ASX Code: MRR

27 June 2024 ASX Release

SAMPLING RESULTS RECEIVED FOR MARBLE BAR PROJECTS

HIGHLIGHTS

- Results of the recent rock chip sampling program at the Marble Bar Lithium Project (Sisters and Garden Creek) have been received.
- Sampling identified a large (>200m length by 20m wide) pegmatite with anomalous LCT-style geochemistry best result: 573ppm Li; 1385ppm Rb; 41.6ppm Cs; 331ppm Sn; and 148ppm Ta (MR00465) at Garden Creek on E45/5869.
- Follow-up reconnaissance over the anomalous soil sample (≥100ppm) areas failed to return any significant assay results. The anomalous soil results are interpreted to be associated with alteration and concentration of mica minerals about geological contacts.

MinRex Resources Limited (**ASX: MRR**) ("**MinRex**" or "the **Company**") has received and interpreted the assay results from the recently completed reconnaissance rock chip sampling program over the Garden Creek and Sisters tenements at its Marble Bar Lithium Project.

The Marble Bar projects cover an area of 71km^2 comprising the Sisters tenement (E45/5871), Garden Creek tenement (E45/5869) and Talga tenement (E45/5873), which are located within a 30km radius of the Marble Bar town site (refer Figure 1). The Marble Bar projects are considered to be prospective for hard rock, lithium-caesium-tantalum (LCT) type pegmatites, with the Sisters and Garden Creek tenements situated 2km east and 8km north respectively of the Global Lithium Ltd (ASX:GL1) Archer Deposit which hosts 18.0 million tonnes at 1.0% Li_2O.

The Sisters and Garden Creek tenements cover portions of the fertile Marble Bar Greenstone belt. At the Sisters tenement the areas of interest occur within the interpreted "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.

A total 31 rock chip samples were collected from pegmatite outcrops observed during reconnaissance exploration and from areas with elevated lithium (≥100ppm lithium) identified in broad-spaced soil sampling undertaken in late 2023. The rock chip samples were assayed for 48 multi-elements, including the usual suite of LCT pathfinder elements.

At the Sisters tenement the rock chip sampling was undertaken over the 4-5 broad zones defined by a cluster of ≥100ppm lithium (Li) from previous soil geochemical sampling (see ASX Announcement 22 November 2023 Soil Sampling Results Received for Marble Bar Project). Field observations and assay results confirm that generally the elevated lithium from the soil sampling assays is associated with alteration of the mafic and ultramafic dominant rock types (North Star Basalt / McPhee Formation) containing the elevated Li with granites of the Homeward Bound Granite (refer Figure 2 and Table 1). The lithium assays at the Sisters tenement range between 5.3ppm and 66ppm Li (median 25ppm Li). The median lithium of the rock chip samples was around 50% that of the soils and likely represents an upgrading through liberation of mica due to weathering of the host rocks in the soil profile.

Reconnaissance exploration at the Garden Creek tenement identified a large (200m length by 20m wide) pegmatite outcropping as a ridge amongst granitic rocks of the Munganbrina Monzogranite. A total of three rock chip samples were collected from different mineralogical zones across the pegmatite. The best result was 573ppm Li; 1385ppm Rb; 41.6ppm Cs; 331ppm Sn; and 148ppm Ta from sample MR00465 (refer Figures 3 & 4 and Table 1). Sample MR00465 was from a large micaceous zone within the pegmatite and the lithium, and other elevated elements may reflect a more fractionated portion of the pegmatite. The other two samples of predominantly feldspar-quartz dominant pegmatite did no return anomalous LCT-style assays.

The Company intends to undertake mineralogical analysis / studies to determine the source of the lithium in the rock chip samples collected and sample MR00465 to see if targets exist requiring further exploration. The Company is continuing geological review of the area.

