20 July 2021

PHASE 3 DRILLING RESULTS INDICATE POTENTIAL EXTENSION TO NORTHWEST AT MAKUUTU

- **Final 11 RAB drill hole assays across Makuutu Western Zone infer further extension potential at Makuutu to Northwest**
- **Additional REE bearing clay mineralisation identified between radiometric anomalies**
- **New 56 km^2 Exploration Licence application TN03573 lodged with DGSM**

Ionic Rare Earths Limited ("IonicRE" or "the Company") (ASX: IXR) is pleased to advise the results of the remaining assays from Phase 3 Rotary Air Blast (RAB) exploration drill program at its 51% owned Makuutu Rare Earths Project ("Makuutu") in Uganda, and the application for additional exploration ground to the northwest of the current Project area.

These assay results are from the remaining 11 drill holes of the 67 RAB drill holes from the program that was completed during April 2021. The previously reported results announced last week (ASX: 14 July 2021), along with these results, provide significant upside for additional resource expansion at Makuutu in what has the potential to become one of the largest, if not the largest identified ionic adsorption clay (IAC) deposits outside of southern China.

Clay and saprolite mineralisation intersections above the cut-off grade of 200 ppm Total Rare Earth Oxide less cerium oxide (TREO-CeO_2), consistent with the current Mineral Resource Estimate (MRE) cut-off, have been achieved in 10 of the 11 holes, with notable intervals including:

- RRMRB062 12.0 metres at 675 ppm TREO from 4.0 metres
- RRMRB063 10.0 metres at 698 ppm TREO from 6.0 metres
- RRMRB064 8.0 metres at 512 ppm TREO from 4.0 metres
- RRMRB065 10.0 metres at 678 ppm TREO from 2.0 metres

Of major interest to the Company is the assay results and thick clay interval in RRMRB063, more than 2 kilometers north and west of the basin margin. Given the significance of these results, the Company's 51% owned subsidiary Rwenzori Rare Metals Limited ("Rwenzori") has applied (TN03573) for a 55.8 square kilometres exploration licence (EL) to the north of the existing licences.

The Company will also progress a selection of samples from these RAB holes through salt desorption testwork to confirm the proportion of ionic adsorbed rare earth content prior to confirming a plan for further drilling these targets.

Ionic Rare Earths Managing Director Mr. Tim Harrison commented:

"These results are very promising, indicating the potential to further expand the rare earth bearing clay mineralisation at Makuutu. We have moved swiftly to apply for the additional tenement and whilst we await the outcome of the application, we will review all of the targets and refine a longer-term plan for evaluating the growing list of newly identified resource extension potential at Makuutu."

"Right now, the focus is on the Phase 4 drilling program to get the infill core drilling completed and the mineral resource estimate updated to support the Feasibility Study. We will now complete some additional work to evaluate the growing list of extensional targets at Makuutu and plan for a larger exploration program to be initiated in due course."

Drilling Program and Targets

The Phase 3 RAB drill program, which consisted of 67 drill holes for 1,206 metres, compromised reconnaissance exploration drilling only. The aim of the program was to test for rare earth element (REE) endowment and origin in;

- Identified exploration targets within the interpreted mineralised sedimentary basin;
- Radiometric responses outside the interpreted basin;
- Previously untested or subdued radiometric targets; and
- Areas identified as potential infrastructure sites.

The distribution of RAB holes is shown in Figure 1, illustrating intersections of clay and saprolite greater than 200ppm TREO-CeO_2 from the program. The point size represents interval thickness and is coloured by TREO ppm grade.

56 of the 67 RAB holes were reported to the market on 14th July 2021. The remaining 11 RAB drill holes RRMRB057 to RRMRB067 are included in this new announcement.

The results of each area are summarised separately in the following sections.

Makuutu West RAB Drilling Results

Exploratory RAB drilling on the western areas of the Makuutu Project targeted untested radiometric responses (eU/eTh) both within and outside the mineralised sedimentary basin.

The results for the Makuutu West drilling are plotted on Figure 2 and intersections tabulated with the summary of results.

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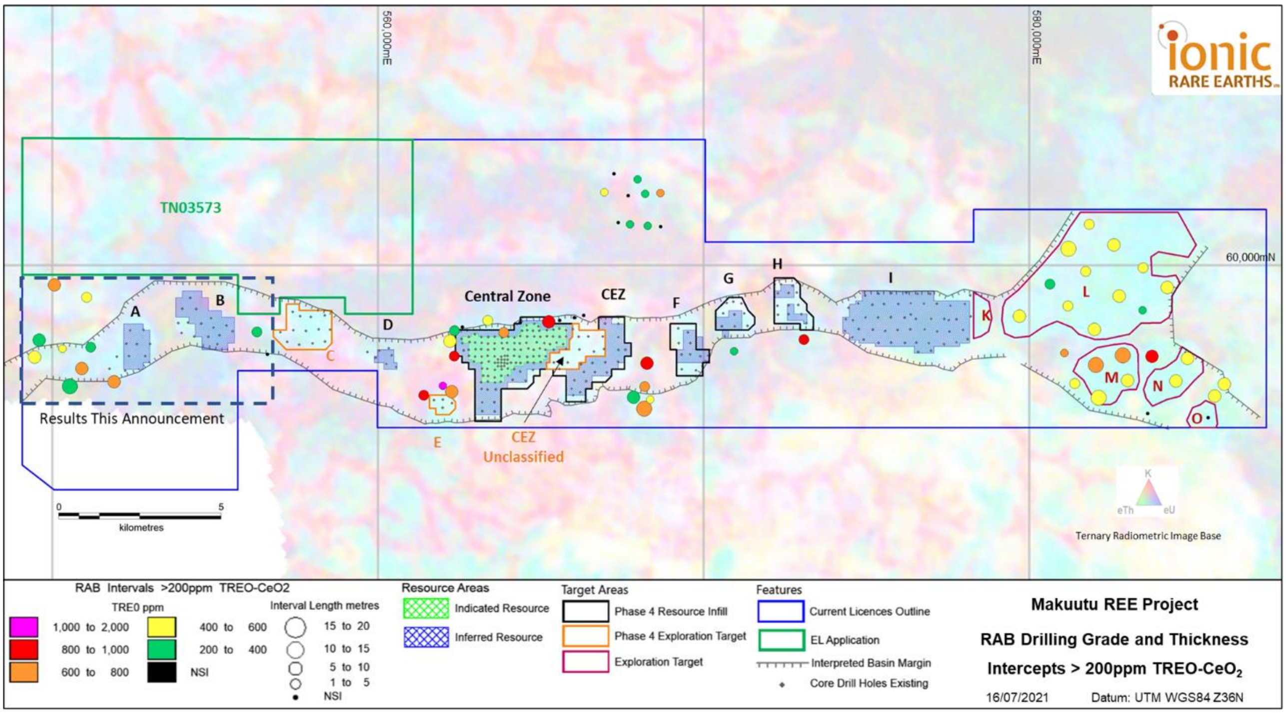

Figure 1: Drill program status plan showing completed and planned drill holes (up to Phase 3) covering the Makuutu Rare Earths Project with the MRE and target areas, and the new EL application TN03573 to northwest of existing Project tenements.

