

5 January 2021

# MAKUUTU RETENTION LICENCE RENEWED, MATERIAL INCREASE IN EXPLORATION TARGET

- The Ugandan DGSM has renewed Retention Licence RL1693 and has awarded two (2) additional Exploration Licences, EL00147 and EL00148 after the recent submission of the Makuutu Scoping Study
- Exploration Target at Makuutu increased by 50% with addition of EL00147
- Makuutu REE mineralisation corridor increased from 26km to 37km in length
- Initial EL00147 drilling program planned for Q2 2021

Ionic Rare Earths Limited ("IonicRE" or "the Company") (ASX: IXR) is very pleased to announce that, having earlier received advice that approval for renewal and granting had been given, the renewal of Retention Licence 1693 and the granting of two new Exploration Licences, EL00147 and EL00148, at the Makuutu Rare Earths Project ("Makuutu") in Uganda has now been finalised.

The renewal of Retention Licence RL1693 for two (2) years, following the submission of a positive Scoping Study to the Directorate of Geological Survey and Mines ("DGSM"), demonstrates the Ugandan Government's confidence in the Company's capacity and ability to progress the project through to development.

Exploration Licences EL00147 and EL00148 are contiguous with the existing Makuutu tenure and substantially increase the potential scale of the Project. Figure 1 shows the updated Makuutu Project area which now covers 37 kilometres strike of the sedimentary basin that hosts the Rare Earth Elements (REE) mineralisation, including the current Mineral Resource Estimate (MRE) of **78.6 million tonnes at 840 ppm TREO**, reported to the ASX on 23<sup>rd</sup> June 2020.

Drilling undertaken this year and the award of the additional Exploration Licences has enabled the Company to prepare an updated Exploration Target for the Makuutu Rare Earths Project of:

**240 – 800 million tonnes grading 0.045 - 0.09% (450 - 900 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.

This updated Exploration Target is a revision to the existing Exploration Target announced 4 September 2019 and includes the new EL00147 which represents a 50% increase in the overall Exploration Target at Makuutu.

Table 1 and associated notes provides details of the Exploration Target determined for the new Exploration Licence EL00147 with Table 2 detailing the overall Makuutu Exploration Target.

Ionic Rare Earths Managing Director Mr. Tim Harrison commented:

*“The renewal of RL 1693 has been a prime focus of the company since completion of due diligence in late 2019. Securing RL 1693 for a further two years provides the company with sufficient time to complete the key activities required to support the Mining Licence application and advance Makuutu to a financial investment decision.”*

*“The scale and ultimate potential of the Makuutu Rare Earths Project continues to surprise on the upside. The new Exploration Target announced today represents an increase of 50% from the previous target, and with the resource update planned for Q1 2021, we expect that the scale of the Project will grow substantially. Scale is a critical factor for rare earth companies, driving better efficiencies and providing lower operating costs, critical infrastructure and lowering overall CAPEX intensity.”*

