

27 May 2024

Significant pegmatite & saprolite clay system identified at Minas Gerais state, Brazil

- Substantial saprolitic clays sampled from degradation of tonalites.
- Thick clay-hosted Saprolite system extends for +500metres and is open in all directions.
- Pegmatite swarms hosted in tonalite rocks samples MC-PL-001; MC-PL-011 to 015; MC-PL-018 and MC-PL-021.
- Leucocratic tonalites with granite gneiss (MC-PL-020) alteration possibly hosting spodumene SP1 and SP 2 with samples MC-PL-003 to 05; MC-PL-007 to 010; MC-PL-016 to 017 and MC-PL-019.
- Completion of initial field exploration over concessions covering 19,515Has in the Minas Gerais state, with 80 prospective samples collected rock and channel soil sampling and 40 sent for assay in two lots.
- Patagonia, through its established local exploration team at GE21, will
 carry out an aggressive Phase 2 exploration program after assays are
 received, paving the way for a maiden auger drill program expected
 shortly after followed by an extensive drill program.

Patagonia Lithium Ltd (ASX:PL3, Patagonia or **Company)** is pleased to advise that it has completed initial ground truth mapping and sampling from the extensive field trip undertaken referencing literature and geophysics completed on its 18 granted concessions.



Figure 1. Thick profiles of weathered saprolite possibly hosting the ionic adsorption clays with REE and lithium-cesium-tantalum.

Tonalite – Lithium – REE- Exploration



Figure 2. Fine to medium-grained equigranular tonalite composed of quartz, plagioclase, biotite and pyroxene/amphibole? with foliation on the edge of the pegmatites.

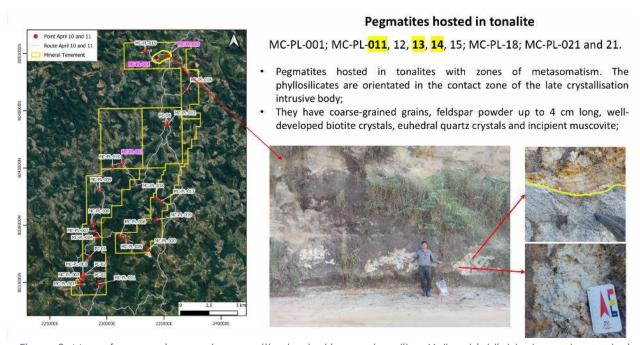


Figure 3. Map of concessions and pegmatites hosted in grey tonalites. Yellow highlighted samples are being assayed for lithium and REE's. Surface/outcropping pegmatites

Phillip Thomas, Executive Chairman commented "We have completed this major mapping and sampling campaign and discovered large tracts of clays from granites and tonalites. Within two weeks of the concessions being granted we spent more than 63 hours in the field. This campaign was earmarked to be conducted quickly so we can sure up our drill targets and execute an aggressive high intensity sampling program after we get the results of the assays assaying for lithium LCT's and REE's."

Emplacement Geology

The leucogranites/pegmatites have emplaced into the surficial G4 Sequence simultaneously, causing contact metamorphism, skarnization and undercooling, which may have facilitated rare-metals mineralization in the pegmatites and skarns during the emplacement stage.

The G4 supersuite consists of balloon-like zoned plutons composed of biotite granite cores and roots, grading into two-mica and muscovite-garnet leuco granite towards the borders, capped by pegmatoid cupolas. G4 plutons commonly show xenoliths and roof-pendants of the country rocks. The emplacement mechanism forced the regional foliation to accommodate around the intrusions, forming post cinematic curvilinear structures clearly outlined in remote sensing images.

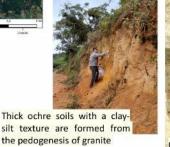


Figure 4. Pegmatite swarm is in yellow and fracture zone in orange with dip and strike orientation. Breakdown of the tonalites evident by the clays on the lower areas. Clays outcropping across a large area.

Porphyritic granite

MC-PL-022 to 030; MC-PL-032 to 034 and MC-PL-037

- Fine- to coarse-grained inequigranular leucocratic granite. Mineralogy composed of feldspar, quartz, biotite and, sometimes garnet. It has feldspar porphyries of up to 5 cm that stand out in the rock's texture. Locally it shows magmatic flow lineation.
- They stand out in the relief due to concave topographic highs similar to "Sugarloaf".



