

Exploration Begins at Caraíbas and Sidrônio Lithium Projects in Brazil

ASX Announcement

24 July 2024

Lightning Minerals (L1M or the **Company**) is excited to announce the beginning of exploration at the Caraíbas and Sidrônio lithium projects (the **Projects**) in Minas Gerais, Brazil. Field exploration activities are now underway following the completion of a successful reconnaissance site visit by Lightning Minerals representatives in June 2024. A local, highly experienced field team with significant local IP has been appointed to support exploration activities in-country.

The Projects lie within the Lithium Valley region of Minas Gerais and within the Salinas Formation which hosts multiple known lithium Resources and present a significant grass roots exploration opportunity for the Company.

HIGHLIGHTS

- **Exploration program underway including first-pass geological mapping and surface sampling**
- **Exploration includes a focus on an artisanal workings site within the Caraíbas Project, which produced peak pegmatite rock chip assay results grading up to 0.53% Li₂O (lepidolite) and strong tantalum (1,245ppm), rubidium (1,175ppm) and caesium (1,455ppm) assays¹**
- **Multiple pegmatites identified during reconnaissance site visit² to be further analysed and mapped as well as regional trends within the Salinas Formation which hosts multiple lithium Resources**
- **Geophysical targeting exercise to be undertaken using existing state geophysical datasets**
- **Company cash position of A\$3.12 Million at end of June Quarter supports an aggressive exploration strategy**

Lightning Minerals Managing Director Alex Biggs said, "Our initial reconnaissance during our site visit in June proved very positive with multiple pegmatites and areas of interest identified. We really like the potential that the Lithium Valley holds for Lightning and it's important for us to now get going on our work program. Since returning from Brazil we have been focusing on further building our team in Brazil and completing analysis that allows us to move into our programs with confidence and a clear plan. We welcome our new employees and contractors in Brazil who possess significant IP and success in finding lithium across the Lithium Valley and look forward to our success together. These early-stage works are crucial in allowing us to identify drill targets across the project areas and increase our IP of the region. We look forward to updating the market in due course".

Note 1: Further exploration work to verify historically mapped and sampled pegmatites is necessary. The scale of the pegmatite remains unknown and the presence of pegmatitic lithologies does not necessarily indicate the presence of lithium, tantalum or caesium mineralisation.

