

17 October 2023

PHASE 5 DRILLING PROGRAM COMPLETED AT MAKUUTU

- **Phase 5 infill drill program at Makuutu on Retention Licence (RL) 00007 completed with 128 holes drilled for 2,501 metres;**
- **Infill drilling expected to both increase confidence and scale of updated Mineral Resource Estimate (MRE) expected Q1 2024;**
- **Samples progressively being delivered to Perth for analysis, with first results expected this quarter; and**
- **Makuutu's basket contains 71% magnet and heavy rare earths content, and is one of the most advanced heavy rare earth projects globally available as a source for new supply chains emerging across Europe, the US, and Asia;**

The Board of Ionic Rare Earths Limited ("IonicRE" or "The Company") (ASX: IXR) advises on progress at its 60 per cent owned Makuutu Heavy Rare Earths Project ("Makuutu" or "the Project") in Uganda.

The Company is pleased to advise completion of the Phase 5 drill program progressing the development at the Makuutu Heavy Rare Earths Project through local Ugandan operating entity Rwenzori Rare Metals Limited ("RRM").

IonicRE's Managing Director Mr Tim Harrison said the Phase 5 drill program, now completed, is an important activity in advancing the next stages of development at Makuutu for a much larger Project.

"The infill drilling has progressed to plan and we await assays, expected over the remainder of 2023, to feed into a significant increase in confidence on the MRE associated with RL00007 which will support our next Mining Licence Application at Makuutu."

"We await the results of the metallurgical test work on samples selected from the recent RAB drilling as part of this Phase 5 drill program which will enable revision to the Exploration target aimed for late this quarter, and also assist the Company plan future drilling across both EL00147 and EL00257."

"Our focus on the delivery of the Makuutu Heavy Rare Earths Project in Uganda positions us to provide a secure, sustainable, and traceable supply of magnet rare earth oxides. Along with our Ionic Technologies Belfast recycling facility, Makuutu is key to us harnessing our technology to accelerate mining, refining, and recycling of magnets and heavy rare earths that are critical for the energy transition, advanced manufacturing, and defence".

