



ASX Announcement

27 February 2024

MAKUUTU EXPLORATION TARGET INCREASED 40% WITH ADDITION OF EXPLORATION LICENCE 00257

- **Successful maiden Rotary Air Blast (RAB) drilling on Exploration Licence (EL) 00257 resulted in approx. 40% increase to updated Exploration Target at Makuutu;**
- **Of the 76 RAB drill holes completed in Phase 5 across EL 00147, EL00257, and Retention Licence (RL) 00007, 69 holes reported assays with clay-hosted rare earth intersections above the current resource cut-off;**
- **Drilling across EL00147 has increased confidence in the existing Exploration Target defined for Exploration Licence 00147 with no further change; and**
- **Makuutu remains the most advanced Ionic adsorption clay project in development today with product not committed to China, and available to supply new supply chains looking to decouple sourcing from existing sources.**

Ionic Rare Earths Limited (“IonicRE” or “the Company”) (ASX: IXR) is pleased to advise a revision and increase to the Exploration Target for the Makuutu Heavy Rare Earths Project (“Makuutu” or “the Project”) in Uganda.

The Company is progressing the development at the Makuutu Heavy Rare Earths Project through local Ugandan operating entity Rwenzori Rare Metals Limited (“RRM”). IonicRE has agreed terms with partners in RRM on moving to 94% ownership which is expected to occur in H1 2024.

The updated overall Makuutu Exploration Target has therefore been revised upward to :

285 – 766 million tonnes grading 400 – 700 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 Target has been increased from the 2022 target¹ based on the Phase 5 RAB drilling completed on exploration licence EL00147 and EL00257 during 2023. Results for these programs have been previously reported.^{2,3}

Drilling in 2023 on EL0147 was designed to infill the initial 1-kilometre spaced 2021 RAB program drilling to an approximate spacing of 500 metres. This drilling returned results consistent with the 2021 RAB drilling and the exploration target ranges have been maintained for targets A6, B4 and B5 listed in Table 1 and shown in Figure 1.

The maiden RAB drilling program in 2023 on EL00257 was broad spaced with the aim of identifying the presence and tenor of rare earth mineralisation in the regolith above underlying fresh rock in laterite plateau areas. Following assessment of the material type and multi-element analytical data, an exploration target has been estimated and included in the overall Makuutu Project Exploration Target. Exploration targets B6 to B13 listed in Table 1 and shown in Figure 1 have been derived from this drilling.

The revised Exploration Target is separated into target areas within the sedimentary basin, and those outside the basin in a mixture of weathered rock types including granite, granodiorite and some mafic rocks.

The updated exploration target is detailed in Table 1.

Additionally, the Exploration Target has been broken down by tenement in showing the new exploration target derived for EL00257.

The Exploration Target is outside the current project Mineral Resource Estimate detailed in Table 3. An exploration program designed to evaluate these targets for resource development, including drilling and processing test work, will be compiled during 2024 to inform the Company on work streams to advance exploration licences toward further evaluation.

¹ ASX Announcement 1 June 2022: "Updated Makuutu Exploration Target, Planning Phase 5 Drill Program"

² ASX Announcement 4 September 2023: "Phase 5 RAB Tranche 1 Drill Assay Results Confirm Significance of Makuutu as a Strategic Asset"

³ ASX Announcement 2 October 2023: "Drilling Program Supports Additional Growth Potential at Makuutu"

Table 1: Makuutu Exploration Target

Zone	Target ID	Tonnes Range (millions)		TREO ppm Range	
		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	700
	B5	8	28	400	600
	B6	1	3	400	600
	B7	10	32	500	700
	B8	2	5	400	600
	B9	25	83	500	700
	B10	6	20	200	500
	B11	2	6	300	600
	B12	2	6	300	500
	B13	21	70	500	700
Totals		285	766	400	700

Exploration Target ranges estimated from:

Selected Areas: RAB drilling intercepts >200ppm TREO-CeO₂ exceeding 2 metres interval thickness.

Maximum Tonnes: Area of target area x RAB intercepts above MRE cut-off grade x MRE clay insitu dry bulk density (1.7)

Minimum Tonnes: Targets A1 to A6: 50% of the Maximum Tonnes; Targets B1 to B14: 30% of the Maximum Tonnes

Maximum TREO ppm: Average of RAB drilling intercepts above MRE cutoff grade rounded up to nearest 100 ppm

Minimum TREO ppm: Average of RAB drilling minus 100ppm rounded to nearest 100ppm.

