15 June 2023

PHASE 5 DRILLING ADVANCES AHEAD OF SCHEDULE AT MAKUUTU

- **Makuutu Phase 5 drill program advances ahead of schedule with reconnaissance drilling (RAB) on EL00147 with 45 holes completed for 931 metres drilled to an average drill hole depth of 21 metres;**
- **RAB drilling on EL00257 commenced with 51 of 76 holes planned for 1,078 metres drilled to an average drill hole depth of 21 metres;**
- **The diamond drill rig is planned to be mobilised to site at the end of the month to commence infill drilling at RL00007, aiming to increase resource classification to Indicated Resource;**
- **All samples from EL00147 packaged, awaiting shipping to test lab in Perth, and expected to be reported by the end of Q3 2023;**
- **Strategic focus of Makuutu is to extend mine life to underpin the significant increase in demand to support new western supply chains of magnet and heavy rare earths; and**
- **New Mining Regulations expected to be approved in June 2023 to support the completion of the Makuutu's Mining Licence Application.**

The Board of Ionic Rare Earths Limited ("IonicRE" or "The Company") (ASX: IXR) is pleased to advise the Phase 5 drill program at its 60% owned Makuutu Rare Earths Project ("Makuutu" or "the Project") is advancing to plan with the rotary air blast (RAB) drilling completed on Exploration Licence 00147 (EL00147), and now underway on EL00257. Additionally, the core drilling program, planned for Retention Licence RL00007, is expected to commence at the end of June.

Makuutu currently ranks amongst the world's largest and most advanced ionic adsorption clay (IAC) rare earth element (REE) deposits, and as such, a globally strategic resource for near term, low capital development and long-term security of magnet and heavy rare earth oxide (HREO) supply.

With the addition of the other tenements at Makuutu, the larger consolidated Project has substantial scope for future growth, and increasing geopolitical importance, to underpin the establishment of western sources for new magnet and heavy rare earths supply chains.

The reconnaissance RAB drilling as part of the Phase 5 drilling program is part of a sequential program to define areas of further growth at Makuutu, supporting the potential growth targets to further extend the resource along the 37 km long mineralised corridor on the Company's tenements.

The core drilling across RL00007 also is a requirement to increase the resource classification of existing resources to support the next planned Mining Licence Application at the larger Makuutu Project expected before the end of November 2024.

Commenting on the progress made to date with the Phase 5 drilling program at Makuutu, Ionic Rare Earths Managing Director Mr. Tim Harrison said:

"The drill program is progressing to and follows on from the encouraging results the Company identified when last drilling on this tenement. The second drill rig is due to be mobilised later this month, progressing core drilling of infill holes at RL00007 and we are confident this program will upgrade the Inferred Resource to Indicated Resource category."

"The strategic focus of this Phase 5 exploration program is to further define potential for further growth at Makuutu plus also support increased confidence on the next MLA area on RL00007. Growing the resource and defining more growth potential is a key discussion point with several potential strategic partners looking at securing the potential product from Makuutu to underpin their heavy rare earth demands in the near term to support the new economy of electrification, advanced manufacturing, and defence."

"We are also patiently awaiting approval of the new Mining Regulations in Uganda, and having been involved in several discussions with key Uganda stakeholders, we remain positive on near term approval of our MLA for the Stage 1 development at Makuutu on RL 1693 (now TN03834)."