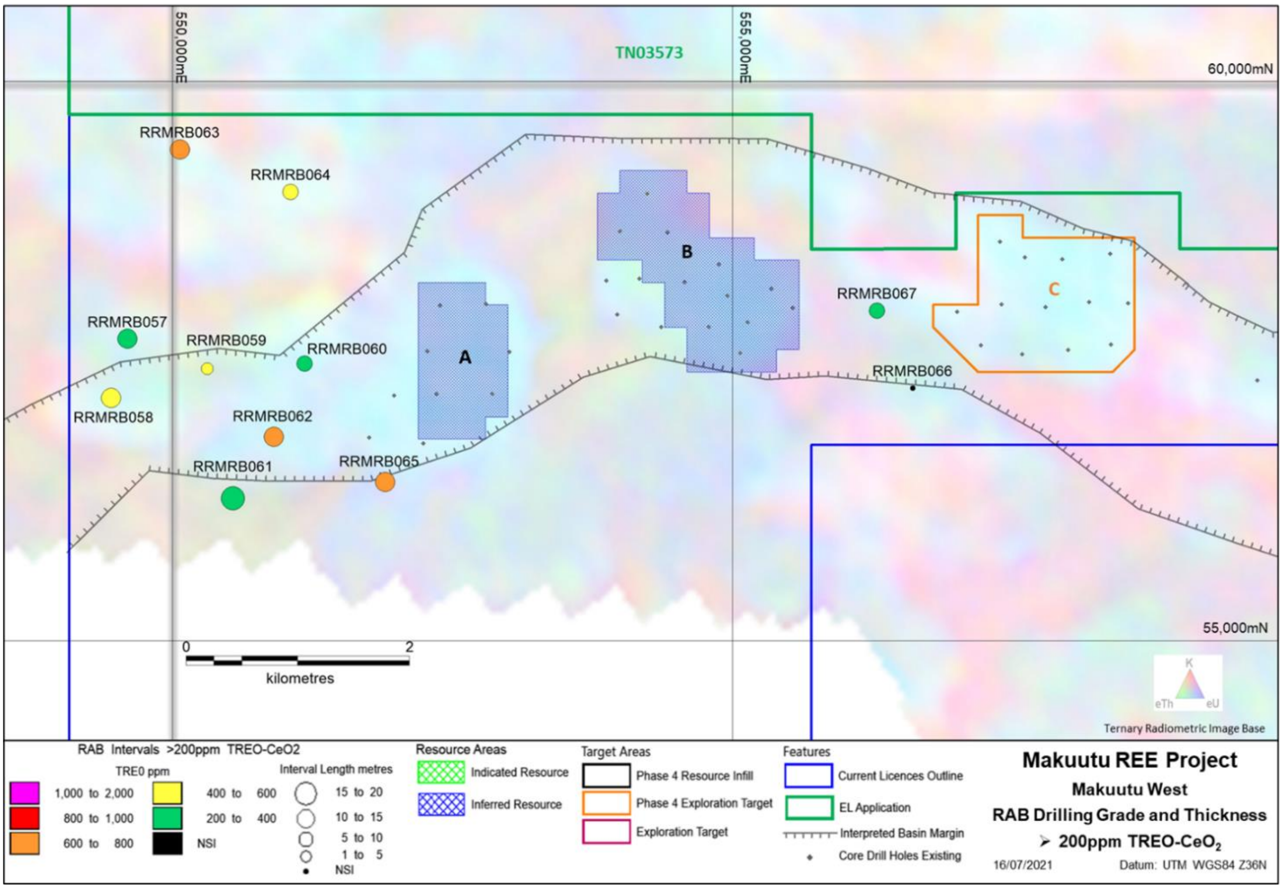

Figure 2: Makuutu West RAB exploration drilling results. Hole locations shown by intercept >200ppm TREO-CeO_2 point size interval length, point colour interval TREO ppm grade.

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Exploration Target C Extension

RRMRB066 and RRMRB067 targeted eU/eTh radiometric responses west of Exploration Target C. RRMRB67, within the sedimentary basin, intersected 8 metres of relatively low-grade TREO in clay with sand.

RRMRB066 intersected unmineralised clay and saprolite.

Resource drilling of the extension from Area C to RRMRB067 will be considered following the results of the current Phase 4 resource infill drilling of Exploration Target C.

Table 1: Makuutu West Exploration Target C Extension RAB Drilling Intervals > 200ppm TREO-CeO_2.

Hole ID	Depth From (metres)	Length (metres)	TREO (ppm)	TREO-CeO_2 (ppm)	HREO (ppm)	NdPr (ppm)
RRMRB066	NSI	-	-	-	-	-
RRMRB067	5.0	8.00	392	270	100	88

Basin Extension West of Area A

Six holes were drilled testing eU/eTh radiometric responses within, and on the margins of, the interpreted mineralised basin to the west of resource Area A.

All holes intersected rare earth mineralised clay and saprolite profiles. RRMRB057 to RRMRB060 on the northern margin of the interpreted basin all intersected granite or mafic rocks (RRMRB059). These show the northern basin margin is further south than originally interpreted.

RRMB061, RRMRB062 and RRMB065 all intersected mineralised weathered basin sediments with holes RRM062 and RRMRB065 both displaying higher grade TREO mineralisation.

Further drilling, extraction testwork and mineralogy studies will be conducted to evaluate the extent of the mineralisation and the potential for resource expansion.

Table 2: Makuutu West Basin Extension Area A West RAB Drilling Intervals > 200ppm TREO-CeO_2.

Hole ID	Depth From (metres)	Length (metres)	TREO (ppm)	TREO-CeO_2 (ppm)	HREO (ppm)	NdPr (ppm)
RRMRB057	4.0	12.0	388	251	82	85
RRMRB058	2.0	13.0	439	257	95	80
RRMRB059	4.0	2.0	480	270	98	86
RRMRB060	14.0	7.0	304	206	82	68
RRMRB061	2.0	16.0	353	238	86	76
RRMRB062	4.0	12.0	675	463	185	148
RRMRB065	2.0	10.0	678	436	153	144

North-West Radiometric Target

RRMRB063 and RRMRB064 were drilled to test the eU/eTh radiometric response area between 1.5- and 3.5-kilometres northwest of resource Area A.

Both holes intersected rare earth mineralised sandy clay and saprolite above fresh granite.

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Extraction testwork and mineralogy studies are required to determine if any extractable ionic or colloidal rare earths are present. This work will be conducted prior to further drill testing of the area.

Table 3: Makuutu West North-West Radiometric Target RAB Drilling Intervals > 200ppm TREO-CeO_2.

Hole ID	Depth From (metres)	Length (metres)	TREO (ppm)	TREO-CeO_2 (ppm)	HREO (ppm)	NdPr (ppm)
RRMRB063	6.0	10.0	698	427	106	156
RRMRB064	4.0	8.0	512	292	74	103

New Exploration Licence application TN03573 Submitted

The REE mineralised intercepts in RRMRB063 and RRMRB064 on the North-West radiometric target may present an opportunity for further REE mineralisation to exist to the north, and outside of the current licence area. To evaluate the opportunity an application for an Exploration Licence has been submitted over that area with the Ugandan Department of Geological Survey and Mines (DGSM). The application designated TN03573, is shown in Figure 1.

