

17 July 2024

Multiple elevated lithium readings obtained from LIBs at Aqua Property

Highlights:

- Widely distributed green minerals (crystals) identified in pegmatite outcrop during JBY's summer field program, with elevated lithium readings returned using a SciAps LIBS Z903.
- Elevated lithium readings obtained from a pegmatite dyke located approximately 700m to the north-east of FIN Resources' White Bear Discovery¹, increasing confidence that a similar system runs through the Aqua Property.
- The pegmatite dyke is exposed at surface over a 60-metre length and spans 15 metres in width, with the dyke extending below surface to the north-west and south-east.
- The discovery is also located along-trend from Winsome Resources' (WR1:ASX) Cancet lithium deposit (Cancet) and Patriot Battery Metal's (PMT.ASX) world-class CV5 Deposit (Corvette).

James Bay Minerals (ASX: **JBY**) ("**James Bay Minerals**" or "**the Company**") is pleased to advise that it has discovered widely distributed crystals with elevated lithium readings returned using a SciAps LIBS Z903 within an outcropping pegmatite dyke at the highly prospective Aqua Property, which forms part of the Company's La Grande Project, located in the prolific Eeyou Istchee-James Bay district in Quebec, Canada. Visual estimates of mineral abundance should never be considered a proxy or substitute for laboratory analyses where concentrations or grades are the factor of principal economic interest. Visual estimates also potentially provide no information regarding impurities or deleterious physical properties relevant to valuations.

The pegmatite dyke measures approximately 60 metres in length and is 15 metres wide at its outcropping portion and dips at an angle of about 20 degrees to the east. It runs in a north-east to south-west direction and continues further undercover in both the north-east and south-west directions. The exploration team has thoroughly documented and logged details about the crystals identified and the Company plans to conduct additional work, including stripping and channel sampling, to further evaluate its potential.

James Bay Executive Director, Andrew Dornan, commented:

"The team is making significant progress, particularly with the recent elevated LIBS readings that have caught our attention given their proximity to FIN Resources' White Bear Discovery approximately 700 meters to the south-west. As we continue to map the property, our confidence grows that a substantial lithium system runs through the Aqua Property."

¹ ASX Announcement by FIN Resources – Large Spodumene Crystals Discovered in Pegmatite Outcrop – 9 Oct 2023



A SciAps LIBS Z-903 device has been utilised to test the exotic mineral identified in outcrop which returned elevated lithium readings from the LIBS analyser. Preliminary observations of the crystals identified in the outcrop indicate that they make up approximately 1% of the whole rock composition, with individual crystals ranging from 1cm to 5cm in length, as shown in Figures 2 and 3 below. Samples have been collected for petrography and/or XRD work to confirm if the primary lithium-bearing mineral is spodumene and if other lithium minerals are present. Assay results will be used to determine the lithium content, which has initially been identified using the hand-held LIBS analyser.

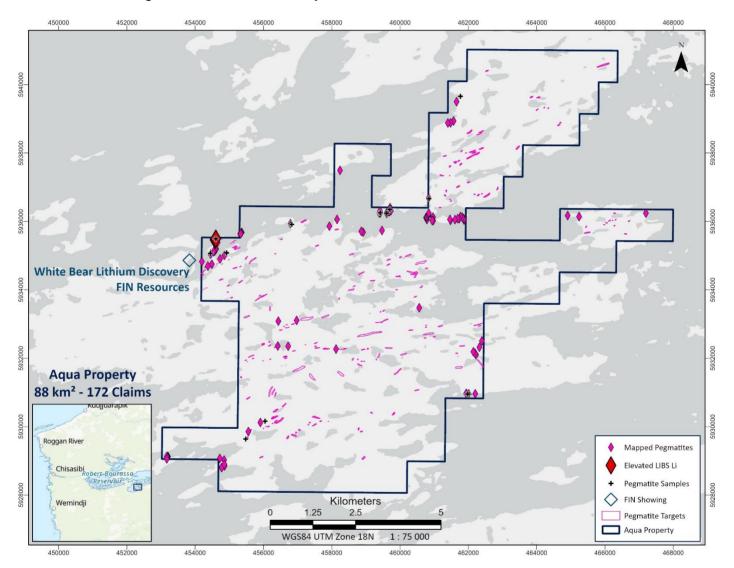


Figure 1 – Aqua property detailing mapped pegmatites and location of elevated Lithium readings from SciAps Z903.