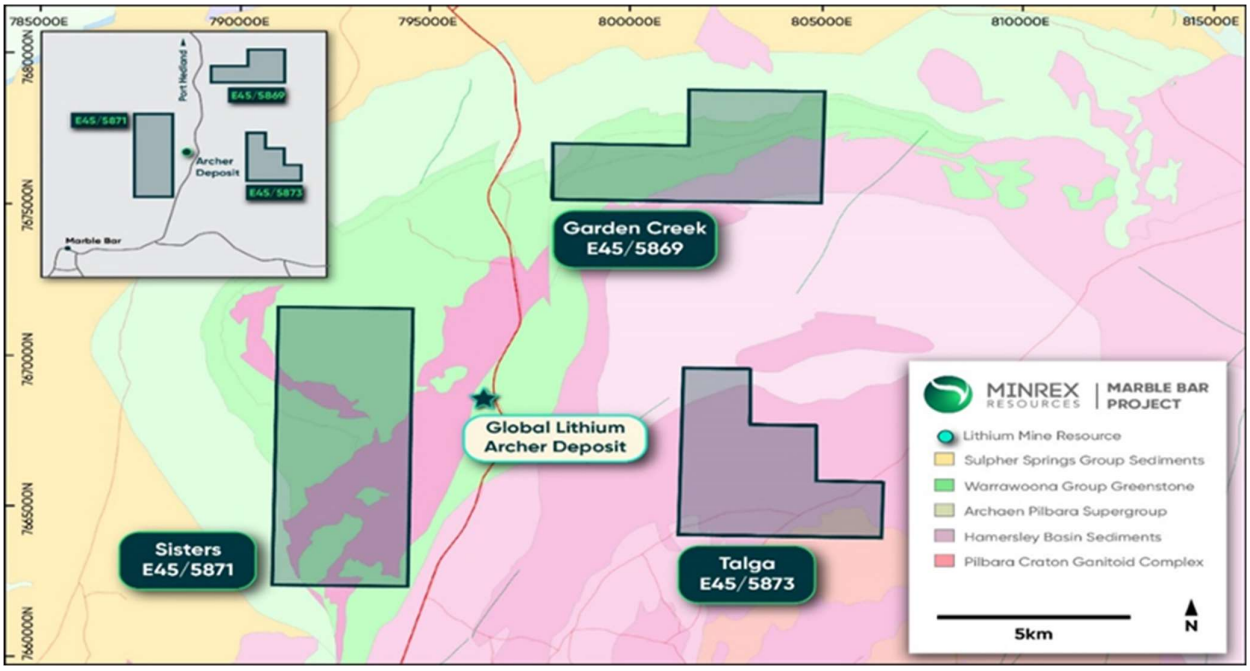

Figure 1: Marble Bar Tenements location map.

