

03 August 2021

THIRD RIG MOBILISED WITH DRILLING ACTIVITY ADVANCING RAPIDLY

- **3rd drill rig mobilised at Makuutu for Phase 4 infill drill program**
- **Largest program initiated to date at Makuutu gaining momentum with over 2,370 metres completed to date**
- **Additional REE bearing clay mineralisation extensions immediately adjacent to MRE identified included for Phase 4 resource drilling**
- **Tranche 1 samples arrived in Australia for analysis**
- **Metallurgical samples received by China Rare Earths Jiangsu for validation testwork**

Ionic Rare Earths Limited (“IonicRE” or “the Company”) (ASX: IXR) is pleased to provide an update on exploration and project development activities at its 51% owned Makuutu Rare Earths Project (“Makuutu”) in Uganda.

Makuutu is one of the world's largest scale ionic adsorption clay (IAC) hosted Rare Earth Element (REE) deposits, located 120 km east of Kampala in Uganda. The Company is focused on the completion of a Feasibility Study and supporting activities to enable the submission of a Mining Licence Application (MLA) to the Ugandan Directorate of Geological Survey and Mines (DGSM) before 1 November 2022.

The aim of the Phase 4 drill program is to convert the Inferred Resources on RL 1693 to Indicated and Measured Resource category, plus also converting RL 1693 Exploration Targets to classified resources. These higher classified resources will then be used to underpin the Makuutu Feasibility Study. The Phase 4 program includes 5,700 metres of drilling making this drill program the largest completed by the Company to date.

Phase 4 infill drilling has initially started near Makuutu Central Zone (MCZ) on RL 1693, specifically prioritising infill drilling to areas immediately adjacent to the existing Indicated Resource area, Central Zone East (CEZ) Inferred, CEZ Unclassified Exploration Target, Central Main Zone Inferred, plus areas F, G and H, as illustrated within Figure 1. The zones represent the highest identified Total Rare Earth Oxide (TREO) grade Inferred and Exploration Target mineralisation at Makuutu.

On the back of the extremely encouraging Phase 3 RAB results (ASX: 17 July 2021) identified immediately adjacent to existing inferred resources, additional holes have been allocated which will extend the central zone marginally to the west.

Ionic Rare Earths Managing Director Mr. Tim Harrison commented:

“The progress at Makuutu continues to move along at a very rapid pace. The phase 4 infill drilling program is ahead of plan and with the third rig now on site we expect to get through the program ahead of schedule.”

“The very positive recently reported Phase 3 RAB drill results have provided strong encouragement to extend drilling in areas immediately adjacent to the Makuutu central area indicated resource area and we have moved swiftly to add that to the program. We have no shortage of future targets with substantial extensional upside at Makuutu however we remain ensuring we define an adequate indicated resource base to support the Feasibility Study.”

Makuutu Rare Earths Project Status Update

The Company is pleased to report that excellent progress has been made on progressing the Feasibility Study work program. Key consultants have been appointed to accelerate technical and commercial assessment of all key elements of the Makuutu Rare Earths Project.

The Project team has focused recent work on long-lead field studies and testwork as follows;

- Building the team in Uganda with the appointment of key personnel to drive activity in country.
- The Environmental and Social Impact Assessment is well underway with key stakeholder meetings held with government, NGOs and local community representatives, and substantial progress of the baseline studies by local consultants.
- Dando drill rigs have been mobilised to site to complete metallurgical sampling required to support key process development and verification testwork. Samples have been received at destinations, with results expected in late 2021.
- Geotechnical contract has been tendered and awarded to a local Ugandan based service provider.
- Conditional simulation studies have been completed to provide confidence on potential requirements for close space infill drilling to support Measured resource requirements at Makuutu.
- Phase 4 drilling activity continues, with over 2,370 metres (155 drill holes) drilled to date. The third rig has mobilised to support infill drilling the Central Makuutu zone.
- The first tranche of core samples were received in Australia and results are expected to be progressively reported from early September.
- Detailed mineralogical studies have commenced with approximately 200 samples analysed by SGS Lakefield in Canada.
- Metallurgical test work and process design optimisation is continuing with initial heap leach columns finalised at ANSTO pending reporting of final results, and a subsequent program now in planning to examine the scale up of columns.
- Discussions with prospective strategic partners are progressing well and providing important input into our development planning, the Feasibility Study and our production ramp up sequence.

The Company will provide updates to the market as progress continues with the advancement of the Project.

Authorised for release by the Board.

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Makuutu Mineral Resource Estimate

Table 1: Makuutu Resource above 200ppm TREO-CeO₂ Cut-off Grade

Resource Classification	Tonnes (millions)	TREO (ppm)	TREO-CeO ₂ (ppm)	LREO (ppm)	HREO (ppm)	CREO (ppm)	Sc ₂ O ₃ (ppm)
Indicated Resource	66	820	570	590	230	300	30
Inferred Resource	248	610	410	450	160	210	30
Total Resource	315	650	440	480	170	230	30

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

All REO are tabulated in MRE announcement dated 3 March 2021 with formulas defining composition of Light Rare Earth Oxides (LREO), Heavy Rare Earth Oxides (HREO), Critical Rare Earth Oxides (CREO) and Total Rare Earth Oxides (TREO).