¹ASX Announcement 22 April 2024

²ASX Announcement 14 June 2024

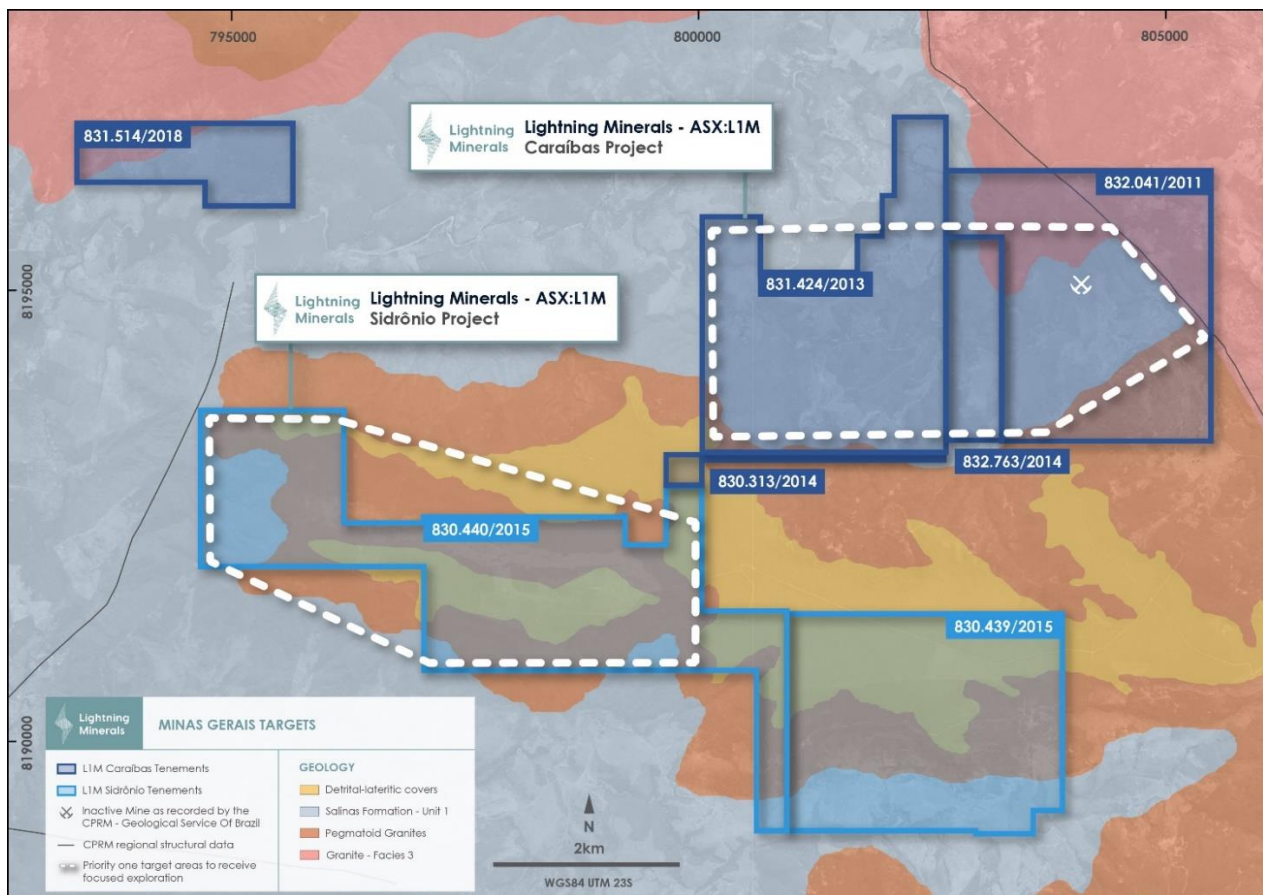
Exploration Mapping and Soil Sampling

Exploration at the Caraíbas and Sidrônio projects has now commenced following successful contractor engagement. The local lithium exploration IP possessed by the team will greatly benefit the exploration works and will accelerate an already aggressive exploration agenda. The initial stage of work includes geological mapping across both the Caraíbas and Sidrônio projects. This will quickly accelerate exploration and aid with drill target generation to ensure optimal drill targets are generated as effectively and efficiently as possible.

A more focused geological mapping and geochemical sampling program will be completed on the area immediately surrounding the Caraíbas artisanal site to support drill target generation. The Caraíbas artisanal site has already confirmed that pegmatite boulders at the location contain lithium minerals (lepidolite + accessory rubelite) for which three previously announced rock chip assay results included peak values of 0.53% Li_2O , tantalum (1,245ppm), rubidium (1,175ppm) and caesium (1,455ppm)¹. The pegmatite outcrop at this location continues along strike from the artisanal workings but is covered by residual saprolites from weathered Salinas Formation schists. Mapping surrounding these areas intends to gather information about the orientation and prevalence of the intrusion extending away from the outcrop location.

The geochemical surface sampling campaign will target Salinas Formation host rocks adjacent to the fertile granites. Areas with residual saprolite profiles will be targeted and will be split into two distinct areas shown in Figure 1.

