

## ITINGA INFILL PROGRAM AND COMMENCEMENT OF EXPLORATION AT PONTE NOVA AND PARAISO PROSPECTS

### HIGHLIGHTS

- Recently reported coherent lithium (Li) soil anomaly has now been traced over 1km.
  - The first phase yielded pXRF<sup>1</sup> lithium index (Li-Index) values of up to 255ppm.
  - Preliminary geological interpretation has revealed the presence of multiple parallel northeast-striking pegmatites.
- Infill soil sampling now commenced aiming to encompass all pegmatite corridors and further delineate anomalies.
- Preliminary exploration activities also to begin at Ponte Nova and Paraíso prospect areas.
  - A mix of rock chip and soil sampling to be undertaken across broad areas of Ponte Nova and Paraíso, looking to identify anomalous zones of lithium and pathfinder elements.
  - Sampling will also review REE potential.
- Activities geared towards selection of highest priority drill targets to be drilled later in 2024.

Perpetual Resources Limited (ASX: **PEC**, “**PEC**”, “**Perpetual**” or “the **Company**”) is pleased to announce the commencement of further exploration programs at the Company’s Brazilian exploration prospects, located in the prolific “Lithium Valley” region of Minas Gerais, Brazil.

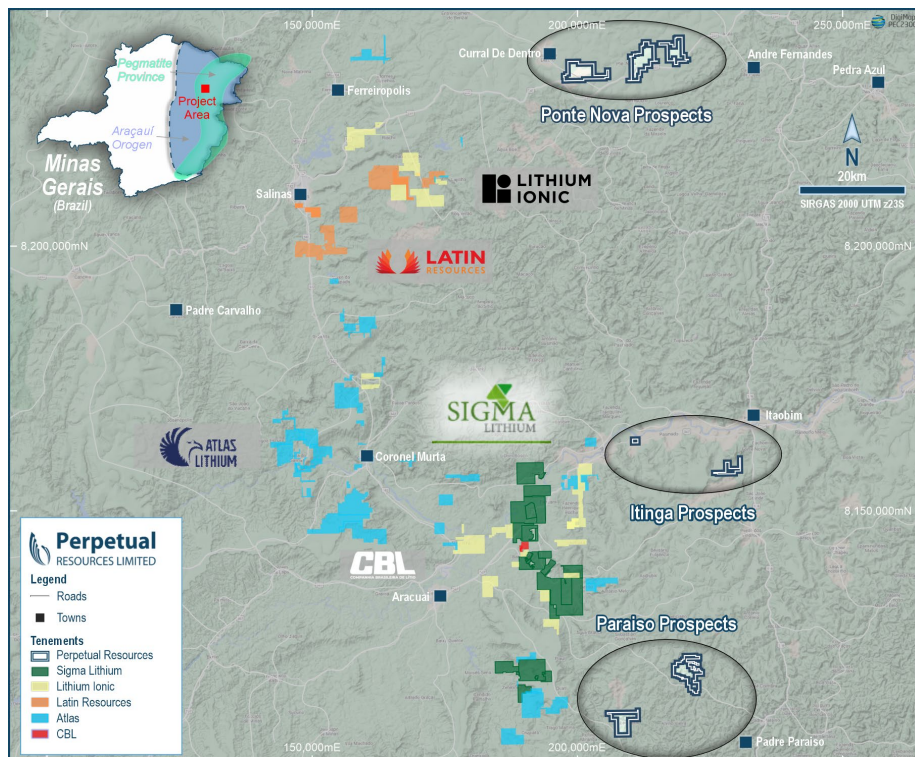


Figure 1: Map showing Perpetual’s prospect areas in Brazil (circled).

<sup>1</sup> As reported on the ASX, refer release Significant Lithium Soil Anomalies Identified at Itinga, 24 January 2024.