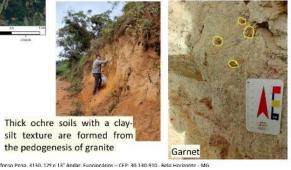




Figure 5. Pegmatites hosted in porphritic granite with saprolite clays well developed. The pink samples are being assayed. Sugarloaf Mountain is one of the most iconic landmarks in Brazil. It's a granite peak that rises 396 meters (1,299 feet) above the harbor of Rio de Janeiro and broke through sedimentary layers 600million years

Pegmatite hosted in granite

MC-PL-031,MC-PL-035 and 36

- The mineralogy of the pegmatite is made up of well-formed crystals of feldspar, quartz, muscovite and biotite, as well as an unidentified green and pink mineral.
- Both of these unidentified minerals are altered and might not be minerals but the product of feldspar alteration.
- Concentrated and aligned levels of biotite were also recognised along the edges of the pegmatites at the contact with the host rock.







Figure 6. Pegmatites hosted in granite shows samples taken for analysis in pink highlight.

Metasediments of the metavolcanic-sedimentary sequence

Results from exploration of the metasediment areas are still being collated. These areas are highly prospective as they have been exposed to increased tectonic forces in the south-west of the mineral tenements and hydro-thermalism.

Authorised for release by the Board of the Company. For further information please contact:

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Competent Person Statement

The information in this announcement that relates to exploration results is based on, and fairly represents information compiled by Phillip Thomas, MAIG FAusIMM, Technical Adviser of Patagonia Lithium Ltd and is Executive Chairman, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Thomas has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he has undertaken, 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 Thomas consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

About Patagonia Lithium Ltd

Patagonia Lithium has two major lithium brine projects – Formentera/Cilon in Salar de Jama, Jujuy province and Tomas III at Incahuasi Salar in Salta Province of northern Argentina in the declared lithium triangle. It has also applied **for 41,746 Has** of concessions exploring for **ionic REE clays, Niobium, and lithium in pegmatites**. Four exploration concession packages covering 25 concessions have been applied for and 18 have been granted. The first phase of exploration has been completed.

Since listing on 31 March 2023, recharge water analysis, surface sampling and MT geophysics have been completed in preparation of an upcoming drill program at Formentera, where the first well JAM 24-01 has been completed with MT Geophysics at Tomas III showing low resistivity and very prospective. In July 2023, a 13 hole drill program was submitted for approval which was granted in January 2024. Samples as **high as 1,100ppm lithium** (2 June 2023 announcement) were recorded at Formentera and resistivity values as low as 0.3Ω .m were recorded during the MT Geophysics survey at Formentera making the project highly prospective. The Company confirms it is not aware of any new information or data that materially affects the information in this announcement.

JORC Code, 2012 Edition – Table 1 report Patagonia Lithium Ltd ASX:PL3 Minas Gerais State applications

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	 Nature and quality of sampling (eg 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 (eg '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 (eg submarine nodules) 	 Random chips and samples taken from road cutting and extensive exposures of weathered faces were taken. Of the estimated 40 samples about 18 will be sent for assay. Four sample lots are from the road channel exposed with labels MC Pl 11-12-13 and MC PL-022-030. The soil samples were taken with a shovel, then rifled into 1/8th of the total soil in the area and then a 500gm sample was bagged and labelled for analysis. The samples will be assayed using three different types of analysis to determine the presence of Rare Earth elements, lithium and with two quartz rock chip samples gold. The mineralization is to be determined in the ionic adsorption in the clays from the degradation of the granites and tonalites. Further sampling will be conducted to determine the strike and width of the mineralisation and this analysis is useful for further exploration and sampling.

