

18 September 2020

MAKUUTU EXTENSION DRILLING SUCCESSFUL

- **First 5 extension drill hole assay results received confirming extension of the mineralisation**
- **All holes are mineralised above resource cut-off grade of 300 ppm TREO-Ce and will be included in the next resource update**
- **Drilling continues, with 2,344 metres (143 holes) of the 3,700 metre program completed to date**
- **Second tranche of samples (32 extension holes for Makuutu Central) is currently being analysed in Perth with results expected in 4 weeks**
- **Third tranche of samples (45 extension holes from Makuutu Eastern) has arrived in Perth**

Ionic Rare Earths Limited (“**IonicRE**” or “the Company”) (ASX: IXR) is pleased to provide an update on the progress of the Phase 2 drill program at the Makuutu Rare Earths Project (“**Makuutu**”) in Uganda.

The Phase 2 drill program includes 3,700 metres of core drilling to further quantify the potential of the 26-kilometre-long Makuutu mineralisation corridor and provide data for mineral resource expansion.

The results of the first 5 holes of the substantial resource expansion program have been received with all holes achieving clay intersections above the resource cut-off grade of 300 ppm TREO-Ce₂O₃. The drill holes were all located several hundred metres beyond the current resource boundary and will provide additional resource tonnes to the next update of the mineral resource estimate.

Results above a cut-off grade of 300 ppm TREO-Ce₂O₃ are:

- RRMDD069 9.8 metres at 689 ppm TREO from 4.4 metres
- RRMDD070 5.3 metres at 971 ppm TREO from 3.9 metres
- RRMDD071 1.0 metres at 695 ppm TREO from 3.8 metres, and
0.9 metres at 523 ppm TREO from 11.1 metres, and
1.0 metres at 461 ppm TREO from 13.1 metres, and
7.9 metres at 704 ppm TREO from 15.9 metres
- RRMDD072 12.6 metres at 779 ppm TREO from 2.6 metres
- RRMDD073 10.0 metres 747 ppm TREO from 4.0 metres

Drilling Progress

Further to the ASX announcement on 10th September 2020, mechanical issues have temporarily slowed drilling progress with drilling on the Makuutu Western Zone (MWZ, RL 00007) completed earlier this week. To date, 143 drill holes totaling 2,344 metres have been completed.

The Resource expansion drilling is focused on increasing the size of the existing Mineral Resource Estimate (MRE) by drilling out the Makuutu Exploration Target on a 400 metre x 400 metre grid over an area of approximately 16 square kilometres, which is more than three (3) times the existing MRE area.

This drill program is the largest undertaken on the Project to date, and is a material increase on the previous 990 metres of core drilling which delivered a MRE announced to the ASX on 23rd June 2020 and set out in Table 1, of:

78.6 Million tonnes @ 840 ppm TREO, at a cut-off grade of 300 ppm TREO-Ce₂O₃

The current drill program along most of the untested 26-kilometre-long Makuutu mineralisation corridor will test the significant resource potential at Makuutu as evidenced by the Exploration Target* of **270 – 530 million tonnes grading 0.04 – 0.1%** (400 – 1,000 ppm) TREO as announced to the ASX on 4th September 2019.

*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.

Now that the drill program has been completed at MWZ, the remaining resource expansion program has returned to the Makuutu Central Zone (MCZ, RL 1693), testing the western areas, prior to completing a program of 200 metre spaced infill drilling which will be undertaken on the current MRE area. With the delays experienced over the past week, it is expected that at the current rate the entire program will be completed by mid to late October 2020.

Ionic Rare Earths Chief Executive Officer Mr. Tim Harrison commented:

“The extension drilling results demonstrate that the mineralisation, extends as expected in line with the resource target and remains well defined by the radiometric signatures. We continue to see near surface thick clay intervals which, with further drilling, we’d expect to be included in the next resource update.”

“Drilling progress has been excellent since resuming in July. The recent short delay in completing the Makuutu Western Zone was influenced by delays in sourcing parts internationally and reduced flights into Uganda, another impact of covid-19. Now repaired, drilling is once again underway and moving steadily towards completion”.

Drilling Program

The planned diamond core drilling program, which follows on from the previous drilling program undertaken by the Company in Q12020, is illustrated in Figure 1 and Figure 2.