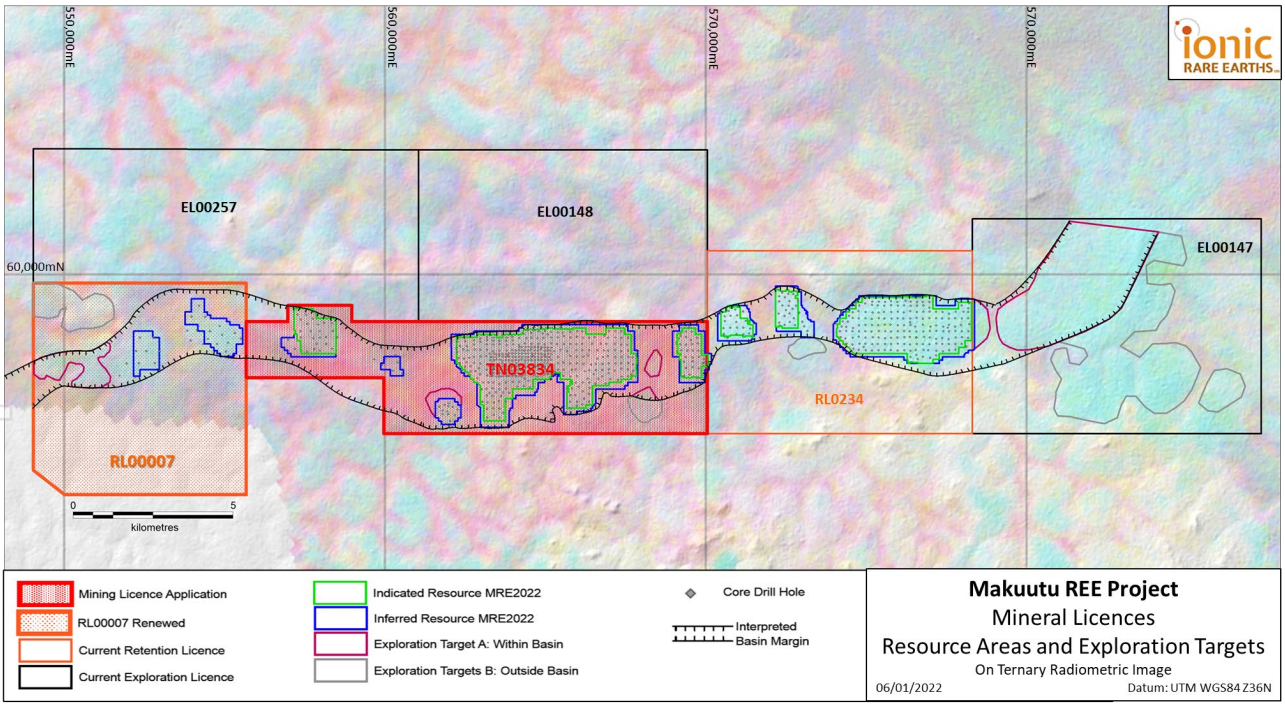

Figure 1: Makuutu Project resource map showing resources and the Makuutu western tenement, RL00007 (highlighted orange), the Stage 1 Mining Licence Application TN03834 (red border) and exploration target areas.

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Phase 5 Drill Program

Makuutu is made up of six tenements, with the Makuutu central tenement, RL 1693, the only tenement used to support the recently announced positive Makuutu Stage 1 Definitive Feasibility Study (DFS), which shows that Makuutu would have an initial 35-year mine life with EBITDA of A$2.29 billion and an IRR of 32.7% (ASX: 20 March 2023).

The Phase 5 drill program will include approximately 4,380 metres of core drilling used for resource upgrade on RL00007 plus 2,230 metres of RAB drilling used for evaluation of exploration targets on EL00147 and EL00257.

Infill Drill Program

IonicRE will prioritise infill drilling to areas located on RL00007 (refer Figure 2) to increase resource classification from Inferred Resources to Indicated Resources, supporting the Stage 2 DFS and the next MLA expected to be completed on RL00007 in November 2024.