Table 2: Mineral Resources by Area

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)
Central Zone	66	820	570	51	730	500	118	780	540
A				12	570	390	12	570	390
B				25	410	280	25	410	280
C				-	-	-	-	-	-
D				6	560	400	6	560	400
E				-	-	-	-	-	-
Central Zone East				37	740	520	37	740	520
F				11	570	390	11	570	390
G				6	660	450	6	660	450
H				4	780	560	4	780	560
I				96	550	350	96	550	350
Total Resource	66	820	570	248	610	410	315	650	440

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

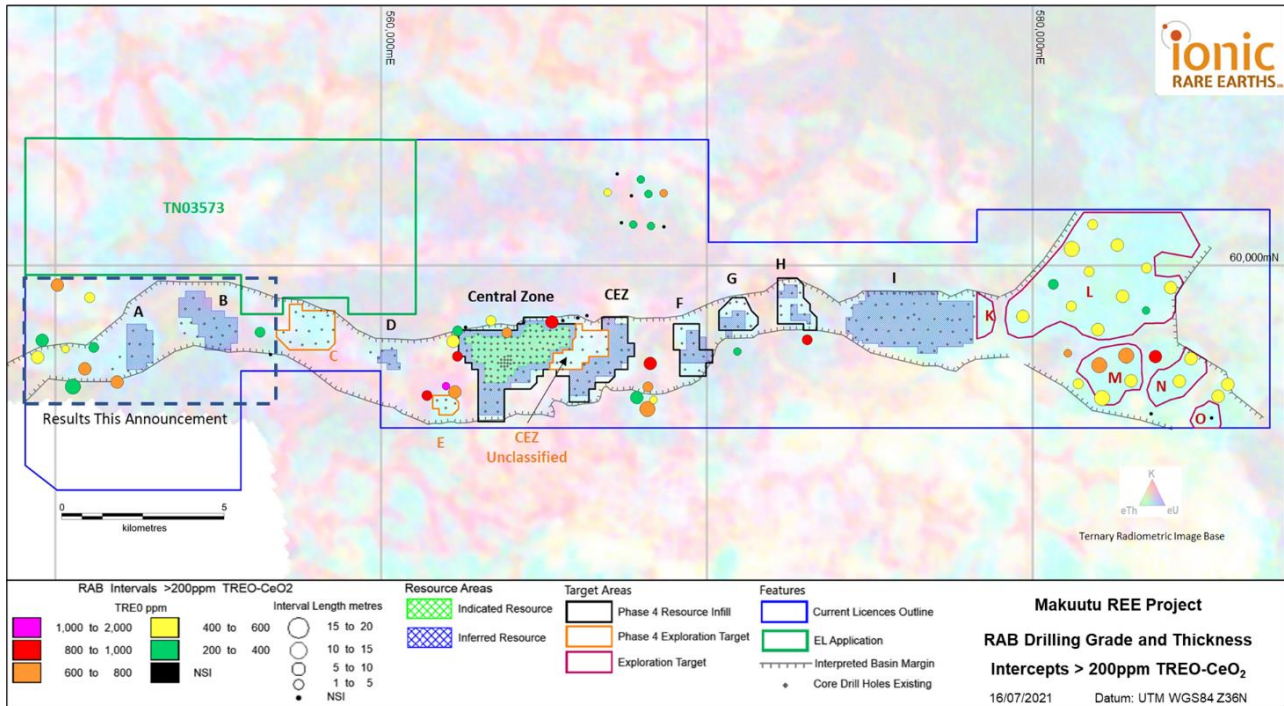


Figure 1: Makuutu tenements plan showing completed and planned drill holes (up to Phase 3) covering the Makuutu Rare Earths Project with the MRE and target areas, and the new EL application TN03573 to northwest of existing Project tenements.

About Makuutu Rare Earths Project

The Makuutu Rare Earths Project is an ionic adsorption clay (“IAC”) hosted Rare Earth Element (“REE”) deposit located 120 km east of Kampala in Uganda and is well serviced by existing high quality infrastructure including roads, rail, power infrastructure and cell communications. The installed infrastructure is illustrated in Figure 2.

The Company will move to 60% ownership of Makuutu on the completion of the Feasibility Study and has a pre-emptive right over the remaining 40% stake in the Project.

The deposit stretches 37 km in length and has demonstrated potential for a long life, low-cost capital source of critical and heavy rare earths. These IAC deposits are prevalent in southern China which have been the source of the world’s lowest cost critical and heavy REE production, however these deposits are gradually being exhausted and Makuutu represents one of only a handful of such deposits outside of southern China.