- 1) In-fill drilling within the area of the current Mineral Resource (on tenement RL 1693) to assess short range REE grade variability for application to resource grade estimation confidence – *11 drill holes completed and reported 10th September 2020.*
- 2) Resource extensional drilling to expand the current Mineral Resource area further to the east (on tenement RL 1693) – *37 drill holes completed; 32 drill holes current being analysed and 5 holes being reported in this announcement.*
- 3) Exploration drilling on adjacent tenement EL 1766, or Makuutu Eastern Zone (MEZ) – *68 drill holes completed. 45 drill hole samples arrived in Perth for analysis.*
- 4) Exploration drilling on adjacent tenement RL 00007, or Makuutu Western Zone (MWZ) – *25 drill holes completed.*
- 5) Exploration drilling on the western side of the current Mineral Resource area further to the west (on tenement RL 1693) – *drilling has commenced with 24 holes planned of which 2 are complete.*
- 6) In-fill drilling within the area of the current Mineral Resource (on tenement RL 1693) to enhance resource grade estimation confidence. To be commenced following completion of exploration and resource expansion drilling.

The second tranche of samples will cover the resource extension holes to the immediate east of the existing MRE, where observations from the field logging confirm clay intervals similar with the other tested areas of the MCZ.

The third tranche of samples will include a significant portion of the drill hole samples from the massive MEZ. Observations from field logging of the core confirms the presence of a widespread lateritic weathered regolith, similar to the REE mineralised regolith identified in the broad spaced reconnaissance holes completed in late 2019 and reported to the ASX on the 23rd December 2019.

Increasing Ownership of Makuutu Rare Earths Project

IonicRE is progressing rapidly towards increasing the overall ownership in Rwenzori Rare Metals Limited, the 100% owner of the Makuutu Rare Earths Project. IonicRE presently owns 31% of Rwenzori, and as per terms of an earn-in agreement, is nearing the 51% investment contribution milestone. It is expected that the completion of the drill program plus other project activities will see IonicRE meet the earn-in obligations prior to Retention Licence 1693 renewal due before 1st November 2020.