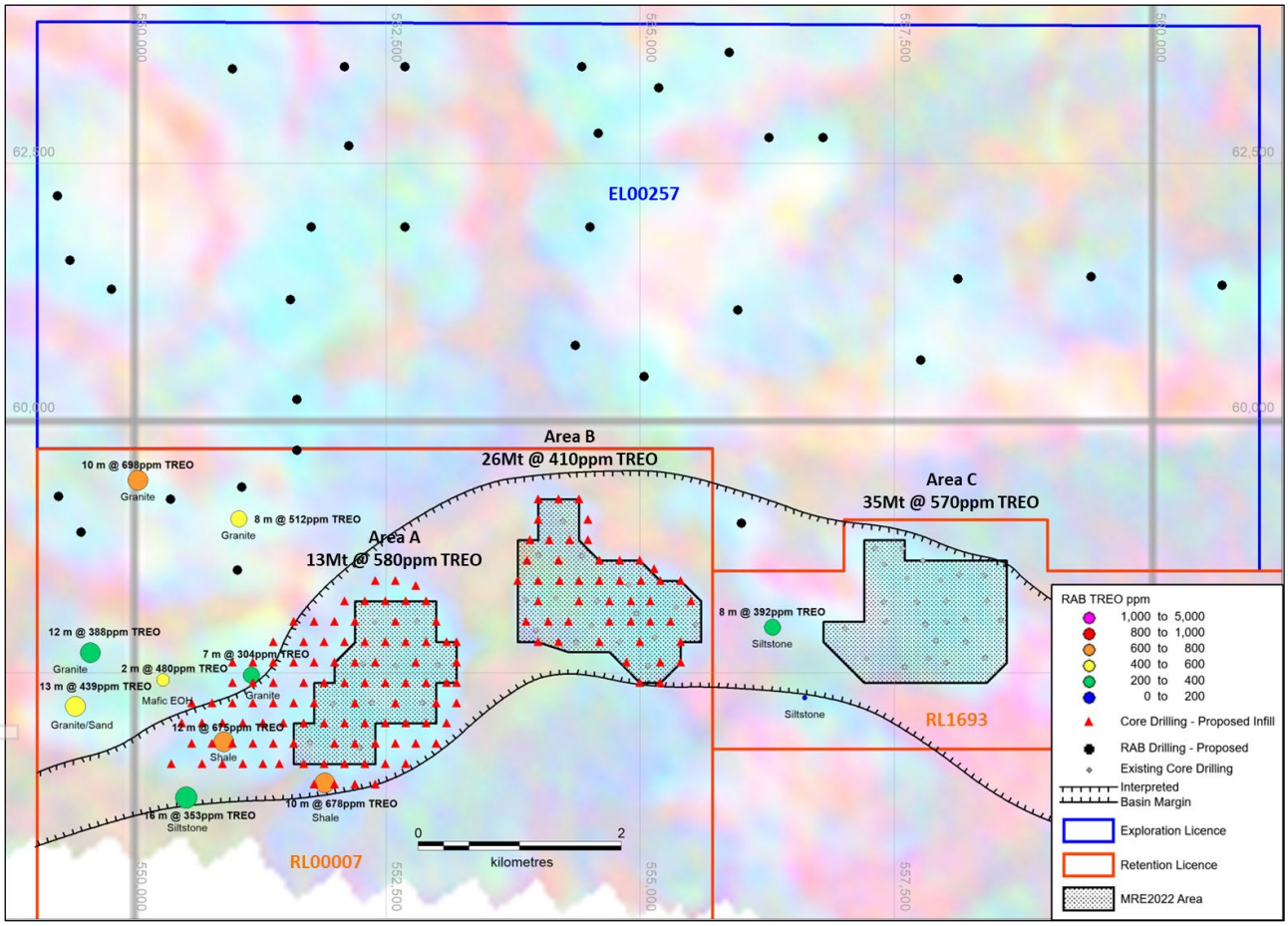

Figure 2: Makuutu Project resource map showing EL00257 and RL00007 where previous RAB drilling occurred in 2021, red triangles indicate planned resource diamond drilling on RL00007.

Currently, the Company's greater Makuutu Mineral Resource Estimate (MRE) (refer Table 2 and ASX: 3 May 2022) is estimated at 532 Million tonnes at 640 ppm Total Rare Earth Oxide (TREO) with a cut-off grade of 200 parts per million (ppm) TREO minus Cerium Oxide (CeO_2). Only a small

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component of this presently exists within RL00007, reflected by areas A and B illustrated on Figure 2 and broken down within Table 3, with an Inferred Resource on RL00007 is 39 million tonnes at 470 ppm TREO.

To support the pending MLA on RL00007, resources will be upgraded to a minimum Indicated classification, and as such infill drilling will focus on areas A and B (Figure 2), which also possess very favourable metallurgical extraction based upon test work to date. Some extensional drilling on areas A and B has been planned with potential to increase the overall resource on RL00007.