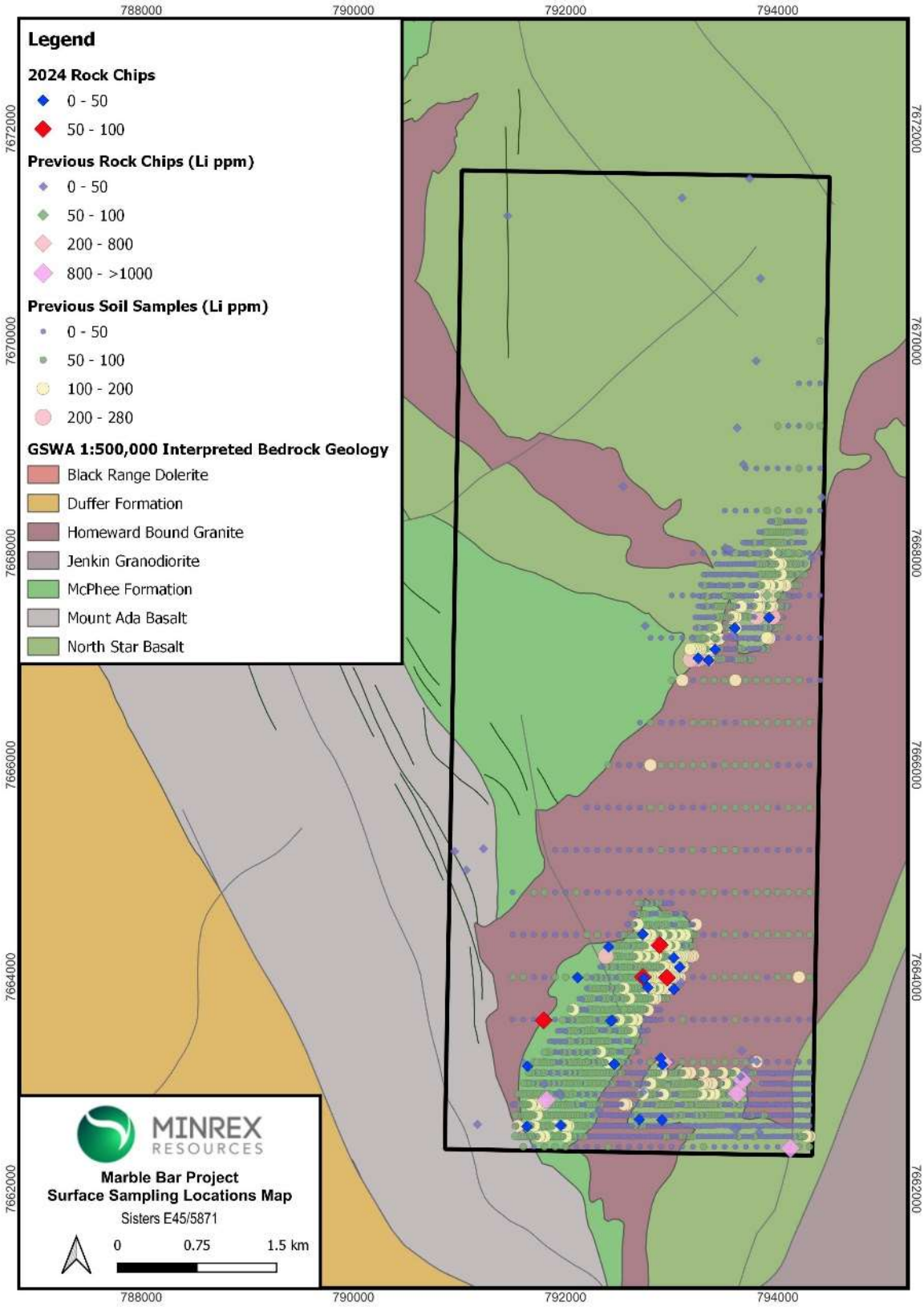

Figure 2 – Sisters rock chip sample results on E45/5871.