Figure 1: The Caraíbas and Sidrônio project areas showing priority target areas (dashed) for regional mapping, soil sampling and geophysical dataset review



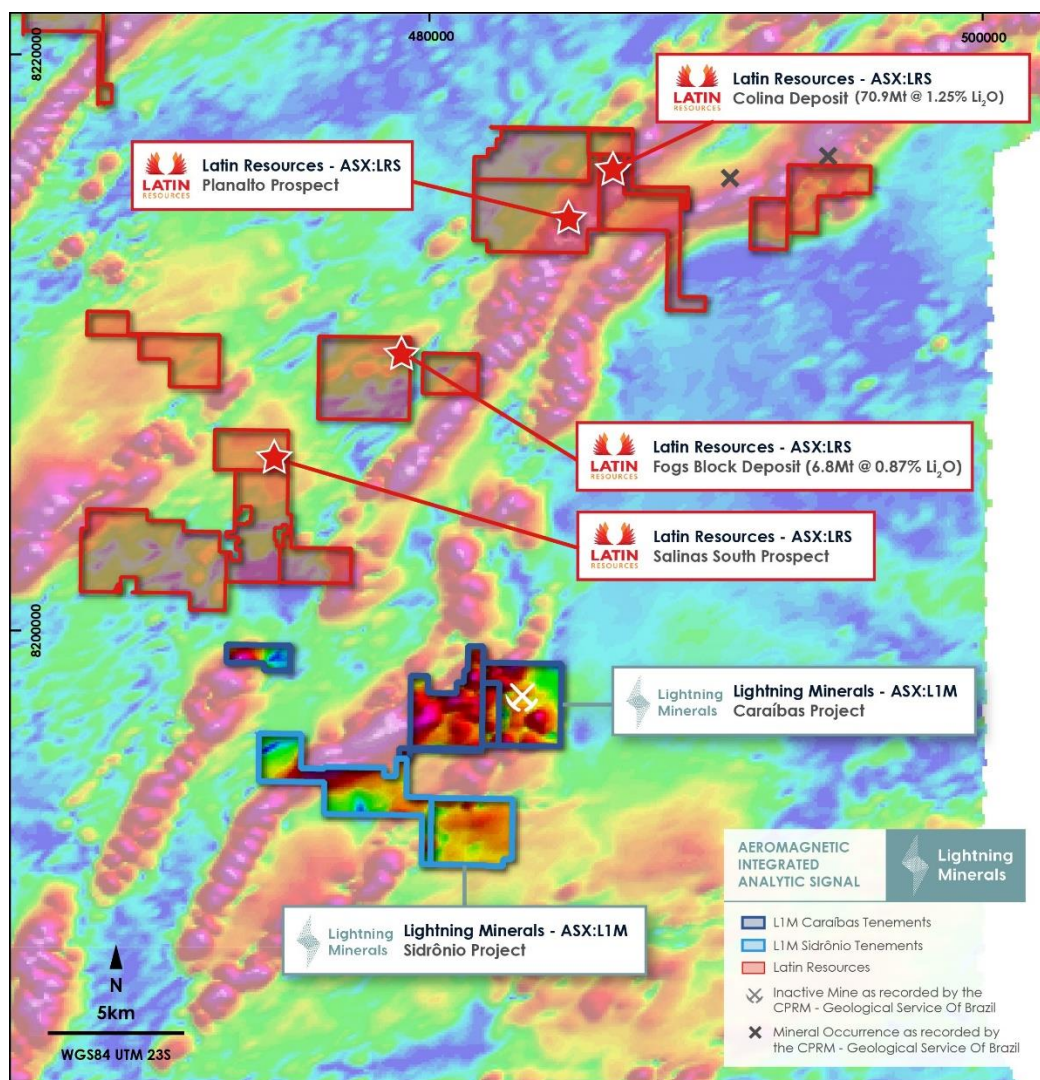
The eastern target area of the Caraíbas project will receive a tightly spaced sample grid up to a maximum resolution of 100m x 50m surrounding the artisanal site. The western target area will receive a coarser resolution grid for sample spacing as it is considered early-stage with less documented historical exploration. This approach accelerates the turnaround of exploration data and helps to expedite vectoring toward potential lithium mineralisation.

The collection of soil samples will utilise access tracks perpendicular to the regional aeromagnetic signature and structural regime to best target sites of structural dilation that may present the most suitable locations for the emplacement of pegmatites. This will facilitate mapping of outcrops that could have previously been hidden by vegetation. This will enable geologists to assess the surface for potential sub-cropping pegmatites which are known to leave particular mineral assemblage in floatstone contained within the saprolite profile above the Salinas Formation.

