

25 August 2023

ASX Release

## MARBLE BAR SOIL SAMPLING COMMENCES OVER NEW TARGETS

### HIGHLIGHTS

- Soil sampling program underway at Marble Bar projects (Sisters and Garden Creek), prospective for hard rock, lithium-caesium-tantalum (LCT) type pegmatites.
- Sisters and Garden Creek surround Global Lithium Limited's (ASX:GL1) Archer Lithium Deposit ([18.0 million tonnes at 1.0% Li<sub>2</sub>O](#)), hosted within the same Greenstone belt.
- Sisters and Garden Creek cover portions of the fertile Marble Bar Greenstone belt, identified as occurring within the "Goldilocks Zone," a defined corridor in which LCT pegmatites are known to exist.
- Multiple prospective exploration targets have been identified from independent review.
- Helicopter reconnaissance commenced to expedite exploration of inaccessible areas of the Greenstone belt in the northwest portion of Sisters tenement.

MinRex Resources Limited (ASX: MRR) ("MinRex" or "the Company") is pleased to announce that a soil sampling program is underway at its highly prospective Marble Bar projects in the Pilbara.

The Marble Bar projects cover an area of 71km<sup>2</sup> comprising the Sisters Project (E45/5871), Garden Creek Project (E45/5869) and Talga Project (E45/5873) located within a 30km radius of the Marble Bar town site (see Figure 1 below).

The Marble Bar projects are considered by the Company to be prospective for a hard rock, lithium-caesium-tantalum (LCT) type pegmatites, with the Sisters Project and Garden Creek Project situated 2km east and 8km north respectively of the Global Lithium Ltd (ASX:GL1) Archer Lithium Resource which hosts 18.0 million tonnes at 1.0% Li<sub>2</sub>O.

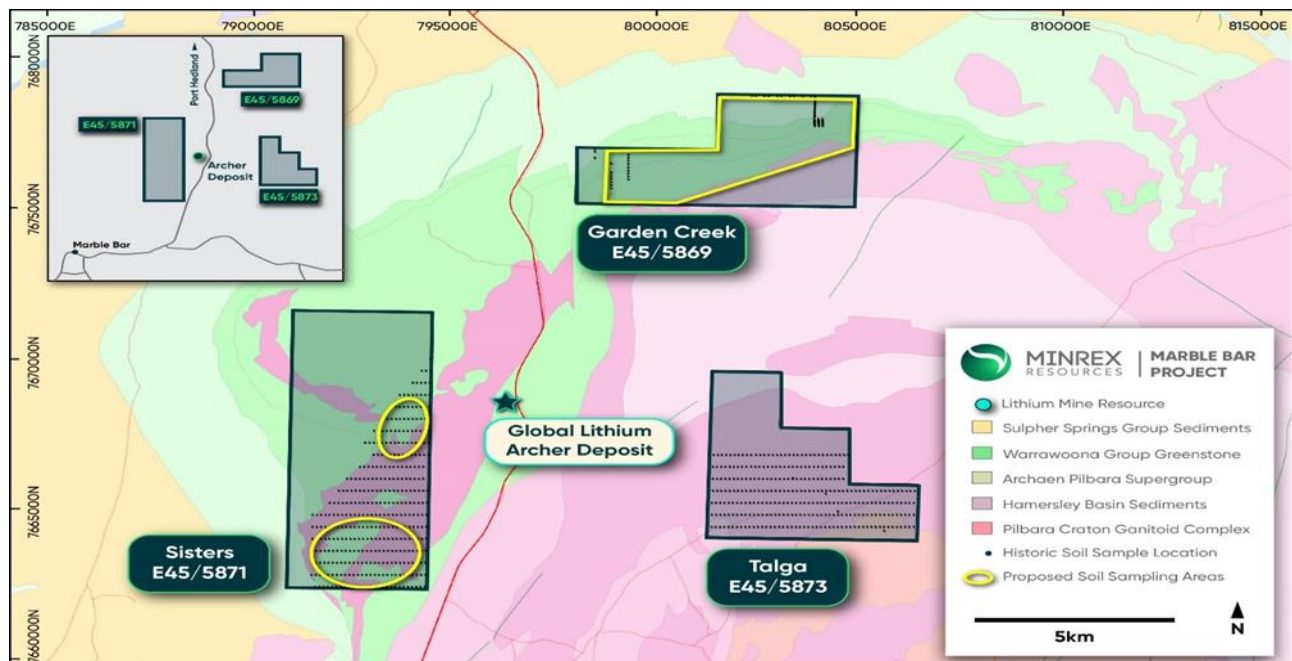


Figure 1: Marble Bar Tenements location map.