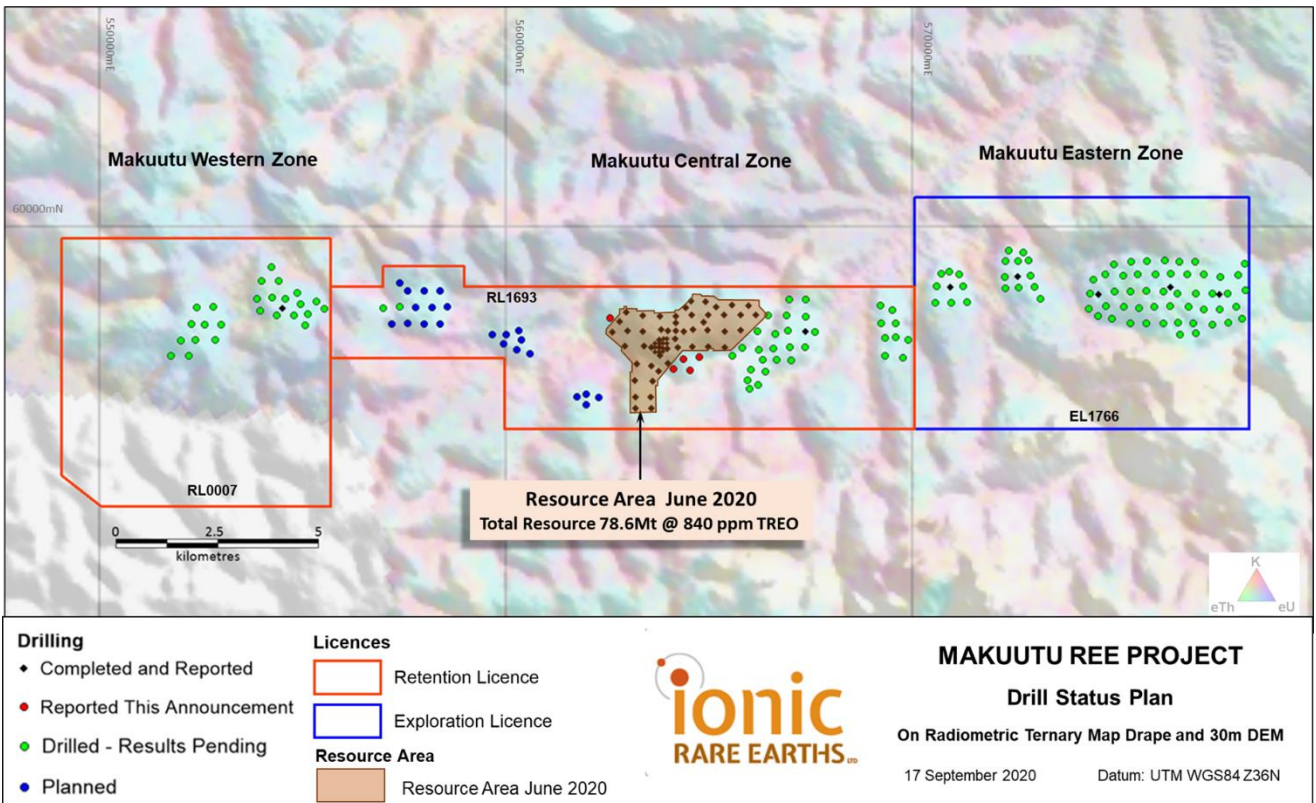


Figure 1: Makuutu Project current drill program status plan showing both completed (red & green) and planned (blue) drill holes stretching over 26 kilometres across the three tenements at the Makuutu Rare Earths Project.

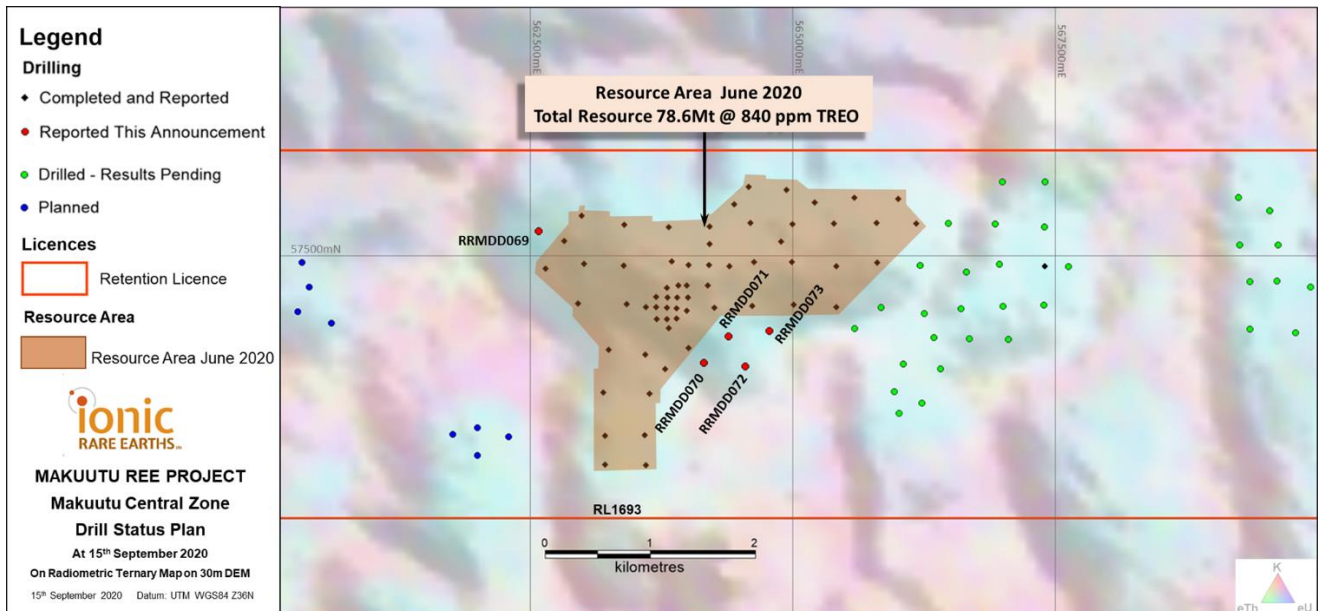


Figure 2: Makuutu Central Zone current drill program status plan and MRE area. Holes RRMD069 to 073 highlighted (red).

Table 1: Makuutu Resource above 300ppm TREO-Ce₂O₃ Cut-off Grade.