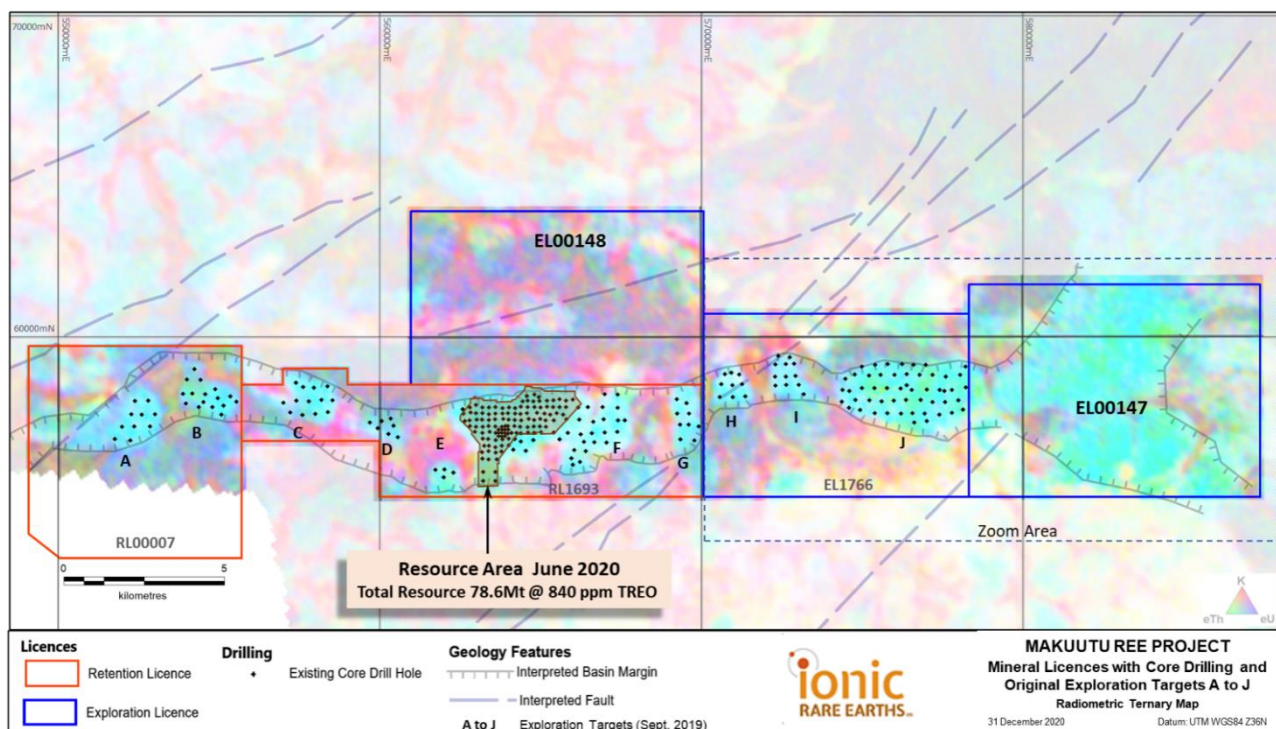
*“The modular development concept we have identified is perfectly suited for expanding the scale of the Project to accommodate future increases in mineralised resources. The potential for Makuutu to become a significant Critical and Heavy Rare Earths producing asset is becoming increasingly obvious as the Project develops.”*

### **Exploration Licences Issued**

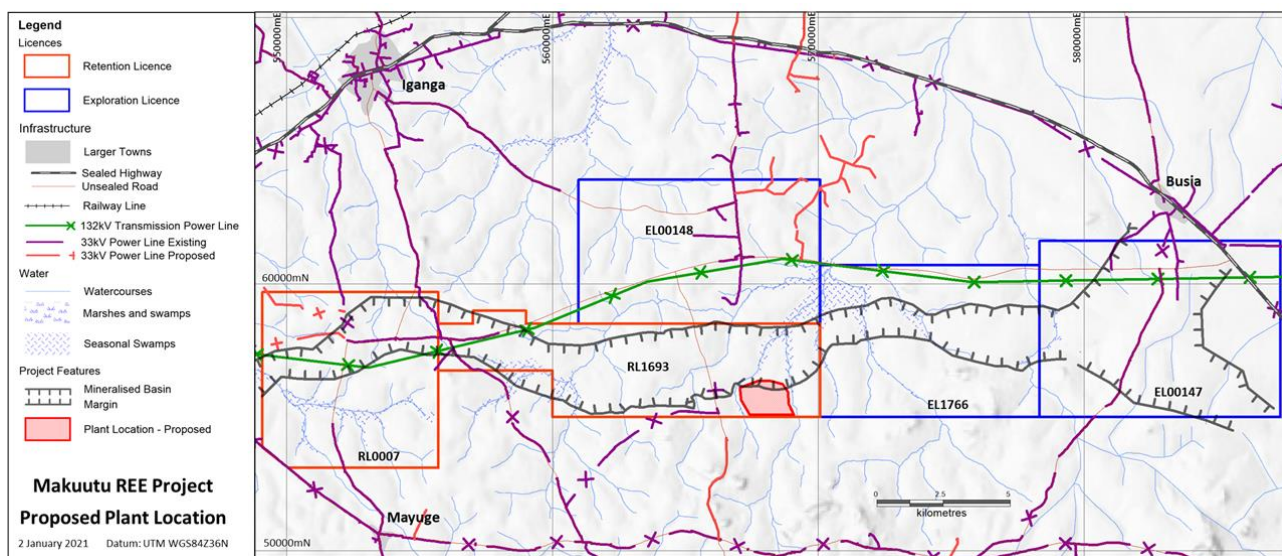
Figure 1, also shows the existing completed diamond core drilling, illustrating locations A to J which will be the subject of a pending MRE update planned for Q1 2021 which the company anticipates will result in a material increase to the Project mineral resources. Also included in the pending MRE update is the inclusion of 57 infill drill holes within the existing resource area, aimed at increasing the confidence of the existing MRE classification.