## Itinga infill soil program

Perpetual's recent exploration efforts have focused on the Itinga prospects, leading to the discovery of a significant lithium soil anomaly, as outlined in the ASX announcement dated 23 January 2024. The initial campaign, utilizing a pXRF unit<sup>1</sup>, uncovered two notable anomalous Li-Index trends, running northeast along mapped pegmatites. These trends demonstrated consistent modelled contours with concentrations surpassing 150 parts per million (ppm) and extending over 1 kilometer (see Figure 2). Samples containing up to 255 ppm Li-Index were identified within these modelled contours.

These promising findings will now prompt an additional in-fill soil program, aimed at gathering further essential exploration data to aid in pinpointing drill targets later in 2024.

The Infill program will comprise of 133 samples with a final spacing of 100m x 50m. These results will ultimately enhance the granularity of the presented anomalism observed at Itinga and further advance its readiness for drilling.

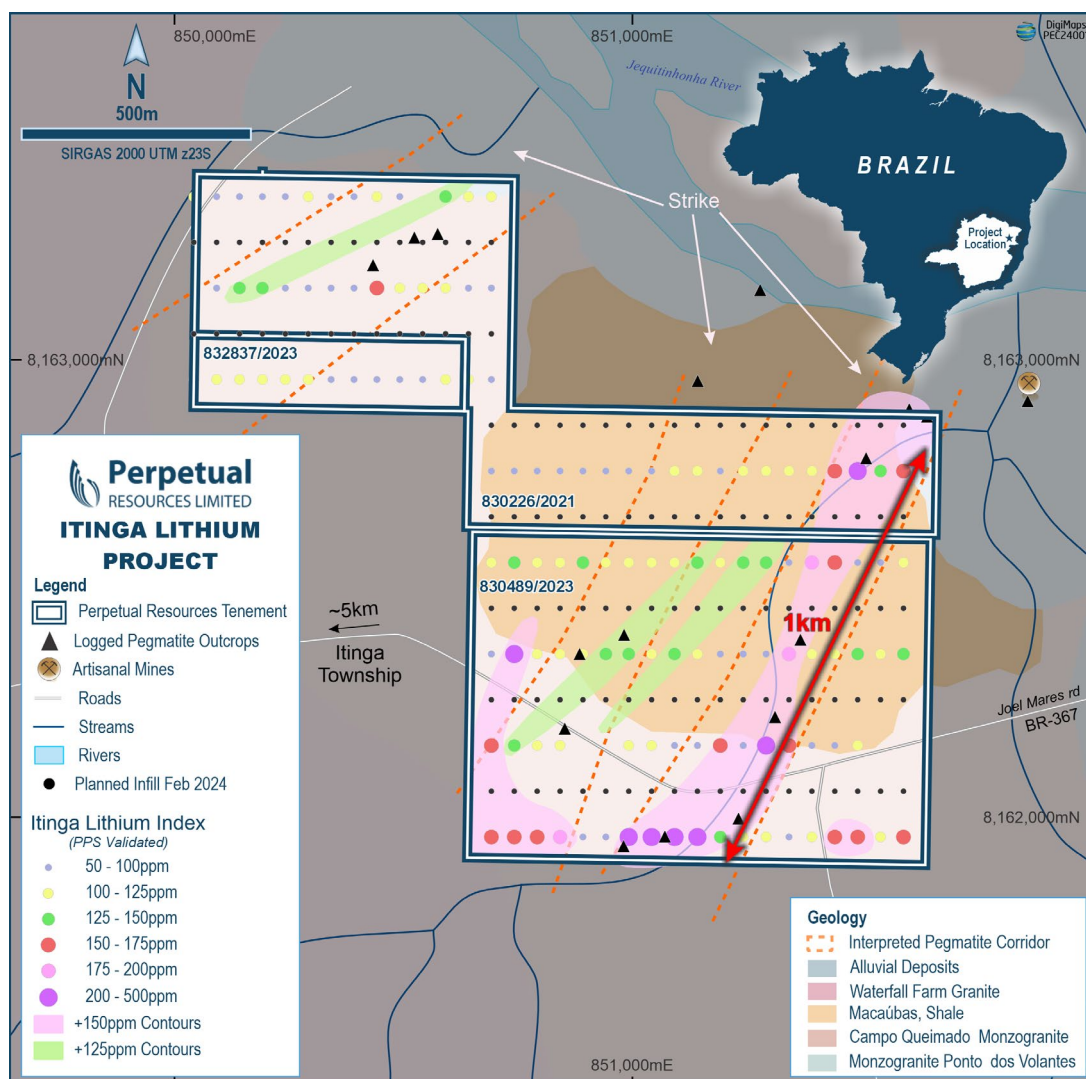


Figure 2: Itinga Infill Program (Mock Example)

## **Commencement of exploration at Ponte Nova and Paraiso prospects**

Perpetual's Brazilian exploration program will then shift to the Company's Ponte Nova and Paraiso prospect areas, as a means of gathering important geochemical data points which will be used to assess prospectivity and identify the presence of pegmatites, which frequently occur in this region either as a sub-crop or under cover.

The use of these grass-roots exploration methods mirrors those utilized by other exploration teams which have identified significant lithium resources in the region and are geared towards to establishment of an extensive geological database to guide Perpetual's ongoing efforts. It should be noted that the area Perpetual is exploring has had limited or no previous exploration activities, requiring Perpetual to build its own comprehensive database in-house.

Perpetual will be implementing a similar approach to recent reconnaissance trips, including undertaking widespread geological mapping and sampling at each of the two tenement areas.

As with all of Perpetual's reconnaissance site visits, local-in-country geologists will accompany the fieldwork efforts, with Perpetual having now built a trusted team of local technical experts to guide in understanding the local geological and community environment.

### **Mr. Allan Stephens, Exploration Manager of Perpetual, commented:**

*"After the confirmation of exciting soil and rock chip analysis indicating a lithium soil anomaly at our exciting Itinga prospect, we are now set to commence a similar style reconnaissance and sampling program at our other Brazilian tenement areas at Ponte Nova and Paraiso.*