Resource Classification	Tonnes (millions)	TREO (ppm)	TREO-Ce ₂ O ₃ (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
Total Resource	78.6	840	610	630	210	310

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

Table 2: Makuutu Rare Earths Project Core Hole Details (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
RRMDD069	562582	57731	1150	HQ DD	15.00	0	-90
RRMDD070	564153	56480	1141	HQ DD	12.00	0	-90
RRMDD071	564391	56730	1140	HQ DD	25.50	0	-90
RRMDD072	564548	56448	1138	HQ DD	21.00	0	-90
RRMDD073	564778	56782	1164	HQ DD	16.50	0	-90

Authorised for release by Brett Dickson, Company Secretary.

***** ENDS *****

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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 23 June 2020 and is available to view on www.asx.com.au. Ionic Rare Earths Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcement, and that all material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed.

The information in this Report that relates to 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.

Appendix 1: Diamond Core Drilling Analytical Results RRMDD058 to RRMDD068 Including Highlighted Intersections >300 ppm TREO-Ce₂O₃
 (Note: Rounding will cause minor value differences)

Hole ID	From m	To m	Int.	La ₂ O ₃ ppm	Ce ₂ O ₃ ppm	Pr ₂ O ₃ ppm	Nd ₂ O ₃ ppm	Sm ₂ O ₃ ppm	Eu ₂ O ₃ ppm	Gd ₂ O ₃ ppm	Tb ₂ O ₃ ppm	Dy ₂ O ₃ ppm	Ho ₂ O ₃ ppm	Er ₂ O ₃ ppm	Tm ₂ O ₃ ppm	Yb ₂ O ₃ ppm	Lu ₂ O ₃ ppm	Y ₂ O ₃ ppm	TREO ppm	Regolith Zone	>300ppm TREO-Ce ₂ O ₃ Interval	
																					Length (m)	TREO ppm
RRMDD069	0.0	0.7	0.7	88.1	155.2	19.8	71.3	13.4	2.2	11.1	1.7	10.1	2.1	6.2	1.0	1.7	1.0	60.8	446	Soil		
RRMDD069	0.7	1.6	0.9	70.0	249.5	13.9	47.6	8.4	1.4	6.4	1.1	6.8	1.4	4.2	0.7	1.1	0.7	35.4	449	Hardcap		
RRMDD069	1.6	2.5	0.9	65.1	346.7	13.3	46.1	8.1	1.4	6.5	1.1	6.6	1.4	4.1	0.6	1.1	0.7	35.9	539	Hardcap		
RRMDD069	2.5	3.4	0.9	79.5	787.1	16.4	58.0	10.7	1.7	8.1	1.4	7.7	1.6	4.6	0.7	1.4	0.7	40.8	1020	Hardcap		