The new Exploration Licences present different opportunities which include:

- **EL00147** covers an extensive area interpreted to host the continuation of the REE mineralised basin. Exploration target ranges and a preliminary exploration program have been established for this area and detailed as follows.
- **EL00148** covering an area that has potential for rare earth mineralisation but also aggregate, stone and other materials that may be of use during project development, plus provide additional sites suitable for the process plant immediately adjacent an existing 132 kV transmission corridor. Refer to Figure 2.



**Figure 1: Makuutu Rare Earths Project licences on ternary radiometric map with all diamond core drilling and previous Sept 2019 Exploration Target areas A to J.**



**Figure 2: Makutu Rare Earths Project including new ELs and currently installed available infrastructure.**

### EL00147 Exploration Target

There has not been any previous known Rare Earth exploration on this licence area.

The drilling program recently completed on the adjoining EL1766 by IonicRE and its partners has shown mineralisation extends to the boundary between EL1766 and EL00147.

Five discrete exploration target zones have been identified on EL00147 based on the radiometric response analogous to that over the known Makuutu mineralisation. The zones comprising the



Exploration Target are shown in Figure 3 denoted as areas K to O. The drilling completed on the adjoining EL1766 is also shown coloured by previously reported TREO intercept grade with zones H to J of the September 2019 Exploration Target areas also annotated.

Exploration Target ranges for EL00147 have been estimated using a combination of drilling results and factors derived from studies on the adjacent Makuutu Rare Earths Project.

This Exploration Target includes combined regolith zones Hardcap +Transition and Clay + Saprolite.

The Hardcap and Transition material is presently excluded from the current Makuutu MRE due to uncertainty of achieving economically viable REE extractions. Metallurgical testwork to determine a viable technique for extracting REE from the Hardcap and Transition material is continuing with improvement demonstrated in 2020, however, not in sufficient quantities to support economic viability at this time. As such the Hardcap and Transition material remains included in the maximum but are excluded from the minimum Exploration Target ranges and stated separately from the Clay and Saprolite classifications that comprise the MRE.