Exploration Target Drilling

The zones targeted in the proposed RAB drilling program represent the highest identified Total Rare Earth Oxide (TREO) grade Inferred and Exploration Target mineralisation at Makuutu.

The existing Makuutu Exploration Target (ASX: 1 June 2022), which is additional to the current Makuutu MRE, indicated a range for additional potential mineralisation at Makuutu estimated at;

216 – 535 million tonnes grading 400 – 600 ppm TREO*

*This Exploration Target is conceptual in nature but is based on reasonable grounds and assumptions. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The exploration program comprises several stages summarised as follows.

1. Previous RAB drilling tested areas – Exploration Target

The 2021 Phase 3 RAB reconnaissance drilling campaign over multiple targets in the Makuutu area identified clay hosted REE mineralisation within, and outside, the sedimentary basin that contains the Makuutu resource (ASX: 14 July 2021 and 20 July 2021).

The success of that program allowed a revision of the Exploration Target. The revised Exploration Target was separated into target areas within the sedimentary basin, and those outside the basin with clay hosted REE mineralisation derived from a mixture of rock types including granite, granodiorite, and some mafic rocks.

The Exploration Target ranges are listed in Table 1 and locations shown on Figure 3.

Drilling has been completed on EL00147 with 45 holes completed for 931 metres drilled to an average drill hole depth of 21 metres (refer Figure 4).

Samples are expected to be dispatched shortly for analysis in Australia.

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Table 1: Makuutu Exploration Target (ASX : 1 June 2022)

		Tonnes Range (millions)		TREO ppm Range	
Zone	**Target ID**	**Minimum**	**Maximum**	**Minimum**	**Maximum**
Inside Basin	**A1**	14	28	400	600
	A2	2	5	600	800
	A3	2	5	600	800
	A4	2	4	500	700
	A5	4	8	400	600
	A6	90	180	400	600
Outside Basin	**B1**	15	45	500	700
	B2	4	12	400	600
	B3	2	6,	600	800
	B4	73	220	400	600
	B5	8	28	400	600
Total		**216**	**535**	**400**	**600**