*While our focus has been on the Itinga prospect areas to date, due to the encouraging presence of mapped pegmatites, the presence of artisanal mining operations and the favourable geological setting, we see many if not all of these same features at these other two prospect areas and are excited to now be commencing a more thorough data gathering exercise at Ponte Nova and Paraiso which will assist in prioritising our exploration efforts and ultimately determining the highest priority targets to drill later in 2024."*

**- ENDS -**

This announcement has been approved for release by the Board of Perpetual.

## KEY CONTACT

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## About Perpetual Resources Limited

Perpetual Resources Limited (Perpetual) is an ASX listed company pursuing exploration and development opportunities within the critical mineral sector. Perpetual's Beharra Silica Sand Project is located 300km north of Perth and is 96km south of the port town of Geraldton in Western Australia.

Perpetual is also active in lithium exploration activities in the Minas Gerais region of Brazil, where it has acquired approximately 9,000 hectares of highly prospective lithium exploration permits, within the pre-eminent lithium (spodumene) bearing region that has become known as Brazil's "Lithium Valley".

Perpetual also continues to review complementary acquisition opportunities to augment its growing portfolio of exploration and development projects.

### **Forward-looking statements**

This announcement contains forward-looking statements which involve a number of risks and uncertainties. These forward-looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.

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### **Competent Person Statement**

The information in this report related to Geological Data and Exploration Results is based on data compiled by Mr. Allan Harvey Stephens. Mr. Stephens is an Exploration Manager at Perpetual Resources Limited and is a member of both the Australasian Institute of Mining and Metallurgy (AusIMM) and the Australian Institute of Geoscientists (AIG). He possesses sound experience that is relevant to the style of mineralisation and type of deposit under consideration, as well as the activities he is currently undertaking. Mr. Stephens qualifies as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources, and Ore Reserves.' He provides his consent for the inclusion of the matters based on his information, as well as information presented to him, in the format and context in which they appear within this report.