Authorised for release by the Board.

For enquiries, contact: Tim Harrison
Managing Director
+61 8 9481 2555

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.

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.

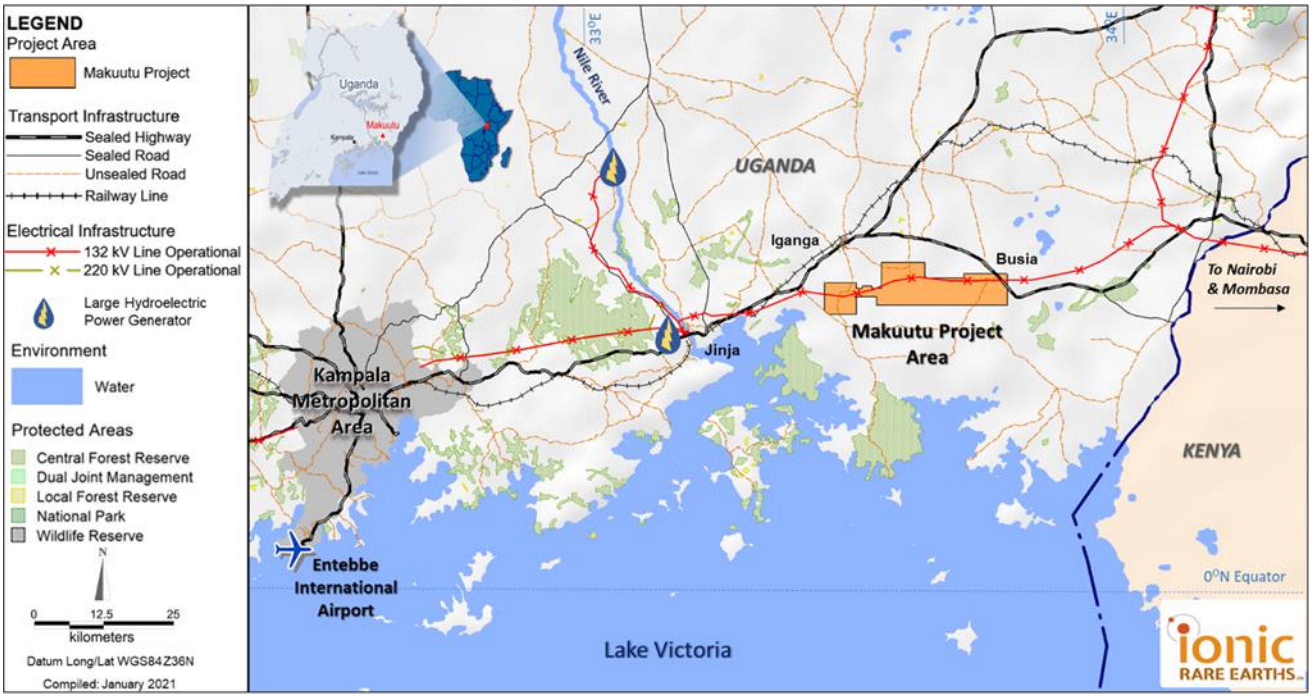

Figure 3: Makuutu Rare Earths Project Location with major existing infrastructure.

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 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,

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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

The information in this Report that relates to Exploration Results 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 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.

Appendix 1: Drill Hole Details This Announcement (Datum UTM WGS84 Zone 36N)

Drill Hole ID	UTM East (m.)	UTM North (m.)	Elevation (m.a.s.l.)	Drill Type	Hole Length EOH (m.)	Azimuth	Inclination
RRMRB057	549 601	57 697	1156	RAB	18.00	0	-90
RRMRB058	549 455	57 171	1156	RAB	15.00	0	-90
RRMRB059	550 313	57 431	1156	RAB	24.00	0	-90
RRMRB060	551 183	57 477	1169	RAB	21.00	0	-90
RRMRB061	550 544	56 274	1154	RAB	20.00	0	-90
RRMRB062	550 910	56 822	1162	RAB	15.00	0	-90
RRMRB063	550 069	59 390	1160	RAB	19.00	0	-90
RRMRB064	551 059	59 011	1172	RAB	12.00	0	-90
RRMRB065	551 903	56 417	1168	RAB	25.00	0	-90
RRMRB066	556 615	57 256	1188	RAB	12.00	0	-90
RRMRB067	556 297	57 948	1165	RAB	24.00	0	-90

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Appendix 2: RAB Drilling Analytical Results RRMRB057 to RRMRB067 Including Highlighted Intersections >200 ppm TREO-CeO_2.
(Note: Rounding will cause minor value differences)