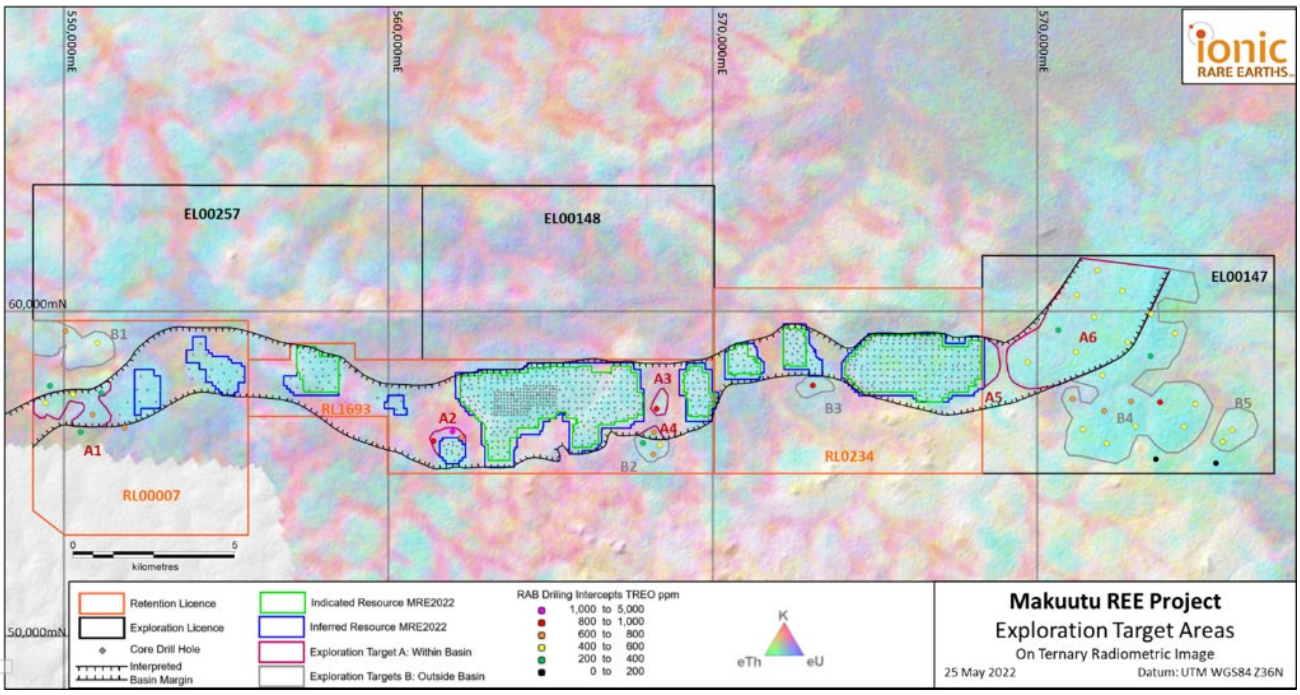

Figure 3: Makuutu Exploration Targets on Ternary Radiometric Image and Phase 3 RAB Intercepts.

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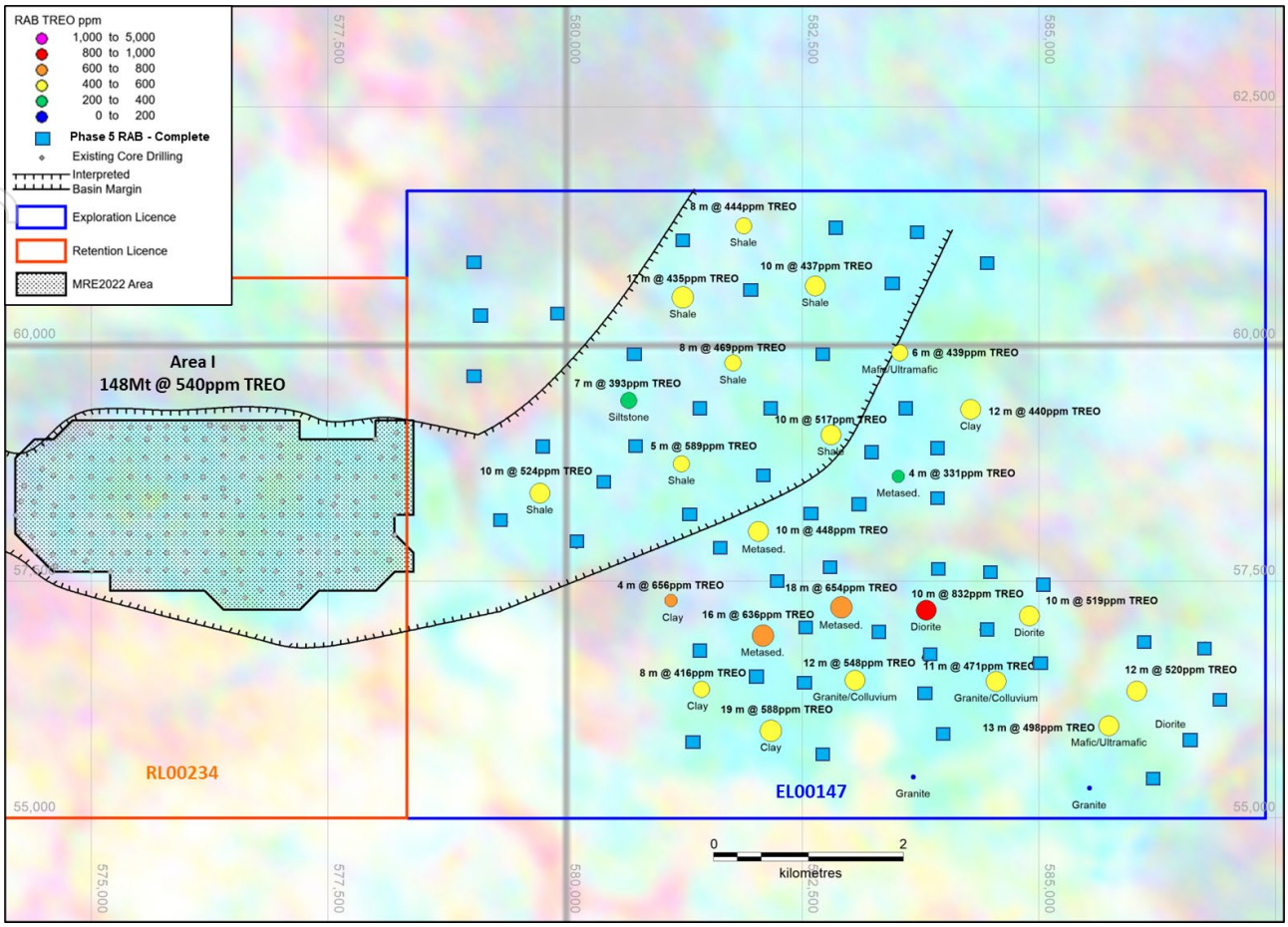

