15 June 2021

# MAKUUTU PHASE 4 DRILL PROGRAM COMMENCED WITH 3 RIGS TO BE MOBILISED

- **IonicRE commenced Phase 4 infill drilling to substantially increase Indicated Resource base at Makuutu to support Feasibility Study**
- **Second drill rig expected to be mobilised later this week**
- **Third rig planned for late July to progress close space infill drilling**
- **The program will also include a Resource extension drilling allocation scheduled to convert RL1693 Exploration Targets**
- **Phase 3 RAB drill program assays pending**

The Board of Ionic Rare Earths Limited ("IonicRE" or "The Company") (ASX: IXR) is pleased to advise on the commencement of the Phase 4 Drill Program at its 51% owned Makuutu Rare Earths Project ("Makuutu" or "the Project"). The drill program will aim at converting a significant portion of the Inferred Resources on RL 1693 to an Indicated Resource classification, plus also converting RL 1693 Exploration Targets to classified resources.

The Company's Mineral Resource Estimate (ASX: 3 March 2021) was announced at **315 Million tonnes at 650 ppm Total Rare Earth Oxide** (TREO) with a cut-off grade of 200 parts per million (ppm) TREO minus Cerium Oxide ($CeO_2$) (see Table 1).

Makuutu ranks amongst the world's largest ionic adsorption clay (IAC) deposits, and as such, a globally strategic resource for long-term security of critical and heavy rare earth (HREO) supply.

The recently announced Makuutu Rare Earths Scoping Study (ASX: 29 April 2021) was primarily supported by the Project's Indicated Resource which reflected only circa 27% of the total Mineral Resource Estimate. This infill drill program is primarily to increase the Indicated Resource base to support future studies at Makuutu, including the Feasibility Study (FS).

Commenting on project advancement, Ionic Rare Earths Managing Director Mr. Tim Harrison commented: "*We are glad to have resumed core drilling at Makuutu. We have ambitious plans for next 6 months, and with a 2nd rig due to arrive on site in coming days, we expect to complete a substantial amount of core drilling during this Phase 4 program.*"

*"The plan is to work towards converting the majority of the higher grade Inferred Resource base at RL 1693 to Indicated Resources over the second half of 2021. Additionally, we are working on the*

*required drilling to define a measured resource base at RL 1693, and to help deliver this, a 3rd drill rig is being coordinated to arrive at site in the second half of July."*

**Infill Drill Program (Phase 4)**

The first diamond drill rig has arrived on site at Makuutu and commenced infill drilling adjacent to the Makuutu Central Zone (MCZ) on RL 1693, with the rig at the first hole shown in Figure 1. IonicRE will prioritise 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 2. The zones represent the highest identified Total Rare Earth Oxide (TREO) grade Inferred and Exploration Target mineralisation at Makuutu.

**Figure 1: Phase 4 core drilling resumed on RL 1693 at Makuutu Rare Earths Project.**

The drill program will focus initially on infill drilling on a 200m grid to support conversion from Inferred Resources to Indicated Resources. An additional allocation of drilling is planned to be committed by the end of June which will support further close space drilling with a desire to confirm a portion of Measured Resources for the Feasibility Study.



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## Completed RAB Reconnaissance Drill Program (Phase 3)

As reported in the March Quarterly Report (ASX: 30 April 2021), the 1200 metre Rotary Air Blast (RAB) Phase 3 drill program has been completed and samples are presently being analysed. The Phase 3 program, which included reconnaissance exploration drilling only, and is illustrated in Figure 2, shows the completed program over all 5 tenements at Makuutu with several targets evaluated.