The Company recently engaged Dr Nigel Brand of Geochemical Services Pty Ltd (ASX Announcement 31 July 2023, 30 June 2023 Quarterly Activities Report), to undertake an independent review of the existing geochemical data from the Marble Bar projects, focusing on the lithium potential within the tenements. The review highlighted several areas of interest, with interpreted LCT style pegmatite geochemical signatures from the rock and soil geochemical results previously obtained at the Sisters Project.

The Sisters and Garden Creek Projects cover portions of the fertile Marble Bar Greenstone belt. At the Sisters Project areas of interest have been identified as occurring within the “Goldilocks Zone,” a defined corridor in which LCT pegmatites are known to exist. This Goldilocks Zone is traditionally situated beyond the granitic terrain and within the Greenstone belt.

The review identified three areas for prospective exploration targeting within the Sisters Project, from previously wide-spaced (400m by 100m) soil sample results and scattered rock chip samples. A follow up soil sampling program comprising around 1700 samples has been designed by Geochemical Services Pty Ltd to infill the areas of interest to a nominally 100m by 25m spacing, with the aim of identifying several new exploration targets for LCT style pegmatites.

At the Garden Creek Project the review of the historical geochemical data was less conclusive given the sparsity of existing data. Geochemical Services Pty Ltd has designed a soil sampling program comprising around 340 samples to cover most of the area of tenement initially at 400m by 100m spacing.

The soil sampling programs at the Garden Creek and Sisters Projects covering priority areas identified from the review, is underway with results likely available during the fourth quarter of 2023, (with the objective to define potential drill targets in the first quarter of 2024).

In conjunction with the soil sampling program, further reconnaissance rock chip sampling and mapping is being undertaken using a helicopter to expedite the access to large areas of the Greenstone belt in the northwest portion of Sisters tenement previously not easily accessible due to the terrain.



**Figure 2: Helicopter reconnaissance exploration with quartz outcropping in foreground.**

This ASX Announcement has been authorized for release by the Board of MinRex Resources Limited.

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**About MinRex Resources Ltd**

MinRex Resources Limited (ASX: MRR) is an Australian-based ASX-listed emergent battery metals explorer with Lithium-Tin-Tantalum Projects in the Pilbara (WA) in close proximity to world-class Lithium and Tantalum producers Pilbara Minerals, Mineral Resources, and Global Lithium. MinRex also has a highly prospective portfolio of Gold-Copper projects in the Murchison and Pilbara Regions (WA) and Gold-Silver-Copper and other metals projects in the Lachlan Fold Belt (NSW). The Company's tenements package cover 1,000km<sup>2</sup> of highly prospective ground targeting multi-commodities type deposits.

**Competent Persons Statement**

*The information in this report that relates to Exploration Targets and Exploration Results is based on information compiled by Ian Shackleton. Mr. Shackleton is the Technical Director of MinRex Resources Limited and is a Member of the AIG of whom have sufficient experience relevant to the styles of mineralisation under consideration and to the activity being reported to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Ian Shackleton has verified the data disclosed in this release and consent to the inclusion in this release of the matters based on the information in the form and context in which it appears.*

**Forward Statement**

*This release includes forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning MinRex's planned exploration programs and other statements that are not historical facts. When used in this release, the words such as "could", "plan", "estimate", "expect", "anticipate", "intend", "may", "potential", "should", "might" and similar expressions are forward-looking statements. Although MinRex believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve known and unknown risks and uncertainties and are subject to factors outside of MinRex's control. Accordingly, no assurance can be given that actual results will be consistent with these forward-looking statements.*



**JORC Code, 2012 edition – Table 1**
**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>• The geochemical samples were collected as a first pass assessment and orientation of the Sisters Project. The soil sampling was carried out on lines spaced 400m apart with samples collected at 100m centres.</li> <li>• BCI Minerals Limited (BCI) initially sampled the southern 12 lines in 2017 and subsequently Global Lithium Resources Limited (GLR) extended the sampling for a further 8 lines or 3.2km to the north in 2019.</li> <li>• The type of geochemical sampling is a standard approach during the initial style reconnaissance.</li> <li>• A Standard Operating Procedure (SOP) was used to support a consistent approach to the sample collection.</li> <li>• The SOP for BCI sampling consisted of collecting the sample from 0.3m and sieving 200gm of -2mm material. The GLR sampling comprised collecting the sample from 0.2m and sieving 200gm of -2mm material.</li> <li>• The BCI soil sampling was completed by BCI employees whereas the GLR sampling was undertaken by contractors HGS Australia Exploration Services.</li> <li>• Several lithium pegmatite standards (CRM) from OREAS were submitted for GLR given the historic nature of the data the frequency and comparison of data has not been reported (GLR WAMEX report a126704). It is not known if CRMs were submitted with the BCI soil samples.</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>• Not applicable, no drilling has been carried out.</li> </ul>