																					>200ppm TREO-CeO_2 Interval	
Hole ID	From m	To m	Int. m	La_2O_3 ppm	CeO_2 ppm	Pr_2O_3 ppm	Nd_2O_3 ppm	Sm_2O_3 ppm	Eu_2O_3 ppm	Gd_2O_3 ppm	Tb_2O_3 ppm	Dy_2O_3 ppm	Ho_2O_3 ppm	Er_2O_3 ppm	Tm_2O_3 ppm	Yb_2O_3 ppm	Lu_2O_3 ppm	Y_2O_3 ppm	TREO ppm	Regolith Zone	Length (m)	TREO ppm
RRMRB057	0.00	2.00	2.00	69.5	236.5	15.9	54.2	10.0	1.5	8.1	1.3	7.7	1.6	4.5	0.7	4.6	0.7	45.0	461.8	Soil		
RRMRB057	2.00	4.00	2.00	36.9	504.9	8.3	28.9	5.5	0.8	4.3	0.8	4.4	0.8	2.5	0.4	2.6	0.4	23.0	624.5	Watercourse		
RRMRB057	4.00	6.00	2.00	76.3	248.1	16.3	55.8	9.2	1.3	7.3	1.1	6.8	1.4	3.9	0.6	4.0	0.6	42.9	475.5	Clay		
RRMRB057	6.00	8.00	2.00	90.1	200.2	20.1	68.1	11.2	1.4	8.3	1.3	7.2	1.4	4.1	0.6	4.1	0.6	42.5	461.2	Clay		
RRMRB057	8.00	10.00	2.00	70.8	94.8	16.1	56.7	9.1	1.2	7.0	1.0	6.1	1.2	3.6	0.5	3.7	0.5	38.7	311.1	Clay		
RRMRB057	10.00	12.00	2.00	64.9	67.9	14.8	53.2	8.9	1.3	7.1	0.9	5.3	1.1	3.2	0.5	3.1	0.5	36.1	268.7	Clay		
RRMRB057	12.00	14.00	2.00	113.9	116.1	26.6	94.7	15.5	2.7	11.3	1.5	8.5	1.6	4.5	0.6	3.8	0.6	49.8	451.6	Clay		
RRMRB057	14.00	16.00	2.00	87.0	93.0	19.2	68.7	12.5	2.3	9.9	1.3	7.6	1.4	4.1	0.5	3.7	0.5	46.5	358.2	Clay	12.00	388
RRMRB057	16.00	18.00	2.00	49.3	86.6	11.1	41.3	7.5	1.6	6.6	0.9	5.6	1.1	3.2	0.4	2.7	0.4	36.4	254.6	Clay		
RRMRB058	0.00	2.00	2.00	78.7	208.8	18.7	63.8	12.1	1.7	10.0	1.7	9.7	2.0	5.8	0.9	5.7	0.8	57.1	477.6	Soil/Clay		
RRMRB058	2.00	4.00	2.00	72.2	214.4	16.3	56.1	10.2	1.3	8.3	1.4	8.9	1.8	5.5	0.9	5.7	0.8	55.2	459.1	Clay		
RRMRB058	4.00	6.00	2.00	91.4	208.2	19.7	67.9	11.8	1.6	9.7	1.6	10.0	2.1	6.1	0.9	6.1	0.9	62.9	500.8	Clay		
RRMRB058	6.00	8.00	2.00	82.8	186.7	18.1	61.5	10.6	1.1	8.0	1.3	8.1	1.6	5.1	0.7	5.2	0.8	52.1	443.6	Clay		
RRMRB058	8.00	10.00	2.00	74.1	154.2	16.4	54.6	9.6	1.0	7.7	1.3	7.9	1.7	5.3	0.8	5.4	0.8	55.4	396.0	Clay		
RRMRB058	10.00	12.00	2.00	85.6	186.1	19.6	65.8	11.1	1.1	8.2	1.2	7.3	1.4	4.4	0.7	4.3	0.7	47.4	445.0	Clay		
RRMRB058	12.00	14.00	2.00	82.3	162.1	19.4	64.5	11.0	1.0	7.8	1.2	7.2	1.4	4.1	0.6	4.2	0.6	44.7	412.3	Clay		
RRMRB058	14.00	15.00	1.00	82.7	146.8	19.5	63.6	10.7	0.9	7.9	1.1	6.6	1.2	3.8	0.6	3.9	0.5	41.4	391.4	Clay	13.00	439
RRMRB059	0.00	2.00	2.00	55.8	308.3	13.0	46.1	8.7	1.5	7.2	1.2	7.0	1.4	4.2	0.6	4.3	0.7	41.0	500.9	Soil/Hardcap		
RRMRB059	2.00	4.00	2.00	55.4	800.9	12.3	42.6	8.2	1.4	6.3	1.1	6.1	1.3	3.9	0.6	3.9	0.6	32.1	976.6	Hardcap/Clay		
RRMRB059	4.00	6.00	2.00	86.2	209.4	19.1	67.2	11.3	2.0	9.7	1.4	8.4	1.7	5.1	0.7	5.1	0.7	52.1	480.2	Clay	2.00	480.2
RRMRB059	6.00	8.00	2.00	56.6	71.9	12.6	44.1	7.9	1.4	6.6	1.0	5.9	1.2	3.7	0.5	3.8	0.5	37.2	255.0	Clay		
RRMRB059	8.00	10.00	2.00	31.2	33.3	7.2	25.5	4.8	1.0	4.2	0.6	4.1	0.8	2.5	0.4	2.8	0.4	24.6	143.4	Clay		
RRMRB059	10.00	12.00	2.00	29.9	27.0	7.0	26.0	5.0	1.3	5.1	0.8	5.2	1.0	3.2	0.5	3.4	0.5	31.9	147.8	Clay		
RRMRB059	12.00	14.00	2.00	37.1	41.5	8.3	30.7	6.1	1.5	6.0	0.9	6.2	1.3	4.0	0.6	4.0	0.6	40.0	188.8	Clay		
RRMRB059	14.00	16.00	2.00	39.9	37.3	8.7	32.4	6.3	1.8	7.3	1.1	7.1	1.5	4.6	0.7	4.6	0.6	48.3	202.3	Clay		
RRMRB059	16.00	18.00	2.00	83.5	41.3	18.3	71.0	15.0	4.3	16.6	2.5	15.2	3.2	9.2	1.2	8.0	1.1	102.6	392.9	Clay	2.00	392.9
RRMRB059	18.00	20.00	2.00	40.8	45.8	9.0	35.5	7.1	2.1	8.2	1.3	8.2	1.7	5.1	0.7	4.8	0.7	56.8	227.7	Clay		
RRMRB059	20.00	22.00	2.00	29.6	29.4	6.9	26.9	5.6	1.7	6.1	1.0	6.2	1.3	4.0	0.5	3.6	0.5	42.8	166.0	Clay		
RRMRB059	22.00	24.00	2.00	31.2	26.5	7.0	27.3	5.7	1.6	6.4	1.0	6.4	1.3	3.8	0.6	3.6	0.5	40.8	163.7	Clay		
RRMRB060	0.00	2.00	2.00	89.7	341.5	17.4	54.5	8.4	1.4	6.4	1.1	6.5	1.3	3.8	0.6	3.9	0.6	34.2	571.2	Hardcap		
RRMRB060	2.00	4.00	2.00	59.8	246.9	12.4	41.9	7.2	1.3	5.7	1.0	5.7	1.2	3.2	0.5	3.3	0.5	31.5	422.2	Hardcap/Clay		
RRMRB060	4.00	6.00	2.00	75.3	151.7	18.1	65.7	11.2	2.0	10.0	1.5	8.7	1.8	5.4	0.8	5.6	0.8	58.7	417.2	Clay	2.00	417.2
RRMRB060	6.00	8.00	2.00	51.5	69.5	12.7	46.2	8.0	1.5	7.4	1.1	6.7	1.4	4.5	0.7	4.6	0.7	47.0	263.4	Clay		
RRMRB060	8.00	10.00	2.00	39.1	63.3	10.0	36.5	6.6	1.2	6.0	0.9	5.5	1.2	3.6	0.5	3.6	0.5	39.4	217.8	Clay		
RRMRB060	10.00	12.00	2.00	37.6	99.7	10.0	37.6	6.6	1.3	6.2	0.9	5.9	1.3	3.9	0.5	3.8	0.5	41.5	257.6	Clay		
RRMRB060	12.00	14.00	2.00	58.1	109.1	14.6	51.1	8.1	1.4	6.2	0.8	5.0	1.0	3.1	0.4	3.0	0.4	32.4	294.7	Clay		
RRMRB060	14.00	16.00	2.00	59.2	105.6	15.2	55.4	9.3	1.7	7.7	1.1	6.4	1.3	3.9	0.5	3.7	0.5	43.0	314.7	Clay		
RRMRB060	16.00	18.00	2.00	52.5	86.4	13.8	52.1	8.9	1.7	7.8	1.1	6.7	1.4	4.1	0.6	4.2	0.6	46.5	288.3	Clay		
RRMRB060	18.00	20.00	2.00	55.5	102.0	14.2	52.3	9.0	1.7	7.5	1.1	6.5	1.3	3.9	0.6	4.0	0.5	44.1	304.0	Upper Saprolite		
RRMRB060	20.00	21.00	1.00	57.7	95.4	15.1	56.0	9.7	1.8	8.3	1.1	7.0	1.4	4.1	0.6	4.1	0.6	47.9	311.0	Upper Saprolite	7.00	304