RRMDD069	3.4	4.4	1.0	146.0	312.7	24.6	82.5	14.3	2.3	10.8	1.9	10.8	2.2	6.8	1.0	1.9	1.0	55.2	674	Hardcap		
RRMDD069	4.4	5.3	0.9	146.0	246.0	30.8	104.9	17.1	3.1	14.6	2.1	12.5	2.6	7.6	1.2	2.1	1.0	75.9	667	Mottled		
RRMDD069	5.3	6.0	0.7	120.2	309.2	28.9	110.2	20.3	3.5	15.3	2.3	13.5	2.6	7.3	1.1	2.2	1.0	75.6	713	Mottled		
RRMDD069	6.0	6.7	0.7	201.1	345.5	56.2	205.9	35.6	6.1	24.4	3.3	18.4	3.3	9.0	1.3	3.3	1.1	89.8	1004	Mottled		
RRMDD069	6.7	7.7	1.0	144.3	277.6	43.3	156.9	29.3	5.6	23.6	3.3	18.4	3.2	8.7	1.3	3.3	1.0	91.3	811	Mottled		
RRMDD069	7.7	8.6	0.9	120.2	262.4	37.7	142.3	26.8	5.1	22.5	3.1	16.9	3.1	8.7	1.2	3.0	1.0	86.9	741	Clay		
RRMDD069	8.6	9.5	0.9	123.1	237.8	35.8	135.9	23.3	4.1	17.5	2.6	15.3	2.8	7.5	1.1	2.6	0.9	79.2	690	Clay		
RRMDD069	9.5	10.4	0.9	112.1	212.0	29.6	112.1	20.0	3.6	15.5	2.2	13.4	2.4	6.3	0.9	2.2	0.7	62.0	595	Clay		
RRMDD069	10.4	11.4	1.0	91.5	196.8	21.2	80.1	14.3	2.8	12.4	1.9	10.4	2.0	5.4	0.8	1.8	0.7	57.7	500	Clay		
RRMDD069	11.4	12.5	1.1	85.4	188.0	21.1	81.1	14.1	2.9	12.9	1.7	10.1	2.1	5.9	0.9	1.7	0.8	60.7	489	Upper Saprolite		
RRMDD069	12.5	13.3	0.9	90.8	205.6	28.9	131.2	23.9	5.1	32.3	4.9	34.1	8.5	24.5	3.6	4.8	3.0	420.3	1021	Upper Saprolite		
RRMDD069	13.3	14.2	0.9	74.5	165.7	18.3	69.3	12.4	2.7	12.6	1.7	11.4	2.4	6.8	1.0	1.7	0.8	109.7	491	Lower Saprolite	9.8	689
RRMDD069	14.2	15.0	0.8	71.8	157.0	15.9	58.3	10.7	2.0	8.3	1.2	6.6	1.2	3.3	0.5	1.2	0.4	34.9	373	Lower Saprolite		
RRMDD070	0.0	0.1	0.1	82.1	230.7	15.1	53.1	9.3	1.5	7.8	1.3	7.4	1.6	5.0	0.8	1.3	0.8	48.1	466	Soil		
RRMDD070	0.1	1.0	0.9	67.9	256.5	12.6	44.3	8.0	1.3	6.5	1.1	6.2	1.4	4.2	0.7	1.1	0.7	38.9	451	Hardcap		
RRMDD070	1.0	2.0	1.0	60.2	264.7	11.3	40.2	7.2	1.2	5.7	1.0	5.9	1.3	4.0	0.6	1.0	0.6	35.7	440	Hardcap		
RRMDD070	2.0	3.0	1.0	49.8	616.1	9.2	31.5	6.0	0.9	4.7	0.9	5.0	1.0	3.2	0.5	0.9	0.5	28.3	759	Hardcap		
RRMDD070	3.0	3.9	0.9	53.8	517.7	10.3	35.0	6.5	1.0	5.2	0.9	5.2	1.1	3.5	0.6	0.9	0.6	29.2	671	Hardcap		
RRMDD070	3.9	4.8	0.8	234.6	209.7	55.2	198.9	33.5	6.3	31.2	4.6	27.4	5.6	16.6	2.5	4.5	1.9	186.0	1019	Clay		