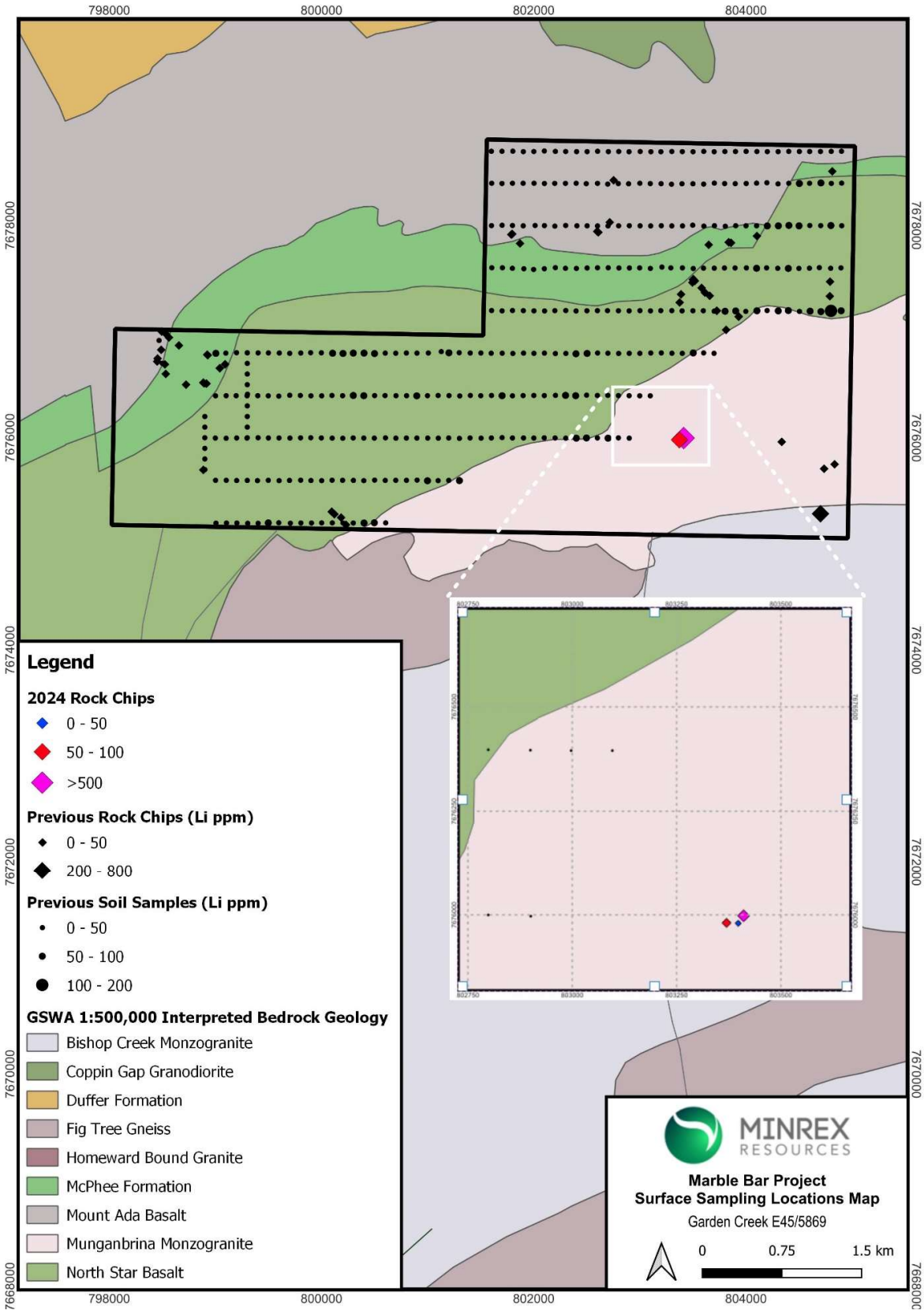

Figure 3 – Garden Creek rock chip sample results on E45/5869.

Figure 4 – Pegmatite outcrop and location of sample MR00465 on E45/5869

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

For further information, please contact:

Ian Shackleton
Technical Director
MinRex Resources Limited
T: +61 8 6102 2039
info@minrex.com.au

About MinRex Resources Ltd

MinRex Resources Limited (ASX: MRR) is an Australian based ASX-listed battery metals explorer with lithium-tin-tantalum projects in the Pilbara region of WA near the Global Lithium Archer Deposit. MinRex also has a highly prospective portfolio of gold and other metals projects in the Lachlan Fold Belt of NSW. The Company's tenements package of around 500km^2 of highly prospective ground targeting multi-commodities type deposits. The Company also currently has JORC 2012 Resources totalling 352,213 oz gold at its Sofala Project in NSW.

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.

References

For further information please refer to previous ASX announcements on the project from MinRex Resources Limited:

- Soil Sampling Results Received for Marble Bar Project (22 November 2023).
- Marble Bar Drilling Update (30 March 2023).
- Exploration Update on the RC Drilling over Tambourah & Talga Lithium Projects in the Pilbara (13 December 2022).
- Drilling Intersects Thick Pegmatites at Sisters Lithium Project (19 October 2022).
- RC Drilling Commences over Moolyella North Lithium Project (10 November 2022).

Referenced material also include Technical Reports lodged in WAMEX with the WA Department of Energy, Mines, Industry Regulation and Safety as follows:

- Lamerand. J., 2008 - Annual Report on E45/2680, Talga Project, for the Period 30 March 2007 to 29 March 2008. Montezuma Mining Company Limited (a78637).
- Burton J., 2018 – C58/2015 Marble Bar Project Annual Report for the Period 1st February 2017 to 31st January 2018. BC Iron Limited.
- Shackleton. I., 2020 – C58/2015 Marble Bar Project Annual Report for the Period 1st February 2019 to 31st January 2020. Global Lithium Resources Pty Ltd.
- Graser. G., 2021 – C58/2015 Marble Bar Project Annual Report for the Period 1st February 2020 to 31st January 2021. Global Lithium Resources Pty Ltd.
- Graser. G., 2021 - Partial Surrender Report for E45/4309 for the Period 9 February 2015 to 8 February 2021. Global Lithium Resources Pty Ltd (a126704).
- Shackleton, I., 2023 - Marble Bar Project Annual Report for the Period 1st January 2022 to 31st December 2022. Minex Resources Limited. Report No. C190/2022.
- Johnston, P., 2024 - Marble Bar Project Annual Report for the Period 1st January 2023 to 31st December 2023. Minex Resources Limited. Report No. C190/2022.

