Results reported in this announcement are based on, and fairly represent, information and supporting documentation reviewed, and approved by Mr Brodie Box, MAIG. Mr Box is a geologist and has adequate professional experience with the exploration and geology of the style of mineralisation and types of deposits under consideration 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, Mineral Resources and Ore Reserves. Mr Box consents to the form and context in which the Exploration Results are presented in this announcement.