RRMRB061	0.00	2.00	2.00	101.1	216.2	19.8	66.3	11.4	1.9	8.6	1.4	8.0	1.6	4.6	0.7	4.6	0.7	43.8	490.5	Soil/Hardcap		
RRMRB061	2.00	4.00	2.00	100.0	196.5	17.1	55.1	8.6	1.4	6.3	1.0	6.2	1.2	3.5	0.6	3.8	0.6	34.4	436.3	Clay		
RRMRB061	4.00	6.00	2.00	65.3	188.6	13.4	47.0	7.5	1.4	6.7	1.0	6.2	1.3	4.0	0.6	4.2	0.6	42.0	389.8	Clay		
RRMRB061	6.00	8.00	2.00	80.3	112.2	15.2	53.8	8.5	1.6	7.7	1.1	6.8	1.4	4.3	0.7	4.3	0.6	45.8	344.3	Clay		
RRMRB061	8.00	10.00	2.00	83.6	83.9	15.8	54.6	8.7	1.8	8.1	1.2	7.3	1.4	4.3	0.6	4.2	0.6	47.2	323.3	Clay		
RRMRB061	10.00	12.00	2.00	71.4	93.6	16.5	58.7	10.1	2.0	8.4	1.3	7.5	1.5	4.3	0.6	4.2	0.6	48.9	329.4	Clay		
RRMRB061	12.00	14.00	2.00	70.1	81.9	18.6	68.1	12.2	2.3	9.9	1.4	7.9	1.6	4.7	0.6	4.2	0.6	51.6	335.7	Clay		
RRMRB061	14.00	16.00	2.00	60.9	84.8	16.4	60.0	10.5	2.1	8.7	1.3	7.1	1.3	3.9	0.6	3.8	0.5	44.3	306.2	Upper Saprolite		
RRMRB061	16.00	18.00	2.00	74.6	83.0	20.4	76.3	13.6	2.8	11.9	1.7	9.1	1.7	4.7	0.6	4.5	0.6	55.4	360.9	Upper Saprolite	16.00	353
RRMRB061	18.00	20.00	2.00	49.8	68.3	12.0	45.7	8.0	1.9	7.7	1.1	6.6	1.3	4.1	0.5	3.8	0.5	48.5	260.0	Upper Saprolite		
RRMRB062	0.00	2.00	2.00	73.4	152.9	15.5	53.8	10.1	1.6	8.4	1.3	8.2	1.7	4.8	0.7	4.8	0.7	47.6	385.6	Hardcap		
RRMRB062	2.00	4.00	2.00	55.8	608.1	12.0	41.9	8.3	1.3	6.7	1.2	6.6	1.4	4.3	0.7	4.4	0.6	36.8	790.0	Hardcap/Clay		
RRMRB062	4.00	6.00	2.00	103.6	386.9	18.7	61.8	9.0	1.7	6.7	1.1	6.3	1.2	3.5	0.5	3.5	0.5	35.8	640.9	Clay		
RRMRB062	6.00	8.00	2.00	144.8	145.0	29.6	100.7	14.9	2.7	10.5	1.5	8.3	1.5	4.0	0.6	3.5	0.5	45.6	513.6	Clay		
RRMRB062	8.00	10.00	2.00	174.2	199.6	39.7	145.2	23.8	4.3	17.2	2.4	12.4	2.2	5.2	0.7	4.0	0.6	62.7	694.2	Upper Saprolite		
RRMRB062	10.00	12.00	2.00	217.6	289.9	63.8	267.1	50.1	10.2	49.3	7.5	45.7	9.8	27.6	3.9	22.8	3.5	392.4	1461.0	Lower Saprolite		
RRMRB062	12.00	14.00	2.00	69.7	123.5	17.0	70.2	12.0	2.5	10.8	1.4	7.6	1.5	3.9	0.5	3.1	0.5	55.7	379.8	Lower Saprolite		
RRMRB062	14.00	16.00	2.00	67.7	128.4	15.1	59.8	10.6	2.3	9.2	1.3	7.1	1.3	3.6	0.5	2.9	0.4	52.2	362.4	Lower Saprolite	12.00	675
RRMRB063	0.00	2.00	2.00	46.2	240.8	10.0	34.2	6.3	0.8	5.5	0.9	5.6	1.1	3.2	0.5	3.5	0.5	31.5	390.7	Soil		
RRMRB063	2.00	4.00	2.00	36.4	147.4	7.7	25.8	4.6	0.6	4.4	0.8	5.0	1.1	3.1	0.5	3.3	0.5	31.7	272.8	Gravel		
RRMRB063	4.00	6.00	2.00	53.7	125.3	10.3	35.9	5.9	0.8	5.8	1.0	6.9	1.5	4.8	0.8	5.0	0.8	53.2	311.6	Clay		
RRMRB063	6.00	8.00	2.00	163.6	218.0	35.9	119.6	18.6	1.6	13.1	1.9	10.7	2.0	5.7	0.8	5.2	0.8	64.8	662.2	Clay		
RRMRB063	8.00	10.00	2.00	142.5	207.6	31.8	105.7	16.6	1.4	11.3	1.6	8.3	1.5	4.1	0.6	3.9	0.5	49.7	587.2	Clay		
RRMRB063	10.00	12.00	2.00	167.7	291.1	36.7	121.3	18.8	1.5	12.6	1.7	8.9	1.6	4.2	0.6	3.7	0.5	49.8	720.8	Clay		
RRMRB063	12.00	14.00	2.00	167.1	304.6	36.4	119.6	18.3	1.3	11.9	1.6	8.3	1.5	3.7	0.5	3.1	0.4	47.7	726.1	Upper Saprolite		
RRMRB063	14.00	16.00	2.00	184.1	335.4	39.7	132.4	19.8	1.3	12.7	1.7	8.6	1.5	3.8	0.5	3.1	0.5	49.1	794.3	Lower Saprolite	10.00	698
RRMRB063	16.00	18.00	2.00	144.3	269.0	30.7	101.5	15.5	1.1	9.7	1.3	6.9	1.2	2.9	0.4	2.3	0.3	38.4	625.4	Saprock		
RRMRB063	18.00	19.00	1.00	164.8	314.5	35.2	115.4	17.7	1.2	11.3	1.5	7.6	1.4	3.2	0.4	2.6	0.4	43.8	721.0	Saprock		
RRMRB064	0.00	2.00	2.00	56.2	259.2	11.8	39.0	6.6	0.8	5.0	0.8	4.5	0.9	2.5	0.4	2.6	0.4	25.9	416.6	Soil/Clay		
RRMRB064	2.00	4.00	2.00	47.3	380.8	9.6	30.8	5.1	0.6	4.1	0.7	3.9	0.7	2.2	0.3	2.3	0.4	21.0	509.7	Clay		
RRMRB064	4.00	6.00	2.00	88.3	256.7	17.2	58.4	8.9	1.2	7.0	1.0	6.0	1.2	3.5	0.5	3.6	0.6	38.4	492.6	Clay		
RRMRB064	6.00	8.00	2.00	101.7	172.0	20.3	69.9	10.4	1.4	7.9	1.2	6.5	1.3	3.5	0.5	3.5	0.5	41.5	442.1	Clay		
RRMRB064	8.00	10.00	2.00	140.7	194.1	28.9	93.3	14.4	1.4	10.0	1.4	6.9	1.2	3.0	0.4	2.6	0.4	38.1	536.9	Clay		
RRMRB064	10.00	12.00	2.00	129.0	259.2	28.2	93.9	15.4	1.0	9.6	1.3	5.7	1.0	2.2	0.3	1.5	0.2	28.7	577.1	Clay	8.00	512
RRMRB065	0.00	2.00	2.00	86.8	168.9	14.2	44.3	7.3	1.3	5.8	1.0	5.6	1.1	3.3	0.5	3.2	0.5	30.1	373.8	Soil/Hardcap		
RRMRB065	2.00	4.00	2.00	94.6	541.7	15.4	49.0	7.8	1.4	6.1	1.0	5.9	1.1	3.2	0.5	3.6	0.5	32.1	764.1	Clay		
RRMRB065	4.00	6.00	2.00	83.3	244.5	15.5	54.1	8.5	1.6	7.3	1.1	7.0	1.5	4.3	0.7	4.1	0.7	47.5	481.6	Clay		
RRMRB065	6.00	8.00	2.00	154.2	156.0	35.8	128.9	20.3	3.9	15.7	2.4	13.4	2.7	7.1	1.0	6.3	0.9	90.9	639.5	Clay		
RRMRB065	8.00	10.00	2.00	219.9	157.2	51.0	185.5	29.6	5.8	22.6	3.1	17.1	3.1	8.4	1.2	6.9	1.0	100.2	812.6	Clay		
RRMRB065	10.00	12.00	2.00	145.4	112.0	36.7	145.8	25.4	5.3	24.0	3.4	20.1	4.0	11.0	1.6	9.3	1.4	147.3	692.8	Clay	10.00	678
RRMRB065	12.00	14.00	2.00	30.3	56.0	7.1	26.0	4.7	1.1	3.7	0.6	3.4	0.7	2.0	0.3	2.0	0.3	24.0	162.2	Clay		
RRMRB065	14.00	16.00	2.00	32.8	59.6	7.5	28.7	5.3	1.2	4.3	0.6	3.7	0.7	2.0	0.3	2.0	0.3	23.5	172.5	Clay		
RRMRB065	16.00	18.00	2.00	33.0	61.7	7.6	28.1	5.1	1.1	4.0	0.6	3.6	0.7	2.0	0.3	2.0	0.3	22.1	172.1	Clay		
RRMRB065	18.00	20.00	2.00	35.8	71.7	8.4	31.7	5.5	1.4	4.3	0.7	3.9	0.8	2.2	0.4	2.1	0.3	25.4	194.6	Clay		
RRMRB065	20.00	22.00	2.00	32.8	68.7	8.0	31.1	6.2	1.5	5.3	0.8	4.7	1.0	2.6	0.4	2.4	0.4	30.5	196.3	Upper Saprolite		
RRMRB065	22.00	24.00	2.00	29.0	55.3	7.0	24.7	4.5	1.0	3.8	0.6	3.4	0.6	1.7	0.3	1.8	0.3	20.3	154.3	Upper Saprolite		
RRMRB065	24.00	25.00	1.00	32.5	68.9	7.8	28.0	5.4	1.2	4.3	0.6	3.6	0.7	2.0	0.3	2.0	0.3	22.9	180.4	Upper Saprolite		