Geophysical Dataset Reprocessing

Reprocessing of existing Minas Gerais state regional geophysical datasets will be conducted in conjunction with the first pass regional exploration program. The resolution of the currently available imagery is insufficient to support the localised targeting of structures, the coarse resolution of the imagery can be seen in Figure 2.

Figure 2: The Minas Gerais state regional aeromagnetic geophysical image is shown below and exhibits a coarse resolution which can be optimised with reprocessing of existing data



The reprocessing exercise intends to refine the available data to support exploration targeting within the NE-SW magnetic lineaments indicating structural complexities. Reprocessing existing data is considered fast and cost effective and will inform a parallel piece of work of planning collection of high-resolution drone geophysical data. Future surveys will likely utilise drone technology as associated costs are dramatically reduced in comparison to helicopter based survey work. Initial reinterpretation of existing data will also reduce the amount of drone survey work required as it will be focused on areas of higher interest.

The Caraíbas and Sidrônio tenements are potentially part of a subparallel lithium domain and may be related to the same N-E regional structural lineaments that are observed at nearby known lithium Resources (Figure 2). Contradictory granite and metasediment interpreted geological contacts exist within the state bedrock geology datasets. These layers may not accurately represent the underlying geology satisfactory for targeting at a project scale (Figure 1). The presence of younger cover sequences are thought to have impacted the regional scale interpretations and now present an opportunity to refine and gain further understanding of the extents of the Salinas Formation.

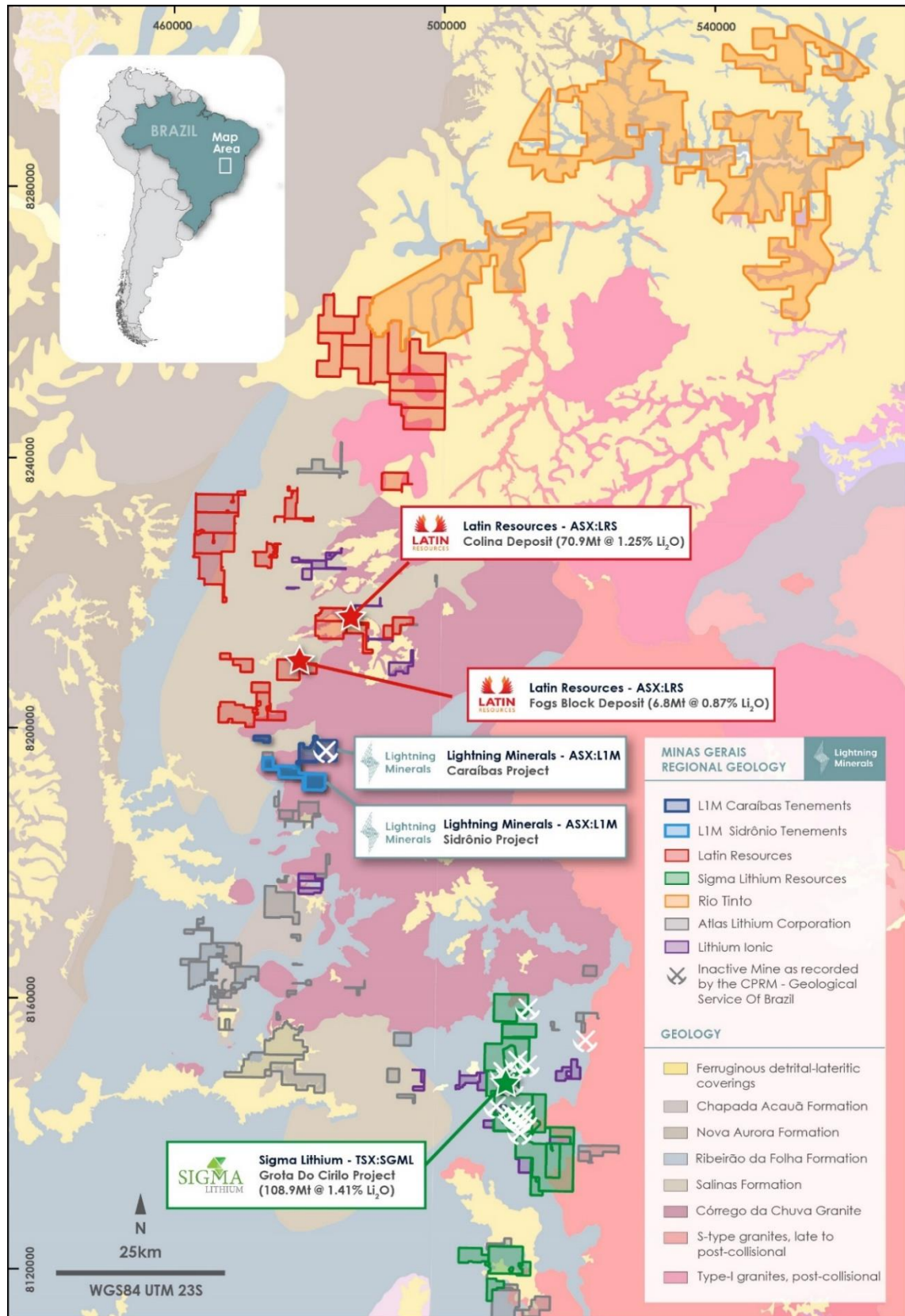
The geophysics and regional field mapping exercises aim to suitably define geological contacts and may have a marked impact on target prioritisation. The distance of target areas from the granite boundaries plays an important role considering the genetic model of hardrock lithium deposits when they are derived from the nearby fertile parental granite suites that include S-type granitic bodies.