Table 1 – Rock Chip Sample Results Marble Bar Project E45/5869 & E45/5871 (key elements)

Tenement	Sample ID	MGA_Easting	MGA_Northing	Datum	Zone	Li (ppm)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Sn (ppm)	Be (ppm)	Ga (ppm)	Nb (ppm)
E45/5871	MR00437	792728	7664406	MGA94	50	41.7	275	29.2	2.28	4.1	1.35	12.85	5.47
E45/5871	MR00438	792728	7664405	MGA94	50	35.1	323	31.8	2.23	7.01	1.34	13.75	7.6
E45/5871	MR00439	792887	7664302	MGA94	50	66	82.3	6.93	1.32	3.44	1.45	17.2	9.55
E45/5871	MR00440	793021	7663885	MGA94	50	5.3	1275	37.3	56	3.59	13.9	29.7	30.4
E45/5871	MR00441	792774	7663904	MGA94	50	20.9	211	5.26	3.05	4.82	1.36	17.3	9.88
E45/5871	MR00442	792729	7664000	MGA94	50	54	379	5.41	7.59	71.6	1.59	49.8	55.1
E45/5871	MR00443	792738	7663988	MGA94	50	15.2	43.7	1.86	1.6	2.03	1.34	13.7	6.3
E45/5871	MR00444	792955	7663995	MGA94	50	59.7	273	40.2	1.8	2.77	2.34	17.6	5.36
E45/5871	MR00445	793019	7664182	MGA94	50	15.9	175	3.64	3.01	1.52	1.23	14.5	10
E45/5871	MR00446	793075	7664093	MGA94	50	43.2	125.5	16.7	0.5	1.16	1.16	9.1	4.08
E45/5871	MR00447	792439	7663592	MGA94	50	15.4	25.2	1.94	0.32	0.39	1.46	13.15	2.16
E45/5871	MR00448	792424	7663587	MGA94	50	11.6	38.5	3.47	5.07	0.36	2.4	17.45	6.96
E45/5871	MR00449	791792	7663593	MGA94	50	62.3	242	29	1.05	5.09	2.42	18.75	11.6
E45/5871	MR00450	792113	7663995	MGA94	50	33.7	102.5	4.42	1.54	1.87	1.34	13.6	7.87
E45/5871	MR00451	792405	7664285	MGA94	50	15.7	211	6.86	2.3	10.05	1.67	21.5	10.7
E45/5871	MR00452	792913	7663173	MGA94	50	33.9	157	10.6	0.88	4.29	1.13	12.75	4.54
E45/5871	MR00453	792898	7663236	MGA94	50	33.6	265	18.9	2.7	5.4	1.26	15.45	7.42
E45/5871	MR00454	792457	7663179	MGA94	50	11.4	403	13.3	10.35	1.7	1.89	19.6	7.23
E45/5871	MR00455	791640	7663159	MGA94	50	14.3	156.5	4.74	2.47	1.87	1.52	16.75	7.75
E45/5871	MR00456	791636	7662591	MGA94	50	14	44.6	2.86	2.95	1.36	3.24	16.65	11.85
E45/5871	MR00457	791953	7662602	MGA94	50	26.6	82.6	7.19	0.68	0.43	1.2	13.55	4.54
E45/5871	MR00458	792695	7662657	MGA94	50	5.8	712	15.95	39.6	30.1	3.59	43	21.5
E45/5871	MR00459	792909	7662653	MGA94	50	9.9	255	4.5	0.6	1.19	1.28	13.25	2.87
E45/5871	MR00460	793349	7666989	MGA94	50	23.9	215	10.65	1.97	12.9	1.51	21.3	7.57
E45/5871	MR00461	793250	7667008	MGA94	50	49.8	124.5	4.03	3.44	8.93	1.94	23.2	12.35
E45/5871	MR00462	793410	7667090	MGA94	50	24.1	149.5	7.2	1.98	7.75	1.28	15.65	6.89
E45/5871	MR00463	793596	7667292	MGA94	50	45.6	152	6.07	2.54	19.25	2.53	25.8	15.5
E45/5871	MR00464	793918	7667390	MGA94	50	21.7	314	6.74	2.84	32.9	1.28	27.4	20.9
E45/5869	MR00465	803412	7675997	MGA94	50	573	1385	41.6	148	331	82.5	172.5	463
E45/5869	MR00466	803399	7675979	MGA94	50	30	412	13.35	37.3	25.1	4.02	42.2	56.1
E45/5869	MR00467	803371	7675980	MGA94	50	70.3	1095	20.1	5.12	26.1	2.72	27.6	22.9