<i>Drill sample recovery</i>	<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>• Not applicable, no drilling has been carried out.</li> </ul>
<i>Logging</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Information is of insufficient detail to support any Mineral Resource Estimation.</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable, no drilling has been carried out.</li> <li>• No measures have been taken to ensure sampling is statistically representative of the in situ sampled material. The collection methodology is considered appropriate for this early-stage assessment of the project.</li> <li>• The sample size is considered appropriate to the early stage of exploration carried out.</li> </ul>

<p><i>Quality of assay data and laboratory tests</i></p>	<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>• The 299 BCI samples from 2017 were assayed by SGS Australia using method ARM 133 involving ICP-MS after Aqua Regia digest. Although not a complete sample digest it is considered adequate for first-pass geochemical analysis.</li> <li>• The 72 GLR samples in 2019 were assayed by ALS using method ME-MS89L a Sodium Peroxide fusion with an ICP finish. An almost complete digest appropriate for low-level soil sample analysis.</li> <li>• Several lithium pegmatite field standards (CRM) from OREAS were submitted for GLR given the historic nature of the data the frequency and comparison of data has not been reported (GLR WAMEX report a126704). It is not known if CRMs were submitted with the BCI soil samples.</li> <li>• ALS and SGS routinely included laboratory standards and a review of these results indicates an acceptable consistency with their stated target grade. Here was no bias identified in the laboratory CRMs.</li> </ul>
<p><i>Verification of sampling and assaying</i></p>	<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>• The results are considered acceptable and have been reviewed by a geologist. The company conducts internal data verification protocols which have been followed and results have been incorporated into a commercially managed database to preserve integrity of the sample data.</li> <li>• Results have not been adjusted</li> </ul>
<p><i>Location of data points</i></p>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Samples were located during collection by handheld GPS.</li> <li>• The grid system used is Australian Geodetic MGA Zone 50 (GDA94)</li> <li>• The level of topographic control offered by the handheld GPS is considered sufficient for the style of work undertaken</li> </ul>
<p><i>Data spacing and distribution</i></p>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>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).</i></li> </ul>	<ul style="list-style-type: none"> <li>• Soil geochemistry was carried out based on east to west sample traverses based on the MGA grid. East to west lines were spaced 400m apart with samples collected at 100m centres along the lines.</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>• Sampling was carried out over separate portions of the project and it is not known if they are representative.</li> <li>• Not applicable, no drilling has been carried out</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>• Industry standard sample collection and storage have been undertaken.</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 audits or reviews of the data have been conducted at this stage</li> </ul>