RRMRB066	0.00	2.00	2.00	59.1	107.7	12.6	45.1	8.4	1.3	7.5	1.2	7.0	1.5	4.4	0.7	4.3	0.6	43.2	304.5	Soil		
RRMRB066	2.00	4.00	2.00	57.1	149.9	11.7	40.6	7.5	1.2	6.5	1.1	6.9	1.5	4.4	0.7	4.9	0.7	41.9	336.7	Hardcap		
RRMRB066	4.00	6.00	2.00	44.7	129.0	8.8	29.7	5.1	0.8	4.6	0.8	5.1	1.0	3.3	0.5	3.6	0.5	31.2	268.8	Hardcap		
RRMRB066	6.00	8.00	2.00	42.6	234.0	8.1	26.9	4.7	0.8	4.0	0.7	4.2	0.9	2.7	0.4	3.3	0.5	29.6	363.4	Upper Saprolite		
RRMRB066	8.00	10.00	2.00	33.8	183.0	6.6	21.8	4.0	0.7	3.9	0.6	4.1	0.8	2.6	0.4	3.1	0.5	27.0	293.1	Upper Saprolite		
RRMRB066	10.00	12.00	2.00	38.7	239.5	7.6	25.5	5.0	0.8	4.4	0.8	4.9	1.0	3.1	0.5	3.4	0.5	29.5	365.4	Upper Saprolite		
RRMRB067	0.00	2.00	2.00	45.9	178.7	9.7	33.1	6.3	1.1	5.0	0.8	5.3	1.1	3.4	0.5	3.6	0.5	28.3	323.4	Hardcap		
RRMRB067	2.00	4.00	2.00	50.7	538.0	11.0	37.8	6.7	1.2	5.7	1.0	6.0	1.2	3.5	0.6	3.6	0.5	32.5	700.0	Transition		
RRMRB067	4.00	6.00	2.00	109.2	276.4	19.7	65.1	11.5	1.8	9.0	1.4	8.4	1.6	4.8	0.7	4.8	0.7	50.4	565.5	Clay		
RRMRB067	6.00	8.00	2.00	80.8	89.1	14.3	47.9	8.4	1.6	6.8	1.0	6.2	1.2	3.7	0.5	3.5	0.5	37.5	302.9	Clay	4.00	434
RRMRB067	8.00	10.00	2.00	50.7	130.2	11.7	39.7	6.9	1.3	5.9	0.9	5.1	1.0	2.9	0.4	2.9	0.4	31.9	291.9	Clay		
RRMRB067	10.00	12.00	2.00	39.2	410.3	9.2	31.6	5.9	1.1	4.9	0.8	4.7	0.9	2.7	0.4	2.6	0.4	30.0	544.5	Clay		
RRMRB067	12.00	14.00	2.00	19.1	130.2	4.4	14.7	2.8	0.5	2.3	0.4	2.2	0.5	1.3	0.2	1.3	0.2	14.6	194.7	Clay		
RRMRB067	14.00	16.00	2.00	36.2	95.6	9.7	33.8	6.5	1.2	5.2	0.8	4.9	1.0	2.8	0.4	2.5	0.4	38.1	239.1	Clay		
RRMRB067	16.00	18.00	2.00	71.1	93.6	14.9	49.9	8.8	1.7	7.2	1.1	6.3	1.2	3.5	0.5	3.2	0.5	46.6	310.1	Clay		
RRMRB067	18.00	20.00	2.00	121.4	159.1	32.0	110.7	19.4	3.7	14.6	2.0	11.7	2.2	5.8	0.8	4.8	0.6	81.7	570.4	Clay		
RRMRB067	20.00	22.00	2.00	59.0	97.3	14.4	52.5	9.6	2.1	8.5	1.2	7.3	1.4	3.7	0.6	3.6	0.5	47.2	308.9	Upper Saprolite		
RRMRB067	22.00	24.00	2.00	74.4	137.6	17.5	62.1	10.6	2.2	8.9	1.2	7.5	1.4	3.8	0.5	3.3	0.5	47.6	379.0	Lower Saprolite	8.00	392

JORC Code, 2012 Edition – Table 1 report

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	Rotary Air Blast (RAB) Drilling RAB drill cuttings collected by a specifically designed sample collection tray at the collar of the hole for each measured 1 metre of drill advance. All (100%) of collected sample transferred from tray to individually numbered plastic bag.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	Hole diameter was 10.16cm (4 inch)
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Individual 1 metre samples weighed after collection in its plastic sample bag. There is no evidence of grade bias due to sample recovery

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td>Logging</td><td>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.
Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.
The total length and percentage of the relevant intersections logged.</td><td>RAB chips geologically logged based on 1 metre drill interval.