Significant organic coverage across the pegmatite including moss and lichen makes it difficult to visually identify the green crystals at surface or to estimate the percentage of lithium mineralisation accurately. The identified mineral appears light green in colour on a weathered surface with elongated crystal habit and has been distinguished from other minerals like beryl by the field crew.

All samples have been taken from breaking pegmatite rock at surface and sampling freshly exposed rock between 10mm - 200mm depth. Exploration personnel will continue to systematically select grab samples and rock saw channel samples where appropriate.





Figure 2 – Raw outcrop with the green mineral returning elevated LIBs readings. See Appendix 1 for further details.

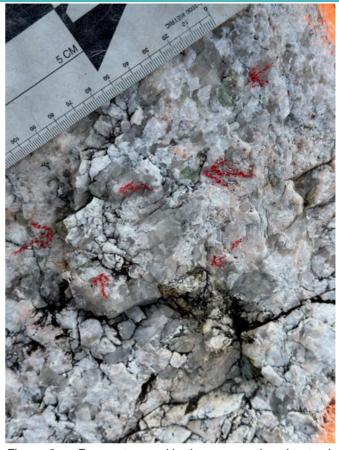


Figure 3 – Raw outcrop with the green mineral returning elevated LIBs readings. See Appendix 1 for further details.



Figure 4 – Pegmatite dyke identified in the north-west of Aqua Property with green crystals marked in orange. See Appendix 1 for further details.



The LIBS device is calibrated to a lithium pegmatite analysis profile on initiation, with standards analysed at initiation and every 10 readings or between high-grade readings for consistency checks. Reading times are approximately 3-5 seconds.

The LIBS has been used as an in-field preliminary check to establish if the mineral is lithium-bearing, but laboratory assays are required to provide accurate, quantitative analysis and may also be used to calibrate the machine to local mineralogy in the future for more accurate LIBS readings. For this reason, no reported lithium values have been included in this announcement while the Company awaits assay results.

While the current field observations indicate that the mineral identified is a lithium-bearing mineral, the percentage of lithium produced from the LIBS analyser does not correlate to an accurate quantitative measurement of the lithium concentration of the mineral itself, or to the overall grade of the pegmatite. The LIBS is being used as a field tool for determining if minerals are lithium-bearing as preliminary observations and interpretations evolve.

Site specific calibration, lab assays, and petrographic analysis will be used to define grades and identify all minerals present in the pegmatite. The images below demonstrate observations made in the field.

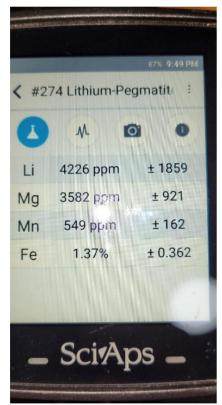


Figure 5 – LIBS reading taken of weathered green crystals from pegmatite outcrop within Figure 2. See Appendix 1 for further details.

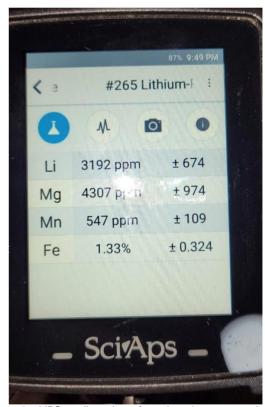


Figure 6 – LIBS reading taken of weathered green crystals from pegmatite outcrop within Figure 3. See Appendix 1 for further details.

As the exploration field team continues to work with a significant pegmatite system, the full extent and understanding of mineralisation remains in its early stages and interpretations are subject to change as more information becomes available.

To further understand the Aqua Property's full potential, detailed mapping of the inland regions in the western and eastern part of the property will continue.



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 41,572Ha or 416km². The Joule, Aero, Aqua and La Grande East 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 Ta_2O_5 (0.40% Li₂O cut-off grade)².