Criteria	JORC Code explanation	Commentary
Drilling techniques	 may warrant disclosure of detailed information. 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, facesampling bit or other type, whether core is oriented and if so, by what method, etc). 	No drilling was undertaken.
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. 	 No drilling was undertaken. Minerals such as garnet were identified which are pathfinders for rare earth mineralisation. In the pegmatite rocks some phenocysts were possible spodumene but assay will be used to positively identify their mineralogy.
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. 	 GPS references were taken for the location of the samples and a description of each samples mineralogy. Clays were identified as either saprolites, kaolin, or other. A large tabular kaolin outcrop was identified but not sampled. No strike or length of mineralisation was recorded as the exploration was focussed on determining sample composition and concentration of elements.
Sub-sampling techniques and sample preparation	**	 Not applicable as no drilling or augur sampling was undertaken. Samples of 5 kg were taken in soils and approximately 1kg rock chip samples and these were reduced to 500gm samples through rifling to 1/8th -1/10th of the sample size for soils and rock chips were broken into 500gm lots.

Criteria	JORC Code explanation	Commentary
	 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. 	
Quality of assay data and laboratory tests	 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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established. 	 Approximately 18 samples have been sent for assay from this lot of samples collected. No field analysis was undertaken.
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. 	GE21 staff are independent of Patagonia Lithium staff and they have been contracted to obtain samples and interpret the extensive geophysics.
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. 	 Accuracy of the data locations are between 2-4m. The grid system used was WGS84 and ESPG 4326. Topographic control was within 1m.

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. 	No exploration results have been reported, only locations and numbering of samples taken.
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 mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	No auger or drill samples were taken.
Sample security	The measures taken to ensure sample security.	 Samples were secured after riffling, in calico bags tied with wire and tagged. The lab is recording the chain of custody to ensure the wire is still twisted into the tag and not been removed.
Audits or reviews	 The results of any audits or reviews of sampling techniques and data. 	Not applicable as no audits have been undertaken.

Section 2 Reporting of Exploration Results

(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. 	 Mining concessions granted include 830.151/2024 to 830.153/2024, 830.155/2024 to 830.157/2024, 830.167/2024, 830.169/2024, 830.171/2024, 830.172/2024, 830.176/2024, 830.192/2024, 830.193/2024, 830.195/2024, 830.196/2024 830.164/2024 and 830165/2024 in the state of Goais, Brazil – the concessions granted are 100% owned by Patagonia Lithium subsidiary PL3 Mineracao Brazil Ltda. The licence is for a 3 year period unless it is renewed for a further period. It has been referenced for lithium exploration
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	 No exploration has been undertaken on these concessions From the ANm database it is not apparent that these concessions have been explored previously.
Geology	Deposit type, geological setting and style of mineralisation.	 The REE first target zone, of greatest importance, is the metasomatic zone. The second, an anomaly of Thorium and Uranium located within a structure aligned to the 125-degree Azimuth, is characterized by a topographic low that may be associated with the accumulation of radioactive minerals (possibly Monazites?) and potentially, Rare Earth Elements. The third zone, the second anomaly situated northwest of the area, also enriched in Uranium and Thorium, is located at the summit of a topographic elevation. This anomaly may represent an igneous body with chemical characteristics similar to carbonatite, albeit smaller, not identified in the MVI magnetic geophysics data. The Catalão I alkaline—carbonatite—phoscorite complex (ferro niobium mine adjacent) contains both fresh rock and residual (weathering-related) niobium mineralization. The fresh rock niobium deposit consists of two plug-shaped orebodies named Mine II and East Area, respectively emplaced

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		in carbonatite and phlogopitite. Together, these orebodies contain 29 Mt at 1.22 wt.% Nb2O5 (measured and indicated). In closer detail, the orebodies consist of dyke swarms of pyrochlore-bearing, olivine-free phoscorite-series rocks (nelsonite) that can be either apatite-rich (P2 unit) or magnetite-rich (P3 unit). Dolomite carbonatite (DC) is intimately related with nelsonite. Natropyrochlore and calciopyrochlore are the most abundant niobium phases in the fresh rock deposit. Pyrochlore supergroup chemistry shows a compositional trend from Ca–Na dominant pyrochlores toward Ba-enriched kenopyrochlore in fresh rock and the dominance of Ba-rich kenopyrochlore in the residual deposit. Carbonates associated with Ba-, Sr-enriched pyrochlore show higher δ18OSMOW than expected for carbonates crystallizing from mantle-derived magmas. We interpret both the δ18OSMOW and pyrochlore chemistry variations from the original composition as evidence of interaction with low-temperature fluids which, albeit not responsible for the mineralization, modified its magmatic isotopic features. The origin of the Catalão I niobium deposit is related to carbonatite magmatism but the process that generated such niobium-rich rocks is still being determined and might be related to crystal accumulation and/or emplacement of a phosphate—iron-oxide magma. • Lithium The Araçuaí Orogen, as one of the Neoproterozoic orogenic systems of Brazil (Pedrosa Soares et al., 2001), occupies the area between the São Francisco Craton and the Brazilian eastern continental margin. Among the lithostratigraphic units that take part in it are the Salinas, São Domingos, Chapada Acauã, and Capelinha formations. The Brazilian pegmatitic provinces were defined by Paiva (1946), based on the