**JORC Code, 2012 edition**
**Section 2: Reporting of Exploration Results**

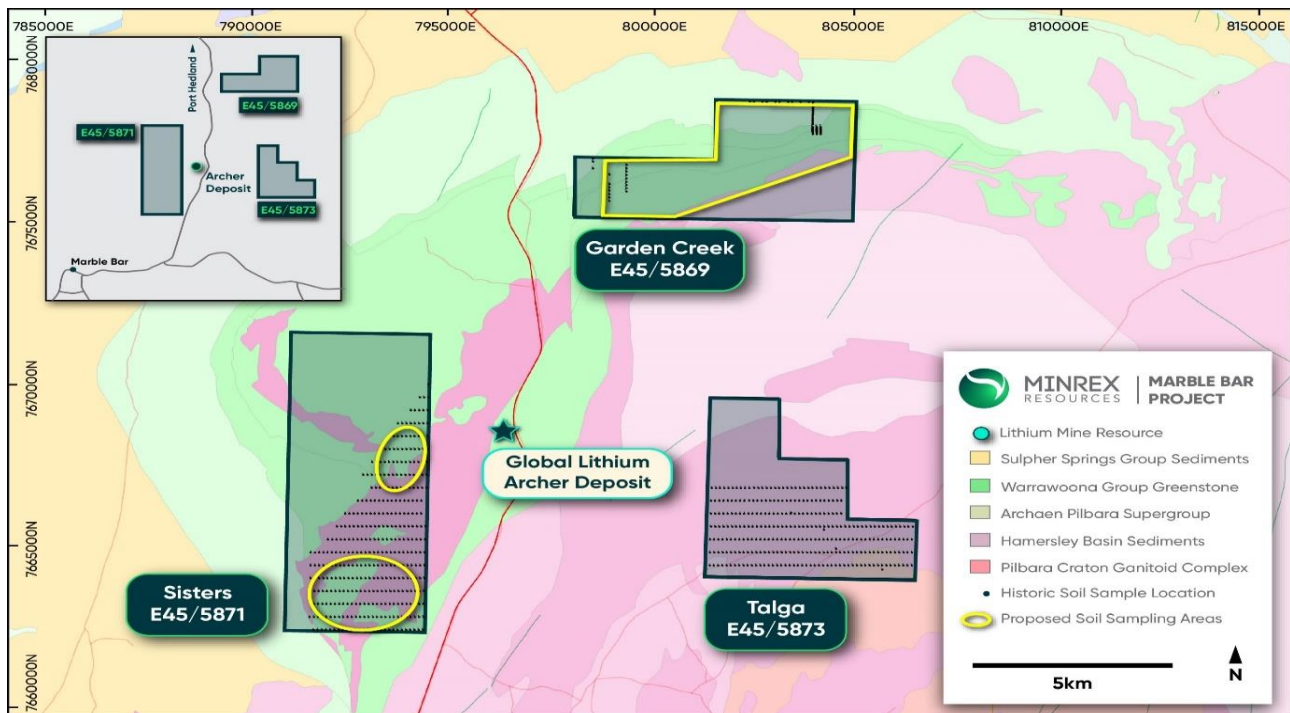
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>• Type, reference name/number, location and ownership including agreements or material issues with third.</li> <li>• parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• The Sisters Project comprises tenement E45/5871 and Garden Creek E45/5869 are both held by True Fella Pty Ltd. MinRex Resources Limited holds 100% of the rights for all battery minerals including lithium on E45/5869 and E45/5871.</li> <li>• All other mineral rights, excluding battery minerals, are held by True Fella Pty Ltd.</li> <li>• There are no impediments that have been identified for operating in the project area on either E45/5869 or E45/5871.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>• Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>• At the Sisters Project E45/5871 past exploration has been completed by BCI between 2015-2018. The exploration focused on base metals, gold and lithium exploration and included around 80% of the soil sample analysed (WAMEX report a126704).</li> <li>• GLR completed further exploration focused primarily on the lithium pegmatite potential and collected the remaining 20% of the historic soil samples on Sisters E45/5871 (WAMEX report a126704).</li> <li>• At Garden Creek E45/5869 there has been historic exploration for gold and base metals mostly comprising soil</li> </ul>

		<p>sampling by Montezuma Mining Limited in 2008 (WAMEX report a78637). The Montezuma exploration did not target lithium or other battery minerals and has been of no use in targeting.</p> <ul style="list-style-type: none"> <li>• Together with government data provided by GSWA, this past information has allowed recognition of the project's potential.</li> </ul>
Geology	<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>• Lithium is being targeted within rare metal pegmatites which represent the most fractionated and evolved pegmatite type. MinRex are targeting albite-spodumene pegmatite types, which generally host high grade lithium mineralisation.</li> <li>• Rare metal pegmatites are uncommon, typically hosted in greenstone rocks near to granite intrusion.</li> </ul>
Drill hole Information	<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>• Drilling has not been carried out.</li> </ul>
Data aggregation methods	<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 variation or aggregation methods have been applied to the assay or any other data.</li> </ul>



<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>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').</i></li> </ul>	<ul style="list-style-type: none"> <li>• Exploration is at an early stage and information contains insufficient data points to allow these relationships to be reported.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• As sample location plan is included in the main text of this announcement.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All relevant results are reported herein. There are no new assay results other than those from 2017 and 2019 with the 2023 soil sampling currently in progress with no samples submitted to a laboratory.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The exploration reported herein is at a very early stage but the 2017 and 2019 results consistent with geological and geophysical data.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Further reconnaissance and detailed mapping and follow up sampling is required to identify lithium targets and potential mineralisation.</li> <li>• Samples will be submitted to ALS Laboratories Ltd for assay determination of lithium, rare earths and other elements. When the soil sampling is completed.</li> </ul>



**Figure 1: Marble Bar Tenements location map.**

At the Garden Creek, the review of the historical geochemical data was less conclusive given the sparsity of existing data. Geochemical Services Australia has designed a soil sampling program comprising around 340 samples to cover most of the area of tenement initially at 400m by 100m spacing.

The soil sampling programs at the Garden Creek and Sisters tenements covering priority areas identified from the review, is underway with results likely available during the fourth quarter of 2023 (with the objective to define potential drill targets in the first quarter of 2024).

In conjunction with the soil sampling program, further reconnaissance rock chip sampling and mapping is being undertaken using a helicopter to expedite the access to large areas of the Greenstone belt in the northwest portion of Sisters tenement previous inaccessible due to the terrain.

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