# JORC Code, 2012 Edition – Table 1 report template

## Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><i>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) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>Soil samples were systematically collected using industry-standard procedures, extracted from depths of approximately 20-30cm along pre-defined lines with a specified spacing. The collected samples, approximately ~0.5kg each, were sieved in the field to a size of 2mm.</li> <li>Post-collection, the samples underwent controlled drying, and a ~50g split was extracted for transportation to Perth, Australia, while the remaining bulk was delivered by company personnel to ALS, Belo Horizonte. The ALS facility utilized the ME_ICP89 analysis method for the assays.</li> <li>Soil sampling was conducted on a predetermined 200m x 50m grid, aligning with industry standards for early-stage exploration. This grid spacing decision considered regional sampling practices, area-specific expertise, the quantity of collected samples, and the employed methods.</li> <li>Direct observation of mineralization in the soil samples did not occur, and the determination of anomalism relies on laboratory analysis. Portable Spectral Services Pty Ltd (PSS) in West Perth, WA, received all samples, and the ~50g samples were directly analyzed in the laboratory using portable XRF (pXRF) without further preparation.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li><i>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).</i></li> </ul>	<ul style="list-style-type: none"> <li>No Drilling Completed</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>No Drilling Completed</li> </ul>

Criteria	JORC Code explanation	Commentary
Logging	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>General landform and sample medium/colour is noted for each sample.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>Soil samples were collected under dry conditions, placed in numbered sturdy plastic bags, and grouped in poly-weave bags for dispatch to the laboratory.</li> <li>Sample sizes ranged between 0.3-0.5 kg, ensuring representative portions for accurate analysis.</li> <li>PEC personnel directly delivered the samples to the laboratory, maintaining a secure and safe transport process. At ALS Belo Horizonte, sample preparation procedures encompassed sorting, drying, crushing, and milling to facilitate subsequent analyses.</li> <li>During sample sorting, weights were recorded, and any discrepancies (extra samples, insufficient sample, missing samples) were documented.</li> <li>For wet samples, a meticulous drying process was implemented in calico bags within ovens at 105°C.</li> <li>Field samples underwent systematic pXRF testing, database creation, and accuracy comparison against PSS pXRF results. The recorded standard deviation indicated robust results, and the observed trends remained consistent across the devices used.</li> <li>Laboratory-recorded sample weights provide additional data for comprehensive analysis and reporting.</li> </ul>

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>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.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>Portable XRF units are <b>not</b> capable of directly resolving lithium.</li> <li>The pXRF Li Index provides a proxy for Li content via a correlation with a suite of five elements (Rb, Nb, Ta, Ga, and Cs) that are resolvable by pXRF and calibrated against certified reference materials.</li> <li>The assay and laboratory procedures employed for these soil samples are deemed suitable and of high quality. PSS utilizes its own extensively researched and developed method for determining Lithium Index results, establishing itself as an industry leader in lithium mineral soil analysis by pXRF.</li> <li>PSS utilizes Bruker pXRF tools, specially calibrated for Lithium determination through proxy element detection. Real-time error analysis is conducted and presented in the output. PEC's pXRF results were cross-validated against those of PSS for statistical variation, with PSS incorporating their own standards. The obtained results were deemed accurate and reliable.</li> <li>As of this report, external laboratory checks have not been conducted. All samples have been dispatched to a conventional laboratory for Lithium analysis and comparison with the pXRF lab method.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Information is documented through a primary Microsoft Office Excel spreadsheet, and both location and assay data are consolidated within the Microsoft Office Suite. Regular backups of all data are securely stored in Cloud storage.</li> <li>Any data falling below the detection limit is logged as '&lt;LOD.' The assay data, initially received as a percentage content, undergoes conversion to parts per million (ppm) by Portable Spectral Services. This conversion facilitates effective display and enables comprehensive statistical analysis.</li> <li>A table of significant Lithium Index values is provided in ASX</li> </ul>