Figure 4: Makuutu Project resource map showing EL00147 where previous RAB drilling occurred in 2021, and blue squares indicate phase 5 completed drill holes.

Figure 5: Daily safety toolbox meeting on site at Makuutu with growing workforce.

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Figure 6: preparing RAB drilling pad on left and field assistants weighing clay samples (right) in preparation for dispatch to laboratory for testing in Perth.

2. Untested areas outside the main project trend EL00257

Exploration Licence EL00257 (refer Figure 2) has areas of eU/eTh radiometric anomalism related to lateritic hardcap as seen at Makuutu. Previously, only reconnaissance field inspection had been conducted on this licence to confirm the radiometric response is related to hardcap.

The aim of the Phase 5 program on EL00257 is to initially determine the endowment of REE in the area with the goal of generating additions to an updated Exploration Target.

Drilling has progressed well on EL00257 with 51 holes completed of 76 planned, for 931m drilled to an average drill hole depth of 21 metres.

Update on Stage 1 Mining Licence Application (TN03834)

The Company has been frequently engaging, in consultation with key Ugandan government departments and stakeholders regarding the revision and adoption of the new Ugandan Mining Regulations which are soon to be approved by the Ugandan Government. The approval of the new

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Mining Regulations will be the final hurdle for the Company, via Rwenzori Rare Metals Limited ("Rwenzori") to finalise the MLA submission to the Ugandan Directorate of Geological Survey and Mines (DGSM). The regulations have already undergone a consultation with the industry as well as a review by the Ugandan Attorney General. The expectation is that the final regulations will be gazetted in the month of June 2023 which will allow for the MLA submission to be completed.

Authorised for release by the Board.

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Table 2: Makuutu Rare Earth Project Resource Tabulation of REO Reporting Groups at 200ppm TREO-CeO_2 Cut-off Grade (ASX: 3 May 2022).

Resource Classification	Tonnes (millions)	TREO (ppm)	TREO-CeO_2 (ppm)	LREO (ppm)	HREO (ppm)	CREO (ppm)	Sc_2O_3 (ppm)
Indicated	404	670	450	500	170	230	30
Inferred	127	540	360	400	140	180	30
Total	532	640	430	480	160	220	30

Notes; Tonnes are dry tonnes rounded to the nearest 1.0Mt.
All ppm rounded from original estimate to the nearest 10 ppm which may lead to differences in averages. TREO = Total Rare Earth Oxide

Table 3: Mineral Resources by Area (ASX: 3 May 2022), RL00007 Resource Areas shaded blue.

Classification	Indicated Resource			Inferred Resource			Total Resource		
Area	Tonnes (millions)	TREO (ppm)	TREO-CeO_2 (ppm)	Tonnes (millions)	TREO (ppm)	TREO-CeO_2 (ppm)	Tonnes (millions)	TREO (ppm)	TREO-CeO_2 (ppm)
A				13	580	390	13	580	390
B				26	410	290	26	410	290
C	31	580	400	3	490	350	35	570	400
D				6	560	400	6	560	400
E				18	430	280	18	430	280
Central Zone	151	780	540	12	670	460	163	770	530
Central Zone East	59	750	490	12	650	430	72	730	480
F	18	630	420	7	590	400	25	620	410
G	9	750	500	5	710	450	14	730	480
H	6	800	550	7	680	480	13	740	510
I	129	540	350	19	530	350	148	540	350
Total Resource	**404**	**670**	**450**	**127**	**540**	**360**	**532**	**640**	**430**

Rounding has been applied to 1Mt and 10ppm which may influence averaging calculations.