Logging is qualitative with description of colour, weathering status, alteration, major and minor rock types, texture, grain size, regolith zone and comments added where further observation is made.

Additional non-geological qualitative logging includes comments for sample recovery, humidity, and hardness for each logged interval.</td></tr>
<tr><td>Sub-sampling techniques and sample preparation</td><td>If core, whether cut or sawn and whether quarter, half or all core taken.
If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.
For all sample types, the nature, quality and appropriateness of the sample preparation technique.
Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.
Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.
Whether sample sizes are appropriate to the grain size of the material being sampled.</td><td>Sample collected by a tray at the collar of the hole for each 1 metre of drill advance.

All (100%) of collected sample transferred from tray to individually numbered plastic bag.

Samples are then transferred to a plastic basin an mixed by hand prior to extraction of a 1.5kg sample for geochemical analysis.

This sample collection protocol is adequate for the reconnaissance style exploration being conducted.

A geological sample increment is selected and transferred to a chip tray for geological logging and storage.</td></tr>
<tr><td>Quality of assay data and laboratory tests</td><td>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.
For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.
Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</td><td>Assay and Laboratory Procedures – All Samples

Samples were dispatched by air freight direct to ALS laboratory Perth Australia. The preparation and analysis protocol used is as follows:
<table>
<tr><th>ALS Code</th><th>Description</th></tr>
<tr><td>WEI-21</td><td>Received sample weight</td></tr>
<tr><td>LOG-22</td><td>Sample Login w/o Barcode</td></tr>
<tr><td>DRY-21</td><td>High temperature drying</td></tr>
<tr><td>CRU-21</td><td>Crush entire sample</td></tr>
<tr><td>CRU-31</td><td>Fine crushing – 70% <2mm</td></tr>
</table></td></tr>
</table>

Criteria	JORC Code explanation	Commentary

SPL-22Y	Split sample – Boyd Rotary Splitter
PUL-31h	Pulverise 750g to 85% passing 75 micron
CRU-QC	Crushing QC Test
PUL-QC	Pulverising QC test

The assay technique used for REE was Lithium Borate Fusion ICP-MS (ALS code ME-MS81). This is a recognised industry standard analysis technique for REE suite and associated elements. Elements analysed at ppm levels:

Ba	Ce	Cr	Cs	Dy	Er	Eu	Ga
Gd	Hf	Ho	La	Lu	Nb	Nd	Pr
Rb	Sm	Sn	Sr	Ta	Tb	Th	Tm
U	V	W	Y	Yb	Zr		

Analysis for scandium (Sc) was by Lithium Borate Fusion ICP-AES (ALS code Sc-ICP06).

The sample preparation and assay techniques used are industry standard and provide a total analysis.

All laboratories used are ISO 17025 accredited.

QAQC

- Analytical Standards

CRMs AMIS0276 and MUIACREI01 were included in sample batches at a ratio of 1:25 to drill samples submitted. This is an acceptable ratio.

Criteria	JORC Code explanation	Commentary
		The assay results for the standards were consistent with the certified levels of accuracy and precision and no bias is evident. • Blanks CRM blanks AMIS0681 and OREAS22e were included in sample batches at a ratio of 1:25 to drill samples submitted for analysis. This is an acceptable ratio. Both CRM blanks contain some REE, with elements critical elements Ce, Nd, Dy and Y present in small quantities. The analysis results were consistent with the certified values for the blanks. No laboratory contamination or bias is evident from these results. • Duplicates Field duplicate sampling was conducted at a ratio of 1:25 samples. Duplicates were created by Selecting a separate 1.5kg sample from the composited sample intervals. Duplicate samples were allocated separate sample numbers and submitted with the same analytical batch as the primary sample. Variability between duplicate results is considered acceptable and no sampling bias is evident. Laboratory inserted standards, blanks and duplicates were analysed as per industry standard practice. There is no evidence of bias from these results.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	No independent verification of significant intersection undertaken. No twinning of diamond core drill holes was undertaken. Sampling protocols for diamond core sampling and QAQC were documented and held on site by the responsible geologist. No procedures for data storage and management have been compiled as yet. Data were collected in the field by hand and entered into Excel spreadsheet. Data are then compiled with assay results compiled and stored in Access database. Data verification is conducted on data entry including hole depths, sample intervals and sample numbers. Sample

Criteria	JORC Code explanation	Commentary
		numbers from assay data are verified by algorithm in spreadsheet prior to entry int the database. Assay data was received in digital format from the laboratory and merged with the sampling data into an Excel spreadsheet format for QAQC analysis and review against field data. Once finalised and validated data is stored in a protected Access database. Data validation of assay data and sampling data have been conducted to ensure data entry is correct. All assay data is received from the laboratory in element form is unadjusted for data entry. Conversion of elemental analysis (REE) to stoichiometric oxide (REO) was undertaken by spreadsheet using defined conversion factors.(Source:https://www.jcu.edu.au/advanced-analytical-centre/services-and-resources/resources-and-extras/element-to-stoichiometric-oxide-conversion-factors)

Element ppm	Conversion Factor	Oxide Form
Ce	1.2284	CeO_2
Dy	1.1477	Dy_2O_3
Er	1.1435	Er_2O_3
Eu	1.1579	Eu_2O_3
Gd	1.1526	Gd_2O_3
Ho	1.1455	Ho_2O_3
La	1.1728	La_2O_3
Lu	1.1371	Lu_2O_3
Nd	1.1664	Nd_2O_3
Pr	1.2082	Pr_6O_{11}
Sm	1.1596	Sm_2O_3
Tb	1.1762	Tb_4O_7
Tm	1.1421	Tm_2O_3
Y	1.2699	Y_2O_3

Criteria	JORC Code explanation	Commentary

Yb	1.1387	Yb_2O_3
Sc	1.5338	Sc_2O_3

Rare earth oxide is the industry accepted form for reporting rare earths. The following calculations are used for compiling REO into their reporting and evaluation groups:

Note that Y_2O_3 is included in the TREO, HREO and CREO calculation.

TREO (Total Rare Earth Oxide) = $La_2O_3 + CeO_2 + Pr_6O_{11} + Nd_2O_3 + Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Y_2O_3 + Lu_2O_3$.

HREO (Heavy Rare Earth Oxide) = $Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3$, $+ Y_2O_3 + Lu_2O_3$

CREO (Critical Rare Earth Oxide) = $Nd_2O_3 + Eu_2O_3 + Tb_4O_7 + Dy_2O_3 + Y_2O_3$

(From U.S. Department of Energy, Critical Materials Strategy, December 2011)

LREO (Light Rare Earth Oxide) = La_2O_3 + CeO2 + $Pr_6O_{11} + Nd_2O_3$

NdPr = $Nd_2O_3 + Pr_6O_{11}$

HREO% of TREO= HREO/TREO x 100

In elemental form the classifications are:

Note that Y is included in the TREE, HREE and CREE calculation.