Forward Work Plans and Strategies

It is important to gain a clear understanding of the underlying geology at both the Caraíbas and Sidrônio project areas. These early stage works allow the Company to leverage the significant IP and knowledge held by our contractors and team on the ground in Brazil which will prove invaluable over the next few months of work.

The work programs are supported by the budget developed at the time of project acquisition with opportunities for accelerated works as areas of high interest are identified in the field. The three key pieces of work outlined are key building blocks to discovery and are appropriately designed for the region, geology and mineralisation type.

Figure 3: Regional project location of Lightning Minerals' Brazilian lithium projects



Approved for release by the Board of Directors

-END-

More information at www.lightningminerals.com.au



ABOUT LIGHTNING MINERALS

Lightning Minerals is a mineral exploration company, listed on the Australian Securities Exchange (ASX:L1M) and focused on the exploration of critical minerals and lithium at its tenements across Western Australia, Canada, and Brazil. The Company's flagship Dundas project is located in the prolific Dundas region of Western Australia. The recent acquisition of the Caraíbas and Sidrônio projects in Minas Gerais, Brazil are potentially transformational to the Company's success in the lithium sector. The Company also owns the Dalmas and Hiver lithium projects in Quebec, Canada, another significant and evolving lithium region globally as well as other projects in Western Australia which include Mt Jewell, Mt Bartle and Mailman Hill which are prospective for base metals and critical minerals.

FORWARD LOOKING STATEMENTS

Information included in this release constitutes forward-looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward-looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", and "guidance", or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the Company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the Company and its management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the Company's business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the Company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company's control.

Although the Company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the Company does not undertake any obligation to publicly update or revise any of the forward-looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

COMPETENT PERSONS STATEMENT

The information contained herein that relates to exploration results is based on information compiled or reviewed by Mr Jarrad Woodland, who is a Competent Person and a member of the Australasian Institute of Mining and Metallurgy. Mr Woodland is a full-time employee of the Company. Mr Woodland has sufficient experience which is relevant to the style of mineralisation and types of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Woodland consents to the inclusion of his name in the matters based on the information in the form and context in which it appears. Mr Woodland holds options in Lightning Minerals.

REFERENCES TO PREVIOUS ANNOUNCEMENTS

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements, and that all material assumptions and technical parameters have not materially changed. The Company also confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.