RRMDD070	4.8	5.5	0.7	278.0	406.4	54.8	191.3	30.3	5.5	26.5	3.6	20.7	4.0	11.1	1.5	3.5	1.2	118.9	1157	Clay		
RRMDD070	5.5	5.9	0.4	487.9	501.3	97.3	341.8	55.2	9.3	43.9	5.9	33.3	6.1	15.5	2.1	5.9	1.7	177.8	1785	Clay		
RRMDD070	5.9	6.8	0.9	217.0	332.6	55.0	205.9	34.8	5.9	28.2	4.0	24.2	4.8	13.0	1.9	4.0	1.5	148.6	1081	Clay		
RRMDD070	6.8	7.7	0.9	190.6	312.7	46.6	174.4	30.8	5.4	24.7	3.5	21.1	3.8	10.3	1.6	3.5	1.2	110.0	940	Clay		
RRMDD070	7.7	8.5	0.8	134.3	257.7	30.9	105.4	17.8	3.1	13.7	1.9	10.5	2.0	5.5	0.8	1.9	0.7	55.6	642	Upper Saprolite		
RRMDD070	8.5	8.9	0.4	80.8	130.6	19.3	70.3	11.7	2.0	8.6	1.2	7.5	1.5	4.3	0.7	1.2	0.6	43.9	384	Upper Saprolite		
RRMDD070	8.9	9.3	0.4	154.8	287.0	34.4	120.7	19.4	3.3	15.3	2.1	11.6	2.2	6.2	0.9	2.1	0.8	63.1	724	Lower Saprolite	5.3	971
RRMDD070	9.3	10.2	0.9	98.2	198.5	21.5	78.0	12.8	2.2	9.6	1.3	8.3	1.6	4.5	0.7	1.3	0.6	45.8	485	Lower Saprolite		
RRMDD070	10.2	11.1	0.9	83.0	188.6	20.7	79.2	15.4	2.7	12.4	1.8	10.1	1.9	5.2	0.7	1.8	0.6	55.7	480	Saprock		
RRMDD070	11.1	12.0	0.9	113.4	250.7	24.5	81.5	11.8	2.0	8.9	1.2	6.4	1.3	3.8	0.6	1.2	0.5	42.4	550	Saprock		
RRMDD071	0.0	0.6	0.6	110.9	241.3	23.2	82.5	14.1	2.3	11.3	1.7	10.4	2.1	6.3	0.9	1.7	1.0	62.7	572	Soil		
RRMDD071	0.6	1.2	0.6	103.4	257.7	21.0	73.5	12.8	1.9	9.9	1.6	8.9	1.9	5.6	0.8	1.6	0.9	55.0	557	Soil		
RRMDD071	1.2	2.1	0.9	112.6	1147.9	19.0	57.0	8.7	1.3	5.7	1.0	5.4	1.1	3.1	0.5	1.0	0.5	26.7	1392	Hardcap		
RRMDD071	2.1	3.0	0.9	71.2	961.6	13.9	46.8	8.3	1.2	5.6	1.0	5.6	1.1	3.4	0.5	1.0	0.5	27.2	1149	Hardcap		
RRMDD071	3.0	3.8	0.8	81.3	1017.9	15.3	53.2	8.4	1.3	6.1	1.1	5.7	1.2	3.6	0.6	1.1	0.6	33.0	1230	Hardcap		
RRMDD071	3.8	4.8	1.0	118.5	393.6	21.3	72.2	11.1	1.8	8.5	1.3	8.3	1.7	5.1	0.8	1.3	0.7	48.4	695	Mottled	1.0	695
RRMDD071	4.8	5.5	0.7	62.3	159.9	12.2	42.1	6.3	1.0	5.1	0.8	4.9	1.0	3.1	0.5	0.8	0.4	30.6	331	Mottled		
RRMDD071	5.5	6.2	0.7	94.2	276.4	21.0	73.7	11.5	1.9	9.0	1.3	8.1	1.7	5.1	0.8	1.3	0.8	50.7	558	Mottled		
RRMDD071	6.2	7.2	1.0	36.9	104.5	7.7	26.7	4.3	0.7	3.5	0.5	3.1	0.7	2.2	0.4	0.5	0.4	19.7	212	Clay		