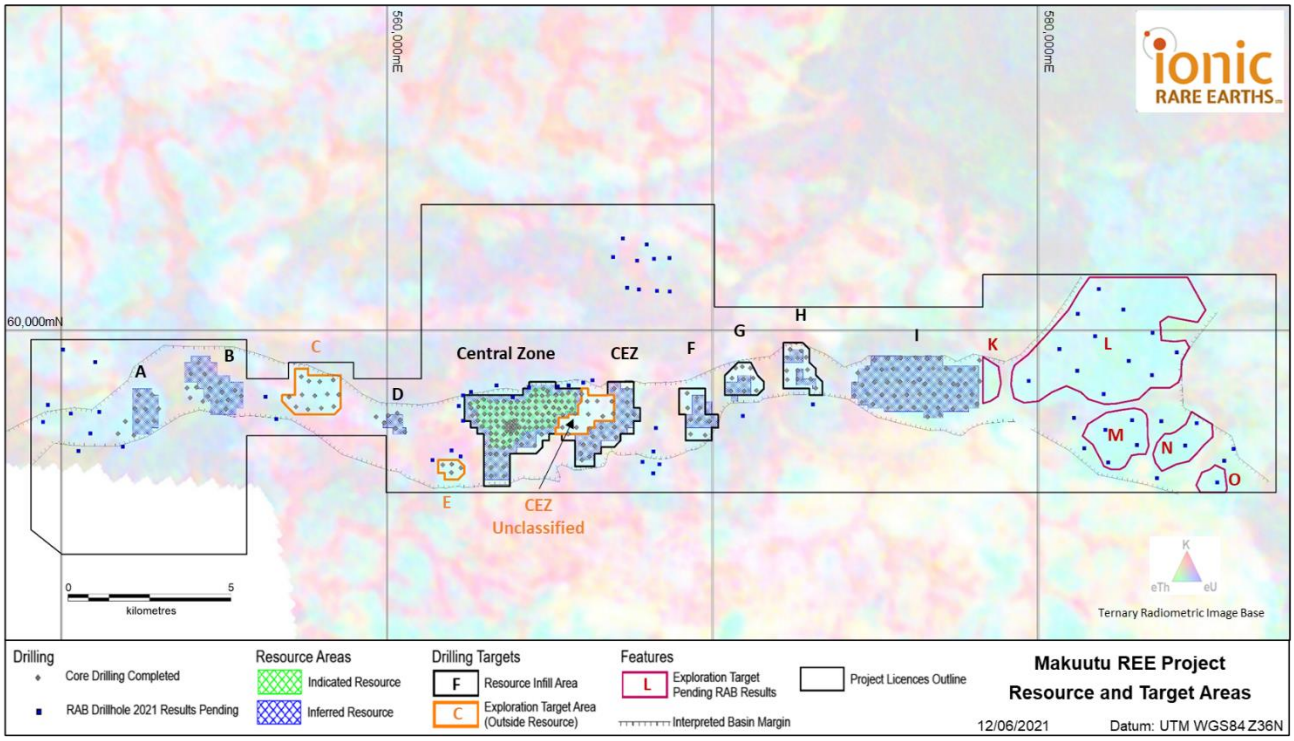


**Figure 2: Mineral Resource Estimate (MRE) areas by classification with location of recently completed Phase 3 RAB holes, shown in blue.**

The 37-kilometre-long sedimentary basin that hosts the Makuutu REE mineralisation has been interpreted from aeromagnetic and gravity data. Drilling to date has focused exclusively on eU/eTh radiometric anomalies interpreted to be derived from the laterite hardcap within the basin. There has not been any testing of radiometric anomalies outside the sedimentary basin or from zones within the basin that do not show this type of radiometric response. These untested targets were the focus of the RAB drilling on licences RL00007, RL1693 and EL1766. Assays are pending.

## Covid-19 Update in Uganda

On Sunday 6th June 2021, the Ugandan Government announced a number of measures to be implemented across Uganda to assist the nation manage the second wave of Covid-19 which has flared up over the past month.