TREE: La+Ce+Pr+Nd+Sm+Eu+Gd+Tb+Dy+Ho+Er+Tm+Yb+Lu+Y

HREE: Sm+Eu+Gd+Tb+Dy+Ho+Er+Tm+Yb+Y+Lu

CREE: Nd+Eu+Tb+Dy+Y

LREE: La+Ce+Pr+Nd

Criteria	JORC Code explanation	Commentary
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	RAB collar locations were surveyed using handheld GPS. For this type of instrument, the general accuracy in x and y coordinates is + 5m. The elevation component of coordinates is variable and may be low accuracy using this type of device. Datum WGS84 Zone 36 North was used for location data collection and storage. This is the appropriate datum for the project area. No grid transformations were applied to the data.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	RAB reconnaissance drill holes have been drilled on a broad spacing, generally >1km, based on testing radiometric anomalies over a large area
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	Orientation of potential mineralisation unknown in this area but assumed to be horizontal as seen in the Makuutu deposit
Sample security	• *The measures taken to ensure sample security.*	After collection, the samples were transported by Company representatives to Entebbe airport and dispatched via airfreight to Perth Australia. Samples were received by Australian customs authorities in Perth within 48 hours of dispatch and were still contained in the sealed shipment bags. Samples were subsequently transported from Australian customs to ALS Perth via road freight and inspected on arrival by a Company representative
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	No audits or reviews have been undertaken

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	The Makuutu Project is located in the Republic of Uganda. The mineral tenements comprise two (2) granted Retention Licences (RL1693 and RL00007), three (3) Exploration Licences (EL1766, EL00147 and EL00148) and one (1) Exploration Licence application TN03573. All granted licences are in good standing with no known impediments. TN03573 is pending grant with all application requirements met. The Makuutu Rare Earths Project is 100% owned by Rwenzori Rare Metals Limited ("RRM"), a Ugandan registered company. IonicRE currently has earned a 51% shareholding in RRM and may increase its shareholding to 60% by meeting further commitments as follows: 1. IonicRE to fund to completion of a Bankable Feasibility Study (BFS) to earn an additional 9% interest for a cumulative 60% interest in RRM. 2. Milestone payments, payable in cash or IonicRE shares at the election of the Vendor, as follows: a. US$375,000 on production of 10 kg of mixed rare-earth product from pilot or demonstration plant activities; and b. US$375,000 on conversion of existing licences to mining licences. At any time should IonicRE not continue to invest in the project and project development ceases for at least two months RRM has the right to return the capital sunk by IonicRE and reclaim all interest earnt by IonicRE.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Previous exploration includes: 1980: Country wide airborne geophysical survey identifying uranium anomalies in the Project area.

Criteria	JORC Code explanation	Commentary
		1990s: French BRGM and Ugandan DGSM undertook geochemical and geological survey over South-Eastern Uganda including the Project area. Anomalous Au, Zn, Cu, Sn, Nb and V identified. 2006-2009: Country wide high resolution airborne magnetic and radiometric survey identified U anomalism in the Project area. 2009: Finland GTK reprocessed radiometric data and refined the Project anomalies. 2010: Kweri Ltd undertook field verification of radiometric anomalies including scout sampling of existing community pits. Samples showed an enrichment of REE and Sc. 2011: Kweri Ltd conducted ground radiometric survey and evaluated historic groundwater borehole logs. 2012: Kweri Ltd and partner Berkley Reef Ltd conducted prospect wide pit excavation and sampling of 48 pits and a ground gravity traverse. Pit samples showed enrichment of REE weathered profile. Five (5) samples sent to Toronto Aqueous Research Laboratory for REE leach testwork. 2016 – 2017: Rwenzori Rare Metals conduct excavation of 11 pits, ground gravity survey, RAB drilling (109 drill holes) and one (1) diamond drill hole. The historic exploration has been conducted to a professional standard and is appropriate for the exploration stage of the prospect.
Geology	• *Deposit type, geological setting and style of mineralisation.*	The Makuutu deposit is interpreted to be an ionic adsorption REE clay-type deposits similar to those in South China, Chile, Madagascar and Brazil. The mineralisation is contained within the tropical lateritic weathering profile of a basin filled with sedimentary rocks including shales, mudstones and sandstones potentially derived from the surrounding granitic and mafic rocks. These rocks are considered the original source of the REE

Criteria	JORC Code explanation	Commentary
		which were then accumulated in the sediments (via ionic bonds with the clays) of the basin as the surrounding rocks have degraded. These sediments then form the protolith that was subjected to prolonged tropical weathering. The weathering developed a lateritic regolith with a surface indurated hardcap, followed downward by clay rich zones that grade down through saprolite and saprock to unweathered sediments. The thickness of the regolith is between 10 and 20 metres from surface. The REE mineralisation is concentrated in the weathered profile where it has dissolved from its primary mineral form, such as monazite and xenotime, then ionically bonded (adsorbed) or colloidally bonded on to fine particles of aluminosilicate clays (e.g. kaolinite, illite, smectite). The adsorbed and colloidal REE is the target for extraction and production of REO at Makuutu.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	The material information for drill holes relating to this announcement are contained in Appendix 1.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	A lower cut-off of 200 ppm TREO-Ce_2O_3 was used for data aggregation of significant intervals with a maximum of 2 metres of internal dilution and no top-cuts applied. This lower cut-off is consistent with the marginal cut-off grade estimated and applied in the resource statements on the Makuutu Project Significant intervals were tabulated downhole for reporting. All individual samples were included in length weighted averaging over the entire tabulated range. No metal equivalents values are used.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	Down hole lengths, true widths are not known.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	Refer to diagrams in body of text.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	This report contains all drilling results that are consistent with the JORC guidelines. Where data may have been excluded, it is considered not material.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	Metallurgical leach testing was previously conducted on samples derived from exploration pits, RAB drilling, and one 8.5 tonne bulk pit sample. In 2012, 5 pit samples were sent to the Toronto Aqueous Research Laboratory at the University of Toronto for leachability tests

Criteria	JORC Code explanation	Commentary
		In 2017, 2 pit samples were sent to SGS Laboratory Toronto for leachability tests. 2017/18, 29 samples were collected from 7 RAB drill holes. 20 of these were consigned to SGS Canada and 4 to Aqueous Process Research (APR) in Ontario Canada. The remaining 5 samples were consigned to Bio Lantanidos in Chile. 2018/19, 8.5 tonne bulk sample was consigned to Mintek, South Africa, to evaluate using Resin-in-leach (RIL) technology for the recovery of REE. 2019: 118 samples from 31 holes from the 2019 diamond drilling program had preliminary variation testwork conducted TREE-Ce extraction ranged from 3% to 75%. 2020: Testing of composite samples with lower extractions from the 2019 variation testing using increasing rates of acid addition and leach time. Significant increases in extractions were achieved. 2020: Testing of composited samples from two exploration holes east of the Makuutu Central Zone provided an average extraction of TREE-Ce recovery of 41% @ pH1 Testing of samples from the project is ongoing.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Future work programs are intended to evaluate the economic opportunity of the project including extraction recovery maximisation, continued resource definition and estimation, regional exploration on adjoining licences and compilation of a Scoping Study.