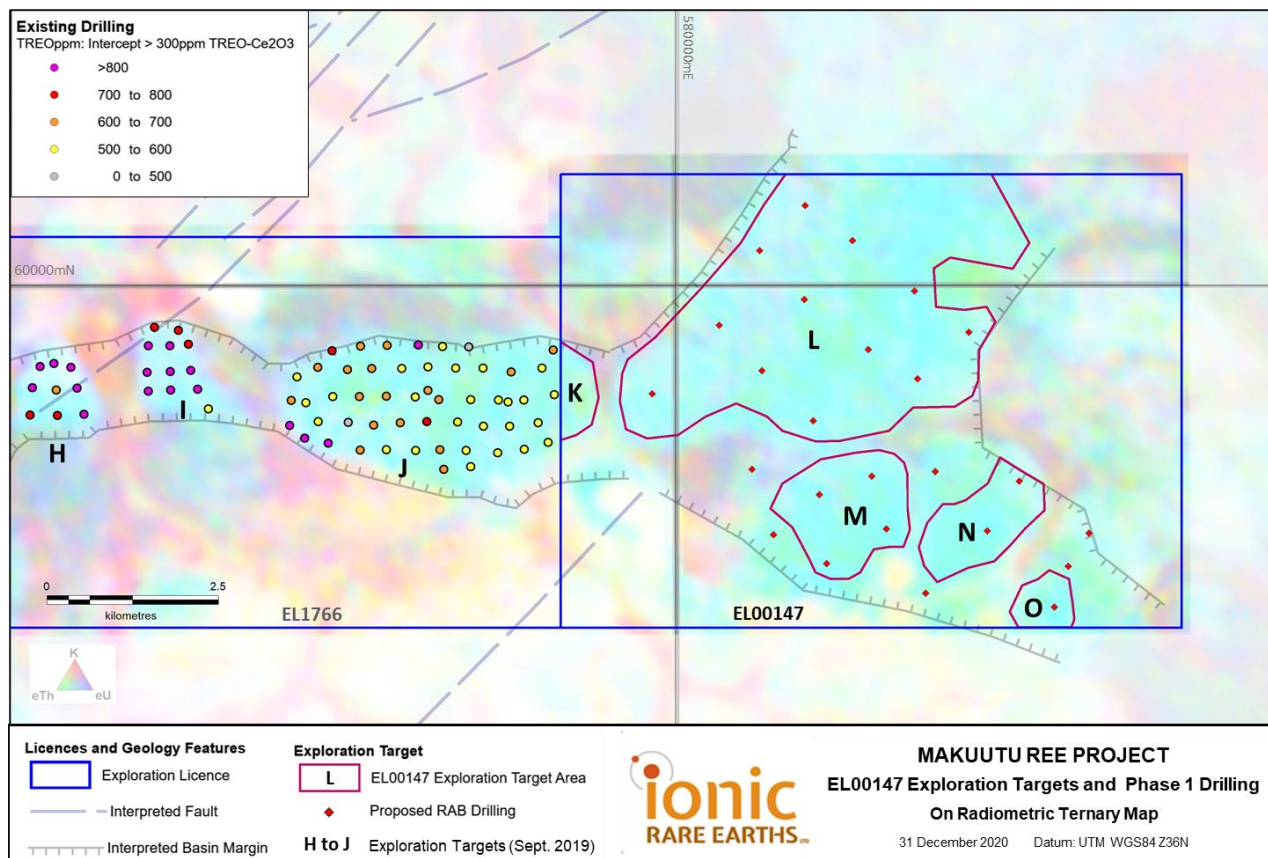


Figure 3: EL00147 Exploration Targets K to O and planned exploration Phase 1 drill hole locations.

The Exploration Target is summarised in Table 1.

*The potential quantity and grade of the Exploration Target is conceptual in nature and 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.*

**Table 1: Exploration Target Ranges for EL00147 only.**

Exploration Target Ranges	Material Types		Totals
	Hardcap + Transition	Clay + Saprolite	
Minimum Tonnes (Million Tonnes)	0	60	<b>60</b>
Maximum Tonnes (Million Tonnes)	90	180	<b>270</b>
Minimum Average TREO (ppm)	550	550	<b>550</b>
Maximum Average TREO (ppm)	1000	850	<b>900</b>
Minimum Average TREO – Ce <sub>2</sub> O <sub>3</sub> (ppm)	350	350	<b>350</b>
Maximum Average TREO – Ce <sub>2</sub> O <sub>3</sub> (ppm)	400	450	<b>430</b>

The exploration target for EL00147 has been estimated as follows:

- Target locations and areas K to O derived from digitising shapes based on radiometric zones analogous to Zone J on the adjacent EL1766. The area of each is calculated in square metres (Figure 3).
- Hardcap + Transition uses a thickness of 2 metres for maximum tonnage. This is derived from average drill intercept thickness above the resource cut off 300ppm TREO-Ce<sub>2</sub>O<sub>3</sub>, from Zone J on adjacent licence EL1766.
- Hardcap + Transition minimum tonnage is defined as zero (0) in order to recognise the risk of no viable REE extraction technique being applicable to these materials.
- Clay + Saprolite maximum tonnes target uses the average thickness of 6 metres derived from average drill intercept thickness above the resource cut off of 300ppm TREO-Ce<sub>2</sub>O<sub>3</sub>, from Zone J on adjacent licence EL1766.
- Clay + Saprolite minimum tonnes target uses a thickness of 2 metres.
- Dry tonnes derived by applying the average material type dry insitu bulk density sourced from testwork on the Makuutu area to the volume (area x thickness) of each target area;
  - Hardcap and Transition 2.2 t/m<sup>3</sup>.
  - Clay and Saprolite 1.4t/m<sup>3</sup>.
- Target average grade ranges are derived from the rounded minimum and maximum intercept grades above 300ppm TREO-Ce<sub>2</sub>O<sub>3</sub> cut-off from the Zone J core drilling.

The original Exploration Target covering licences RL00007, RL1692 and EL1766 announced to the ASX on 4th September 2019 has been reclassified to be consistent with the current understanding of the mineralised regolith material types used in the MRE and the Exploration Target for EL00147. This reclassification has combined the originally separately compiled “Clay” and “Sediment” material types into Clay + Saprolite and renamed “Laterite” to Hardcap + Transition.

The original Exploration Target area has now been drill tested and will be the subject of an updated MRE to be undertaken in Q1 2021.

The new Exploration Target is detailed in Table 2 with the combined target ranges of **240 – 800 million tonnes grading 0.045 - 0.09% (450 - 900 ppm) TREO**.

**Table 2: Makuutu Original Exploration Target including EL00147 Exploration Target.**

Exploration Target Ranges	Material Type		Totals
	Hardcap + Transition <sup>1</sup>	Clay + Saprolite <sup>2</sup>	
Minimum Tonnes (Million Tonnes)	0 <sup>3</sup>	240	<b>240</b>
Maximum Tonnes (Million Tonnes)	260	540	<b>800</b>
Minimum Average TREO (ppm)	675	450	<b>450</b>
Maximum Average TREO (ppm)	1000	880	<b>900</b>
Minimum Average TREO – Ce <sub>2</sub> O <sub>3</sub> (ppm)	300	380	<b>350</b>
Maximum Average TREO – Ce <sub>2</sub> O <sub>3</sub> (ppm)	350	550	<b>480</b>

*The potential quantity and grade of the Exploration Target is conceptual in nature and 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.*

#### **Planned Exploration Program for EL00147**

The exploration program for year 1 of the licence area is envisaged to include the following key activities:

1. Field inspection, mapping and community liaison;
2. Drilling 25 broad spaced scout RAB holes testing radiometric target areas for REE endowment (illustrated on Figure 3);
3. Preliminary evaluation metallurgical testwork; and
4. Follow- up on scout drilling results with infill drilling to refine target areas.

<sup>1</sup> September 2019 release “Laterite”

<sup>2</sup> September 2019 release reported as separate “Clay” and “Sediment” material types

<sup>3</sup> Hardcap + Transition material has been removed from the minimum target range to reflect extraction uncertainty.

**Table 3: Makuutu Resource above 300ppm TREO-Ce<sub>2</sub>O<sub>3</sub> Cut-off Grade (ASX: 23 June 2020)**

Resource Classification	Tonnes (millions)	TREO (ppm)	TREO-Ce <sub>2</sub> O <sub>3</sub> (ppm)	LREO (ppm)	HREO (ppm)	CREO (ppm)
Indicated Resource	9.5	750	520	550	200	280
Inferred Resource	69.1	860	620	640	210	320
<b>Total Resource</b>	<b>78.6</b>	<b>840</b>	<b>610</b>	<b>630</b>	<b>210</b>	<b>310</b>

Rounding has been applied to 0.1Mt and 10ppm which may influence grade average calculations.

Authorised for release by the Board.

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### Competent Person Statements

*The information in this Report that relates to the Exploration Target Ranges for EL00147 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 Limited. 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 existing 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 23 June 2020 and is available to view on [www.asx.com.au](http://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.*