The Makuutu deposit is shallow, with less than 3 m of cover over a 9 m average thickness clay and saprolite zone which results in low-cost bulk mining methods with low strip ratio. A maximum thickness of 19.5 m has been identified at Makuutu. Processing is via simple acidified salt desorption heap leaching, breaking the chemical ionic bond which washes the rare earths (in a chemical form) from the ore into a pregnant leach solution (“PLS”). The PLS is concentrated up using membrane technology, from which the rare earths are precipitated as a mixed rare earth carbonate product; a product which attracts both a higher payability and achieves a high basket price due to the dominant high value critical and heavy rare earths which make up over 70% of the product basket.

The Project has the potential of generating a high margin product with an operation life exceeding 27 years. The Project is also prospective for a low-cost Scandium co-product.

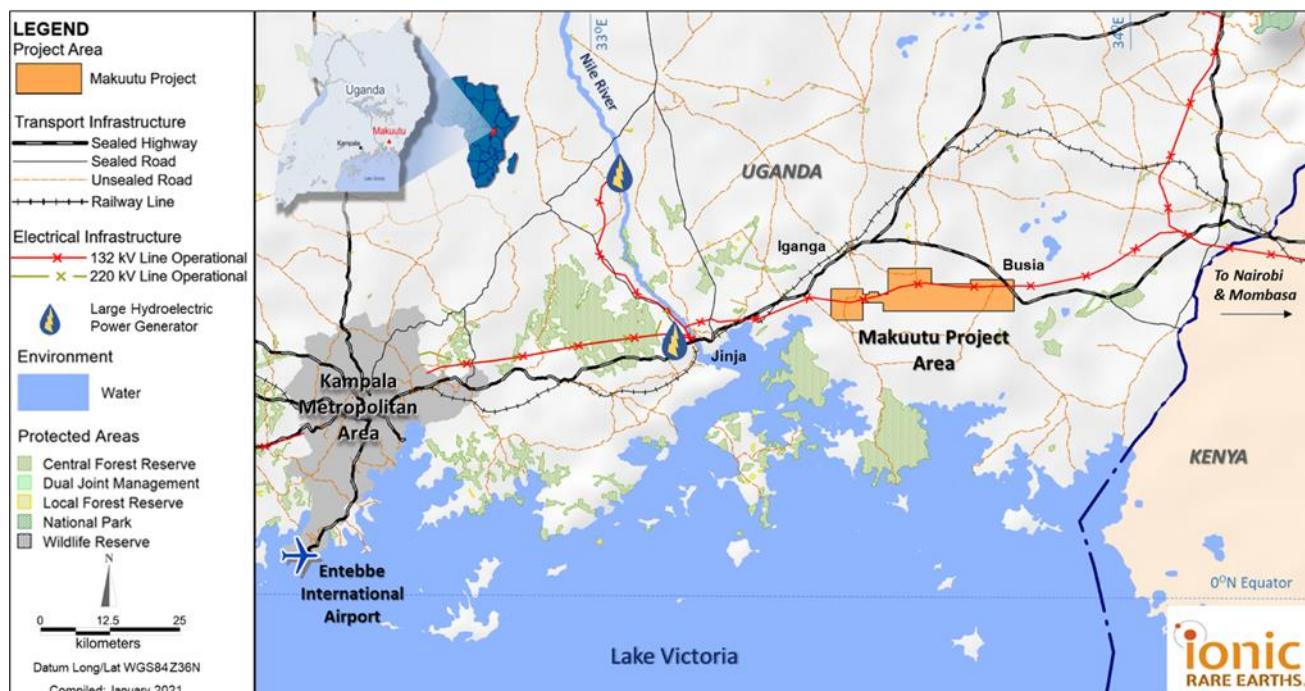


Figure 2: Makuutu Rare Earths Project Location with major existing infrastructure.

Existing Infrastructure

One of the Makuutu Rare Earths Project's competitive advantages is its proximity to existing infrastructure. The Makuutu site is approximately 10km from Highway 109 which is a sealed bitumen road connecting to Kampala, to Kenya and on to the Port of Mombasa. All weather access roads connecting the site to the adjacent sealed bitumen highway are already existing. A rail line lies within 10 kilometres north of the Makuutu site near the town of Iganga. There are four hydroelectric power plants located within 65 km of the project area, with total installed generating capacity of approximately 810 MW, providing an abundant supply of cheap power to the Project.

Water will be sourced at the project by harvesting water from the Makuutu site, given the Project location in a positive rainfall environment, and a net positive process water balance will require membrane processes to be used to process site discharge water for reagent recovery. Excess water management will be a key focus of the Project to ensure environmental standards are met and reagent consumption is minimised.

A workforce of semi-skilled and artisanal workers is available in nearby towns and population centres. The closest major population centre is Iganga, which has a population of 50,000. The town of Mayuge is approximately 10 km from the Project site and the intent is to source local operations staff from the immediate districts and train staff accordingly. The operation is to be staffed by a residential workforce. No fly in – fly out is envisaged, and the number of expatriate staff is intended to be low, and to be phased out over time. Industrial facilities are available in the city of Jinja, approximately 40 km from the Project area. Additional industrial facilities are available on the outskirts of Kampala.

Competent Person Statements

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 3 March 2021 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.

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.