About Ionic Rare Earths Ltd

Ionic Rare Earths Limited (ASX: IXR or IonicRE) is set to become a miner, refiner and recycler of sustainable and traceable magnet and heavy rare earths needed to develop net-zero carbon technologies.

The flagship Makuutu Rare Earths Project in Uganda, 60% owned by IonicRE, is well-supported by existing tier-one infrastructure and is on track to become a long-life, low Capex, scalable and sustainable supplier of high-value magnet and heavy rare earths oxides (REO). In March 2023, IonicRE announced a positive stage 1 Definitive Feasibility Study (DFS) for the first of six (6) tenements to progress to a Mining License Application (MLA) which is pending in Uganda. The Makuutu Stage 1 DFS defined a 35-year life initial project producing a 71% rich magnet and heavy rare earth carbonate (MREC) product basket and the potential for significant potential and scale up through additional tenements.

Ionic Technologies International Limited ("IonicTech"), a 100% owned UK subsidiary acquired in 2022, has developed processes for the separation and recovery of rare earth elements (REE) from mining ore concentrates and recycled permanent magnets. Post-acquisition, IonicTech is now focusing on the commercialisation of the technology to achieve near complete extraction from end of life / spent magnets and waste (swarf) to high value, separated and traceable magnet rare earth products with grades exceeding 99.9% rare earth oxide (REO). This technology provides first mover advantage in the industrial elemental extraction of REEs from recycling, enabling near term magnet REO production capability to support demand for early-stage alternative supply chains.

As part of an integrated strategy to create downstream supply chain value, IonicRE is also evaluating the development of its own magnet and heavy rare earth refinery, or hub, to separate the unique and

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high value magnet and heavy rare earths dominant Makuutu basket into the full spectrum of REOs plus scandium.

This three-pillar strategy completes the circular economy of sustainable and traceable magnet and heavy rare earth products needed to supply applications critical to electric vehicles, offshore wind turbines, communication, and key defence initiatives.

IonicRE is a Participant of the UN Global Compact and adheres to its principles-based approach to responsible business.

Competent Persons Statement

Information in this report that relates to previously reported Exploration Targets and Exploration Results has been cross-referenced in this report to the date that it was originally reported to ASX. Ionic Rare Earths Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcements.

The information in this report that relates to Mineral Resources for the Makuutu Rare Earths deposit was first released to the ASX on 20 March 2022 and is available to view on www.asx.com.au. Ionic Rare Earths Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcement, and that all material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed.

The information in this report that relates to Ore Reserves for the Makuutu Rare Earths deposit was first released to the ASX on 20 March 2023 and is available to view on www.asx.com.au. Ionic Rare Earths Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcement, and that all material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed.

The information in this report that relates to Production Targets or forecast financial information derived from production the production target for the Makuutu Rare Earths deposit was first released to the ASX on 20 March 2023 and is available to view on www.asx.com.au. Ionic Rare Earths Limited confirms that all material assumptions and technical parameters underpinning the Production Targets or forecast financial estimates in the announcement continue to apply and have not materially changed.

Forward Looking Statements

This announcement has been prepared by Ionic Rare Earths Limited and may include forward-looking statements. Forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside the control of Ionic Rare Earths Limited. Actual values, results or events may be materially different to those expressed or implied in this document. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. Any forward-looking statements in this document speak only at the date of issue of this document. Subject to any continuing obligations under applicable law and the ASX Listing Rules, Ionic Rare Earths Limited does not undertake any obligation to update or revise any information or any of the forward-looking statements in this document or any changes in events, conditions, or circumstances on which any such forward looking statement is based.