JORC Code, 2012 edition – Table 1

Section 1: Sampling Techniques and Data

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) may warrant disclosure of detailed information.*	• A total of 31 rock chip samples were collected during reconnaissance exploration over the Marble Bar Lithium Project. • Rock chip samples are representative of outcrops with samples collected from mineralised and non-mineralised rocks. • The weight of the rock chip samples collected are each nominally between 1 kg to 2 kg. • All samples were collected by a geologist on site and placed into a uniquely numbered calcio bags and sent to ALS Laboratory in Perth. • A description of the sample, co-ordinates (location) and photograph of each of the samples were recorded. • ALS used industry standard method ME-MS61L to analyze for a 48 element by four acid digestion and ICP-MS. • No standards (CRM) or blanks were submitted in the field with the samples. ALS submitted 2 CRMs (OREAS243 & EMOG-17), 1 blank and completed duplicate analysis of sample MR00444 as part of the laboratory QC practices. • Sampling and analysis are considered appropriate for the early stage of exploration undertaken.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Not applicable, no drilling has been carried out.
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*	• Not applicable, no drilling has been carried out.

	fine/coarse material.	
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.*	• Information is of insufficient detail to support any Mineral Resource Estimation.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Not applicable, no drilling has been carried out. • 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. • The sample size is considered appropriate to the early stage of exploration carried out.

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.*	• The 31 samples collected were assayed by ALS using method ME-MS61L a four-acid digestion with analysis performed with ICP-MS instrumentation. • A single gold ore standard (CRM) OREAS243 & also EMOG-17 were analysed by ALS. • There was no assay bias identified in the standards submitted by ALS.
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.*	• 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. • Results have not been adjusted.
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.*	• Samples were located during collection by handheld GPS. • The grid system used is Australian Geodetic MGA Zone 50 (GDA94) • The level of topographic control offered by the handheld GPS is considered sufficient for the style of work undertaken
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).*	• Rock chip samples are representative of outcrops with samples collected from mineralised and non-mineralised rocks. Samples were generally collected from immediately about areas that returned anomalous soil sample results ≥100ppm Li) collected during 2023. • The sample locations are each random and were not taken at regular spacings and give no indication of the variation in

		grades associate with any geological unit sampled.
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.*	• Sampling was carried out over separate portions of the project, and it is not known if they are representative. • Not applicable, no drilling has been carried out
Sample security	• *The measures taken to ensure sample security.*	• Industry standard sample collection and storage have been undertaken.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits or reviews of the data have been conducted at this stage.

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
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third.* • *parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Sisters Project comprises tenement E45/5871 and Garden Creek E45/5869 are both held by True Fella Pty Ltd. MinRex Resources Limited holds100% of the rights for all battery minerals including lithium on E45/5869 and E45/5871. • All other mineral rights, excluding battery minerals, are held by True Fella Pty Ltd. • There are no impediments that have been identified for operating in the project area on either E45/5869 or

		E45/5871.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• 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 previous soil samples analysed (WAMEX report a126704). • Global Lithium Resources (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). • At Garden Creek E45/5869 there has been historic exploration for gold and base metals mostly comprising soil 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. • Together with government data provided by GSWA, this past information has allowed recognition of the project's potential.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• 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. • Rare metal pegmatites are uncommon, typically hosted in greenstone rocks near to granite intrusion.

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.*	• Drilling has not been carried out to test these latest rock chip sample results. • MinRex collected 2,091 soil samples on regular grids over the area of the rock chip sampling on E45/5869 & E45/5871 in 2023. • The rock chip sampling was undertaken to determine if there was a source to the anomalous soil sample results (ASX release by MinRex "Soil Sampling Results Received for Marble Bar Project 22 November 2023"). • MinRex did undertake drilling of 15 RC holes over a small area in the southeast corner of E45/5871 in 2022. This drilling does not include the elevated lithium soil sampling results from the latest program and therefore is not considered relevant.
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.*	• No variation or aggregation methods have been applied to the assay or any other data.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• Exploration is at an early stage and information contains insufficient data points to allow these relationships to be reported.
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.*	• As sample location plan is included in the main text of this announcement.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All relevant results are reported herein. There are no new assay results other than those from 2017, 2019 and the latest from 2023.

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.*	• The exploration reported herein is at a very early stage but the 2017, 2019 and 2023 results are consistent with geological and geophysical data.
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.*	• Further reconnaissance and detailed mapping and follow up sampling is required to identify lithium targets and potential mineralisation.