As a result of these measures, Rwenzori Rare Metals Limited ("RRM"), the 51% owned Ugandan subsidiary of IonicRE, and 100% owner of the Makuutu Rare Earths Project, has received approvals from local and national government bodies to continue with field exploration activity including mobilisation of the drill crews to site. RRM is also implementing a high level of operational hygiene controls and Standard Operating Procedures (SOPs) on site to limit the potential for transmission of Covid-19 and to limit risk to our local stakeholders.



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Authorised for release by the Board.

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## Makuutu Mineral Resource Estimate

**Table 1: Makuutu Resource above 200ppm TREO-$CeO_2$ Cut-off Grade**

| Resource Classification | Tonnes (millions) | TREO (ppm) | TREO-$CeO_2$ (ppm) | LREO (ppm) | HREO (ppm) | CREO (ppm) | $Sc_2O_3$ (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.

## 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 3.

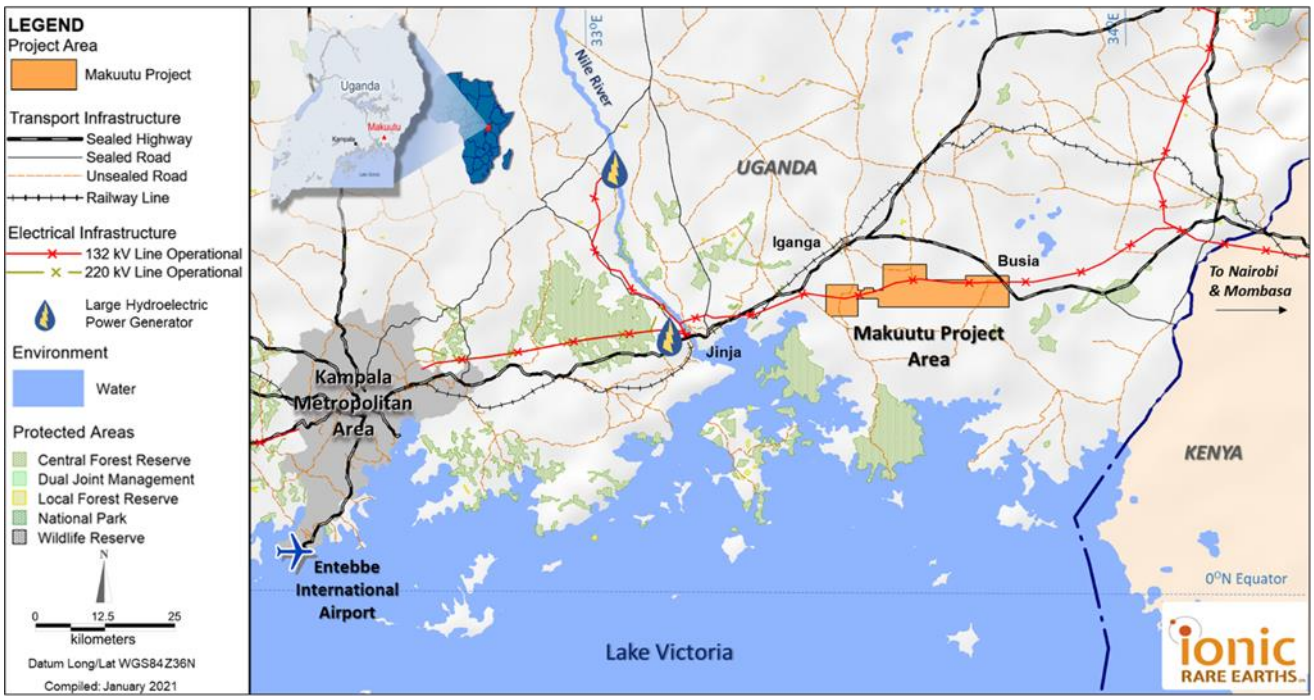


**Figure 3: Makuutu Rare Earths Project Location with major existing infrastructure**

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.

**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



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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 the 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 crossed-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.*



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