Criteria	JORC Code explanation	Commentary
		announcement dated 23 January 2024.
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>• All sample locations were measured using a handheld Garmin GPS using WGS84 and UTM coordinates - Coordinates provided in SIRGUS 2000 /UTM 23S</li> <li>• The accuracy is considered sufficient for a first pass sampling program.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• 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.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>• No Drilling Conducted</li> <li>• No Sample Compositing has been applied.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• No Drilling Conducted</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• Samples have been securely packed in poly-weave bags and sealed with cable ties to mitigate contaminants or un-approved handling.</li> <li>• Samples were couriered to Belo Horizonte through PEC personnel and approve commercial couriers.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>• No reviews or audit completed to date.</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement</b>	<ul style="list-style-type: none"> <li>• 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,</li> </ul>	<ul style="list-style-type: none"> <li>• PEC own's 100% exploration rights to 7 tenements located in Minas Gerais, Brazil, through its wholly owned subsidiary Perpetual Resources Do Brasil LTDA.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>and land tenure status</b>	<p><i>historical sites, wilderness or national park and environmental settings.</i></p> <ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>Itinga Project: 830489/2023 &amp; 830490/2023, 832837/2023 &amp; 830226/2021.</li> <li>Padre Paraíso: 830491/2023 &amp; 830492/2023</li> <li>Ponte Nova: 832017/2023, 832018/2023 &amp; 832019/2023</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>No prior formal exploration is known on any of the tenements however there has been some informal exploration and production by artisanal miners in and adjacent to Itinga, Ponte Nova &amp; Padre Paraíso Projects.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>The geological features of the areas consist of granite &amp; sedimentary rocks from the Neoproterozoic era within the Araçuaí Orogen. These rocks have been intruded by fertile pegmatites rich in lithium, which have formed through the separation of magmatic fluids from peraluminous S-type granitoids and leucogranites associated with the Araçuaí Orogen.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li><i>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:</i> <ul style="list-style-type: none"> <li><i>easting and northing of the drill hole collar</i></li> <li><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li><i>dip and azimuth of the hole</i></li> <li><i>down hole length and interception depth</i></li> <li><i>hole length.</i></li> </ul> </li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>No drilling activities are being reported.</li> <li>The co-ordinates of the soil samples have been provided with the relevant Li_Index information.</li> <li>A table of significant Lithium Index values is provided in ASX announcement dated 23 January 2024.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>No drilling results are included in the report.</li> <li>No data aggregation has been applied to the data in this release.</li> <li>No metal equivalents have been used in this data.</li> <li>The Lithium Index Calibration has been developed by PSS through the Australasian Bruker Authorised Application Centre and is available on the Bruker S1 TITAN portable XRF analyser. The Lithium Index Calibration is optimised to detect critical elements present in LCT Pegmatites namely Ga, Rb, Nb, Sn, Cs, Ta and Tl along with elements important to evaluate the fertility of granites, including the nature of the host rocks include K, Ca, Cr, Mn, Fe, Ni, Zn,, Zr along with Mg, Al, Si, P, S, V, As, Sr, Mo, Sb, Pb, Bi.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>• If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>• No drilling activities are being reported.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Maps of the Lithium Index results overlain geology image and the Lithium Index Ranges contours is provided in the body text.</li> <li>• A table of significant Lithium Index values is provided in ASX announcement dated 23 January 2024.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Figure 2</b> presents visual representations encompassing the entire spectrum of Lithium Index outcomes. Within the main text, it's crucial to note that the showcased anomalies are not intended as representations of lithium ore grade. Instead, they serve as indicators pointing towards the potential presence of lithium-bearing rocks beneath the surface cover.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• All relevant and material exploration data for the target areas discussed, has been reported or referenced.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>• Due to the sparse nature of sampling during due-diligence, further mapping and sampling will be conducted to inform future exploration activities.</li> <li>• Further infill soils sampling underway in Q1 2024</li> </ul>