Criteria	JORC Code explanation	Commentary
		geographic distribution of these rock bodies across the national territory. The Eastern Pegmatitic Province encompasses the states of Bahia, Minas Gerais, Espírito Santo, and Rio de Janeiro, over an area of approximately 150,000 km². However, more than 90% of this area is in the eastern part of Minas Gerais state, specifically within the geotectonic unit called the Araçuaí Orogen (Figure 3-1). Granitic rocks, ranging in age from the late Neoproterozoic to the Cambrian-Ordovician, including pegmatites, cover around 1/3 of this region (Pedrosa-Soares et al., 2009). The pegmatitic bodies in this large region are mainly related to the granitic magmatism that developed during the Brasiliano Event, between 630 Ma and 490 Ma, along the Araçuaí Orogen (Dardenne & Schobbenhaus, 2003; Pedrosa-Soares et al., 2009). They can be of two types: anatectic (directly formed from the partial melting of regional rocks) or residual (silicate melts resulting from the fractional crystallization of the parent granites) (Correia Neves et al., 1984; Pedrosa-Soares et al., 2009). Considering field relationships, geochemical and petrological attributes, as well as U-Pb geochronological data on zircons, the granitic rocks of the Araçuaí orogen were grouped into five different supersuites, designated as G1, G2, G3, G4, and G5 (Pedrosa Soares et al., 2001, 2008; in Pedrosa-Soares et al., 2009). Regarding the stages of development of the Araçuaí Orogen, supersuite G1 is precollisional (630-585Ma), G2 is syn-collisional (585-560Ma), G3 is late to post collisional (545-520Ma), and G4 and G5 are post-collisional (535-490Ma) (Pedrosa-Soares et al., 2009, 2011). Among these five characteristic granitic suites, the main mineralized pegmatites of the Eastern Province are mostly derived from the syn-collisional granites of suite G2 and post-collisional granites of suites G4 and G5 (Heilbron et

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		al., 2004). The pegmatites of suite G2 are rich in gemstones and industrial minerals in the Conselheiro Pena region; those of suite G4 exhibit abundance in gemstones, mainly tourmaline and morganite, lithium minerals, rare metal minerals, and minerals destined for ceramic and glass industries; and those of suite G5 are rich in aquamarine and topaz (Heilbron et al., 2004).
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: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. 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. 	 The main geophysical data coming from georeferenced PDFs, highlighted by the correlation between samples is the F parameter, followed by the thorium-uranium ratio. There is a high correlation between Kd potassium factor and Thorium. Numerous outcrops of saprolitic ionic clays and pegmatite phenocrysts were identified by the two geologists who undertook the sampling.
Data aggregation methods	 In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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. 	 Not applicable – 1D inversion was used to better define the fenitization in the radiometric and magnetic surveys in the tonalites. No assay data has been received to date of this report.
Relationship between mineralisation widths and intercept lengths	<u> </u>	Not Applicable as no drilling was undertaken.

Criteria	JORC Code explanation	Commentary
	there should be a clear statement to this effect (eg 'down hole length, true width not known').	
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. 	Not Applicable as no drilling was undertaken.
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. 	Not Applicable as no drilling was undertaken.
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.	 Apart from the geophysics reported previously there has been no drilling, or sampling work done on the projects. The mining done on adjacent concessions has been to extract granite as industrial works.
Further work	 The nature and scale of planned further work (eg 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. 	 We intend to commence auger sampling and further rock chip sampling when assays are received.