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

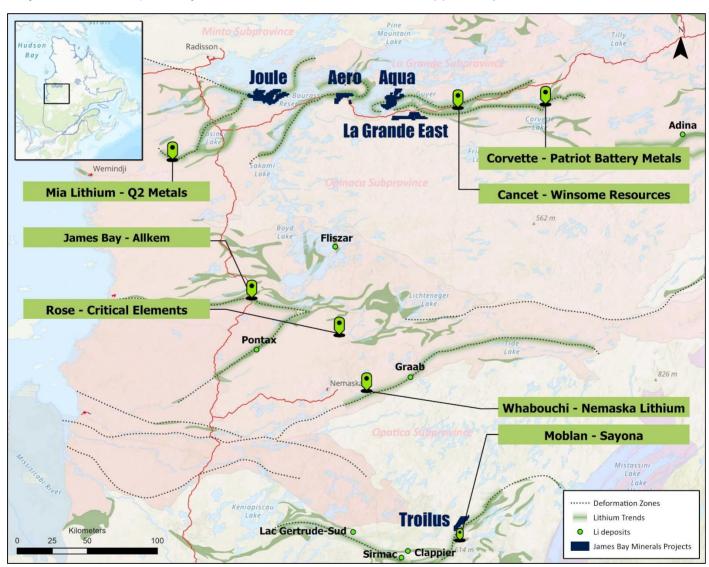


Figure 7 – James Bay Minerals' key lithium project locations in Quebec, Canada.

The flagship Joule Property encompasses a ~24km long prospective deformation zone along a regional fault which has been subject to minimal historical exploration³. The eastern segment of the deformation zone extends for 14km and fan tails to reach a width up to 1.5km.

The Aero Property contains approximately 12km of deformation zones which are considered highly prospective for LCT pegmatites³. Of note, the nearby Cancet (Winsome Resources Ltd) and Corvette (Patriot

² See Patriot Battery Metals announcement dated 31 July 2023

³ See Jame Bay Minerals Prospectus dated 19 July 2023



Battery Metals) properties both exhibit deformation zones upon which significant exploration success has occurred.

The Aqua Property contains a deformation zone running east to west through the property of approximately 6km, this zone is considered prospective for LCT Pegmatites⁴. Of note, FIN Resources has uncovered a significant lithium pegmatite approximately 200m from the north-western border of the Property.⁵

The La Grande East Project was acquired in Q1 2024 due to several key attributes – namely, two magnetic lows which are interpreted to trend into Patriot Battery Metals' Project, multiple large white dyke-like features identified from satellite imagery and the fact that the Project sits less than 1km from the Transtaiga Highway, allowing all year walk-up access.6

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

- Neo Archaean rocks;
- Placement along major regional faults; and
- Located 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

For more information:

Investors: **Andrew Dornan Executive Director** James Bay Minerals info@jamesbayminerals.com.au Media:

Nicholas Read Read Corporate Phone: (08) 9388 1474

E: nicholas@readcorporate.com.au

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

 ⁴See Jame Bay Minerals Prospectus dated 19 July 2023
 ⁵See FIN Resources Announcement dated 9 October 2023: "Large Spodumene Crystals Discovered in Pegmatite Outcrop

⁶ See James Bay Minerals announcement dated 28 March 2024



Resources and Ore Reserves. Mr Box consents to the form and context in which the Exploration Results are presented in this announcement.

Competent Person Statement - Previous Results

The information in this announcement that relates to previous Exploration Results at the La Grande and Troilus Projects is extracted from the Company's Prospectus dated 19 July 2023 (**Prospectus**) and the ASX announcement dated 28 March 2024 (**Original Announcement**), as referenced. The Company confirms that it is not aware of any new information or data that materially affects the information contained in the Prospectus and Original Announcement.



Appendix 1 - Visual Interpretations

Figure	Sample ID	Sample Type	Northing	Easting	Lithology	Mineralisation	Li Mineral %	Other Minerals Present	Assays
Figure 2 & 5	136005	Outcrop Grab	5935491	454604	Pegmatite	Unknown at this stage. Laboratory results to determine if Spodumene.	~10% green mineral	Qtz 35%, Feldspar 50%, tourmaline <5%	Sampled for Assaying
Figure 3 & 6	136022	Outcrop Grab	5935495	454598	Pegmatite	Unknown at this stage. Laboratory results to determine if Spodumene.	~5% green mineral	Qtz 35%, Feldspar 50%, tourmaline <5%	Sampled for Assaying
Figure 4	No Sample	Outcrop Image Only	5935491	454604	Pegmatite	Unknown at this stage. Laboratory results to determine if Spodumene.	~1% green mineral	Qtz 35%, Feldspar 50%, tourmaline <5%	Samples (as above)

NAD 83 UTM Zone 18N

'Visual estimates of mineral abundance should never be considered a proxy or substitute for laboratory analyses where concentrations or grades are the factor of principal economic interest. Visual estimates also potentially provide no information regarding impurities or deleterious physical properties relevant to valuations.'