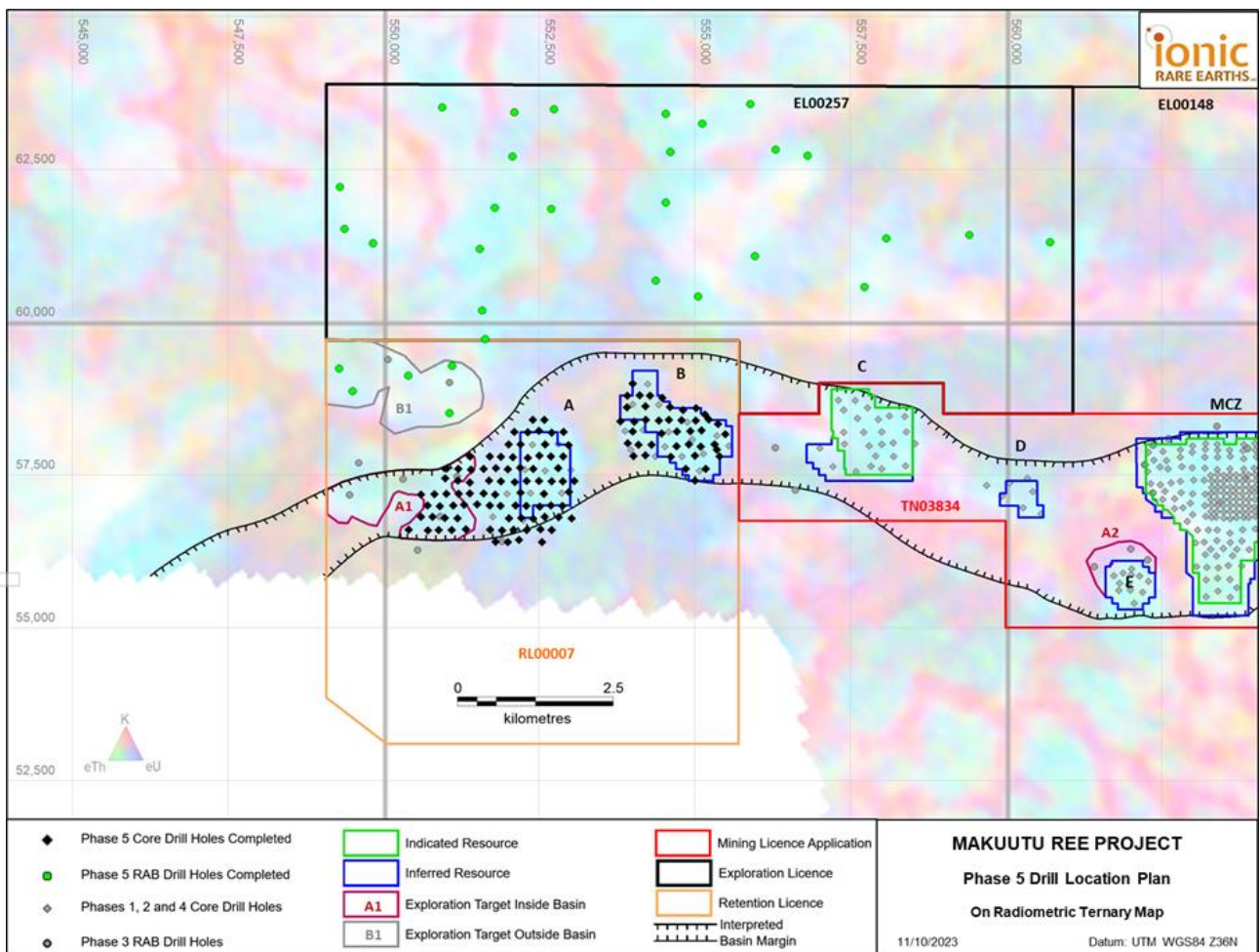
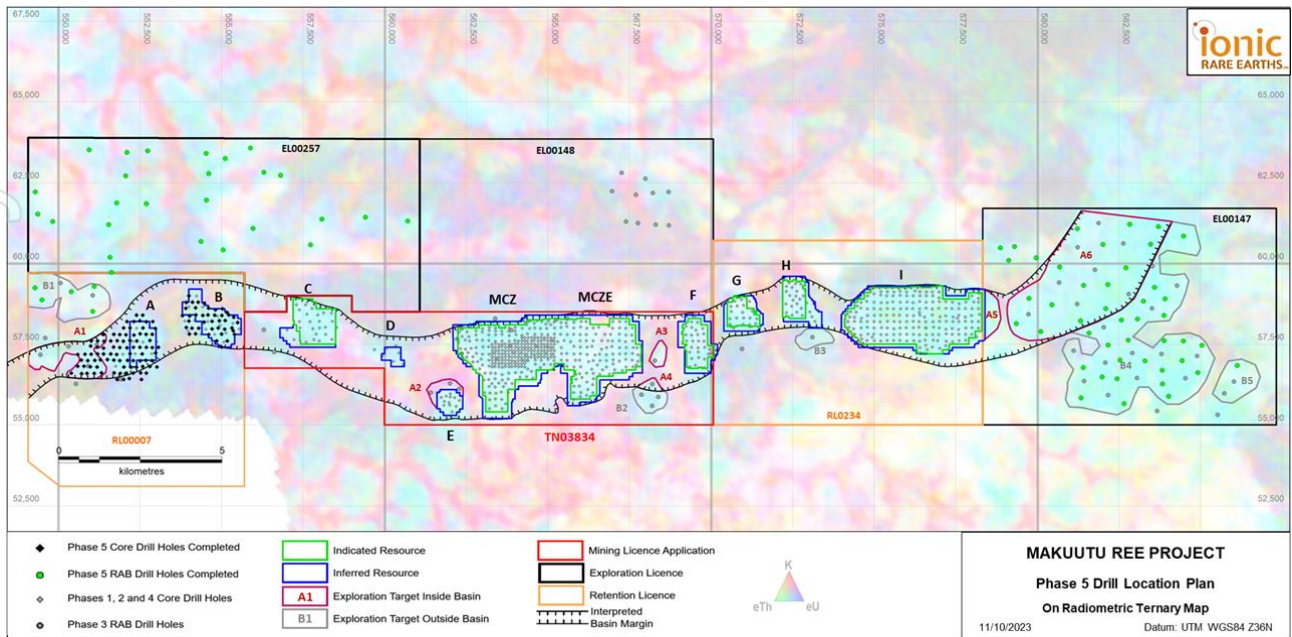


Table 1: Makuutu Rare Earth Project Resource Tabulation of REO Reporting Groups at 200ppm TREO-CeO₂ Cut-off Grade (ASX: 3 May 2022).

Resource Classification	Tonnes (millions)	TREO (ppm)	TREO-CeO ₂ (ppm)	LREO (ppm)	HREO (ppm)	CREO (ppm)	Sc ₂ O 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 2: 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.

Authorised for release by the Board.

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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 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 Licence 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 ("Ionic Technologies"), 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. Ionic Technologies is 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). In June 2023, Ionic Technologies announced initial production of high purity magnet REOs from its newly commissioned Demonstration Plant. This technology and operating Demonstration Plant 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. In September 2023, Ionic Technologies announced with the support of the UK government, collaboration partnerships to build a domestic UK supply chain, from recycled REOs to metals, alloys and magnets and supplying UK based electric vehicles (EV) manufacturing, with potential to replicate across other key markets.

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

This integrated strategy completes the circular economy of sustainable and traceable magnet and heavy rare earth products needed to supply applications critical to EVs, 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.