Table 2: Exploration Target by Licence at Makuutu.

Tenement	Tonnes Range (millions)		TREO ppm Range	
	Minimum	Maximum	Minimum	Maximum
LML00334	10	26	500	600
RL00007	29	73	400	600
RL00234	2	6	600	800
EL00147	175	436	400	600
EL00257	69	225	400	600
Totals	285	766	400	700

Exploration Target ranges estimated based upon notes provided in Table 1.

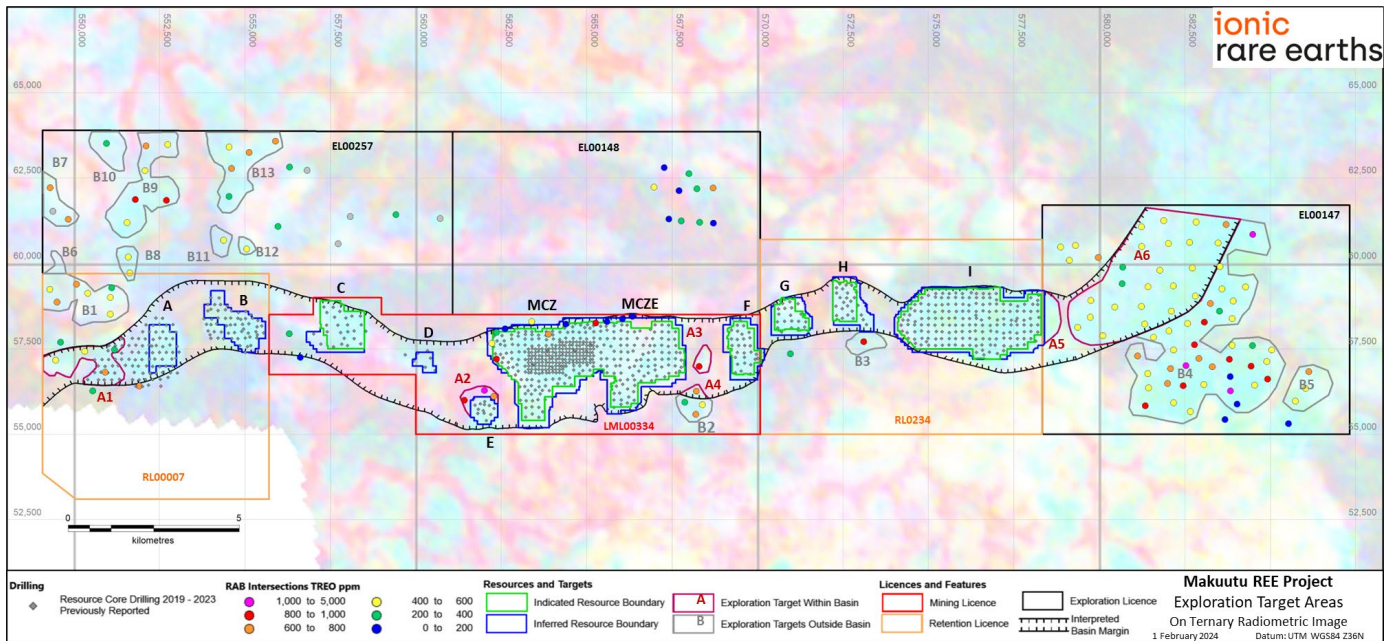


Figure 1: Makuutu project showing location of Exploration Target and Mineral Resource Areas.

Authorised for release by the Board.

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Table 3: 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 4: Mineral Resources by Area (ASX: 3 May 2022), RL00007 Resource Areas shaded.

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)
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 Makuutu Rare Earths Project in Uganda, 60% owned by IonicRE, moving to 94% ownership in H1 2024, 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 mining licence which was awarded in January 2024. 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.

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 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

The information in this Report that relates to Exploration Targets for the Makuutu Project is based on information compiled by Mr. Geoff Chapman, who is a Fellow of the Australian Institute of Mining and Metallurgy (AusIMM). Mr. Chapman is a Director of geological consultancy GJ Exploration Pty Ltd that is engaged by Ionic Rare Earths Ltd. Mr. Chapman has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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’ (JORC Code). Mr. Chapman consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Information in this report that relates to previously reported 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 3 May 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.