JORC Code, 2012 - Table 1

Section 1 Sampling Techniques and Data – La Grande Project, Aqua Property

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	 Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information. 	 Investigative style rock chip sampling taken opportunistically from pegmatite outcrop was undertaken. Sample batches have been prepared for dispatch to the Laboratory, with no results at this point. A handheld LIBS detector has been used for selective spot analysis of minerals interpreted to be lithium bearing in the pegmatite. The lithium values indicating lithium grade do not accurately represent quantitative analysis and have therefore been omitted from the report. LIBs images are included for evidence of observations. The results indicate the presence of lithium bearing minerals. The LIBS (Z-903) analyser is new and was calibrated daily.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	In connection to this announcement no drilling has been conducted yet and no drill assays are being reported.
Drill sample recovery	 Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	In connection to this announcement no drilling has been conducted yet and no drill assays are being reported.
Logging	 Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	In connection to this announcement no drilling has been conducted yet and logging completed.



Criteria	JORC Code explanation	Commentary
Subsampling techniques and sample preparation	 If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all subsampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	 Sample types and locations have been reported to demonstrate the latest observations in the field. Sample collection is ongoing with dispatch underway. Sample techniques and preparation will be detailed in future announcements with assay results
Quality of assay data and laboratory tests	 Writter sample sizes are appropriate to the grain size of the material being sampled. The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established. 	 Rock chip and channel samples are being prepared for dispatch to the selected laboratory in Quebec for analysis. No results have been reported yet. A SciAps Z-903 LIBS device has been used for spot sample readings of minerals of interest. The device is calibrated each day, and standards analysed every 10 readings and between high-grade readings for consistency checks. Readings times are approximately 3 to 5 seconds and are standard for the device. The device is calibrated to a lithium profile supplied by SciAps prior to use. Handheld LIBS is expected to differ from laboratory assay results and should not be used to indicate whole rock grade.
Verification of sampling and assaying	 The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	 All data generated from the mapping of the pegmatite has been uploaded into the company's data storage and been checked by two personnel. LIBS readings have been downloaded directly from the device. LIBs results do not represent assay data.
Location of data points	 Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	All field data being taken at this stage will utilise a handheld GPS, which is a standard tool for reconnaissance style sampling.



Criteria	JORC Code explanation	Commentary
Data spacing and distribution	 Data spacing for reporting of Exploration Results. Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	Not Applicable for investigative nature of sampling. At this stage no effort was made to illustrate geological or grade continuity between sample points.
Orientation of data in relation to geological structure	 Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralized structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	Not Applicable at this stage of reporting with sampling ongoing.
Sample security	The measures taken to ensure sample security.	 All samples collected are being held on site at the company's and Breakaway Explorations sample storage facility. All samples are stored within number coded sealed bags and labelled by the company's field personnel. Finalised batches are being transported to a laboratory within Quebec for testing.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or review have been undertaken.



Section 2 Reporting of Exploration Results – La Grande Project, Aqua Property

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	 Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	 The Aqua Property which forms part of La Grande Project is 100% owned by James Bay Minerals Ltd. The Aqua Property consists of 172 continuous claims covering an area of 8,803 hectares. The Project is located in the La Grande, Greenstone belt. All claims are in good standing and have been legally validated by
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	 a Quebec lawyer specialising in the field The Aqua Property which forms part of James Bay Minerals La Grande Project is a greenfield project with limited historical exploration. All data obtained on the properties has been generated by Quebec Government Stratigraphic surveys.
Geology	Deposit type, geological setting and style of mineralisation.	 The geology of the Property is relatively unexplored. The primary type of mineralization suggested by the data and mineralization on the adjacent properties is lithium-bearing spodumene which occurs in granite pegmatite and aplite dykes. Early-stage field investigations are checking the extent of this on the Property. The property sits within three key geological ingredients which make it prospective to large LCT pegmatites. These are: Right Archean Rock Age
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length.	 Large deformation zones Proximity to Greenstone Belts No drilling activities have been undertaken or reported to date.



Criteria	JORC Code explanation	Commentary
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case	
Data aggregation methods	 In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated 	No drilling activities have been undertaken or reported to date.
Relationship between mineralisation widths and intercept lengths	 These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known'). 	No drilling activities have been undertaken or reported to date.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Appropriate maps and figures have been included in this announcement.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results	 All relevant and material exploration data for the target areas discussed, have been reported or referenced. No grades are reported.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances	All relevant and material exploration data for the target areas discussed, have been reported or referenced.
Further work	 The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	Further work will include but not limited to systematic geological mapping, channel and rock chip sampling, soil sampling, pXRF and/or LIBS measurements, geophysics, structural interpretation and drilling to identify suitable host rock geology and structural architecture for late state evolved and fertile LCT Pegmatites