																					>300ppm TREO-Ce ₂ O ₃ Interval	
Hole ID	From m	To m	Int.	La ₂ O ₃ ppm	Ce ₂ O ₃ ppm	Pr ₂ O ₃ ppm	Nd ₂ O ₃ ppm	Sm ₂ O ₃ ppm	Eu ₂ O ₃ ppm	Gd ₂ O ₃ ppm	Tb ₂ O ₃ ppm	Dy ₂ O ₃ ppm	Ho ₂ O ₃ ppm	Er ₂ O ₃ ppm	Tm ₂ O ₃ ppm	Yb ₂ O ₃ ppm	Lu ₂ O ₃ ppm	Y ₂ O ₃ ppm	TREO ppm	Regolith Zone	Length (m)	TREO ppm
RRMDD071	7.2	8.2	1.0	47.0	165.2	10.6	37.8	6.0	1.0	4.2	0.6	4.0	0.8	2.7	0.5	0.6	0.5	25.1	307	Clay		
RRMDD071	8.2	9.2	1.0	92.1	249.5	18.5	66.5	11.2	1.9	8.1	1.2	6.9	1.4	3.9	0.7	1.2	0.7	40.6	504	Clay		
RRMDD071	9.2	10.1	0.9	122.0	201.5	25.3	85.7	13.6	2.2	9.5	1.4	7.9	1.5	4.2	0.7	1.3	0.6	46.0	523	Clay		
RRMDD071	10.1	11.1	1.0	80.9	135.3	20.6	70.6	12.0	2.0	8.6	1.2	6.9	1.3	3.9	0.6	1.2	0.6	43.7	389	Clay		
RRMDD071	11.1	12.1	1.0	92.9	159.9	23.8	84.7	14.7	2.4	10.1	1.5	9.0	1.6	4.7	0.7	1.4	0.6	52.7	461	Clay	0.9	523
RRMDD071	12.1	13.1	1.0	82.6	138.8	19.0	67.1	11.0	1.9	8.1	1.2	7.1	1.4	4.0	0.6	1.1	0.6	44.2	388	Clay		
RRMDD071	13.1	14.1	1.0	84.2	144.1	19.8	72.0	11.7	2.0	8.4	1.2	7.2	1.4	4.1	0.6	1.2	0.6	45.0	403	Clay	1.0	461
RRMDD071	14.1	15.0	0.9	85.6	167.5	19.7	68.9	11.4	1.8	7.8	1.1	6.8	1.3	3.6	0.6	1.1	0.6	42.7	420	Upper Saprolite		
RRMDD071	15.0	15.9	0.9	86.2	156.4	19.6	67.9	11.6	2.0	8.6	1.2	7.2	1.4	4.0	0.6	1.2	0.6	44.7	413	Upper Saprolite		
RRMDD071	15.9	16.8	0.9	714.2	771.9	113.6	376.7	56.9	10.4	39.0	4.8	23.3	3.3	7.9	1.0	4.8	0.7	78.7	2207	Upper Saprolite		
RRMDD071	16.8	17.8	1.0	92.4	180.4	21.4	75.0	13.0	2.1	9.2	1.3	7.7	1.4	4.2	0.7	1.3	0.6	45.1	456	Upper Saprolite		
RRMDD071	17.8	18.8	1.0	93.7	175.7	22.2	77.3	13.0	2.3	9.5	1.4	8.6	1.6	4.5	0.7	1.4	0.6	52.3	465	Upper Saprolite		
RRMDD071	18.8	19.8	1.0	105.8	189.2	23.2	83.5	14.0	2.6	10.9	1.6	9.9	1.9	5.1	0.8	1.6	0.7	54.5	505	Upper Saprolite		
RRMDD071	19.8	20.8	1.0	109.4	210.8	25.9	98.4	18.2	3.2	14.8	2.4	15.5	3.0	8.4	1.2	2.4	1.0	109.3	624	Upper Saprolite		
RRMDD071	20.8	21.8	1.0	107.5	203.8	24.1	91.1	16.2	3.0	13.3	2.0	12.3	2.3	6.4	1.0	2.0	0.8	71.7	558	Lower Saprolite		
RRMDD071	21.8	22.9	1.1	89.0	165.2	20.8	76.4	14.1	2.8	11.3	1.7	10.9	1.9	5.7	0.8	1.7	0.7	64.3	467	Lower Saprolite		
RRMDD071	22.9	23.8	0.9	95.6	185.1	20.2	72.6	12.9	2.4	12.0	1.7	11.5	2.3	6.8	1.0	1.7	0.9	80.1	507	Lower Saprolite	7.9	704
RRMDD071	23.8	24.7	0.9	71.8	148.8	16.0	60.3	11.0	2.0	8.8	1.3	8.7	1.7	4.7	0.7	1.3	0.6	59.6	397	Lower Saprolite		
RRMDD071	24.7	25.1	0.4	69.3	148.8	17.1	61.9	11.8	2.3	9.7	1.3	8.1	1.4	4.3	0.7	1.3	0.5	47.5	386	Lower Saprolite		
RRMDD071	25.1	25.5	0.4	71.7	153.4	15.4	53.7	8.8	1.5	6.3	0.9	5.5	1.1	3.2	0.5	0.9	0.5	34.3	358	Lower Saprolite		
RRMDD072	0.0	0.1	0.1	76.0	657.1	14.6	52.7	9.0	1.5	7.1	1.2	6.5	1.4	4.2	0.7	1.2	0.7	37.7	871	Soil		
RRMDD072	0.1	1.1	1.0	74.2	2096.6	16.7	58.6	10.7	1.6	7.6	1.5	7.2	1.5	4.5	0.7	1.5	0.7	36.1	2320	Hardcap		
RRMDD072	1.1	2.0	0.9	88.1	1364.6	19.8	67.7	11.9	1.8	8.5	1.6	8.0	1.7	5.4	0.8	1.6	0.8	45.5	1628	Hardcap		
RRMDD072	2.0	2.6	0.6	107.1	1040.1	23.6	83.9	14.4	2.2	10.6	1.7	9.5	2.0	6.0	0.9	1.7	0.9	53.5	1358	Hardcap		
RRMDD072	2.6	3.3	0.7	258.0	241.3	51.5	182.5	27.4	4.1	20.7	2.9	16.2	3.4	9.5	1.3	2.9	1.2	116.8	940	Mottled		
RRMDD072	3.3	3.9	0.6	362.4	308.1	74.1	263.6	39.2	6.3	27.9	3.7	23.1	4.2	11.6	1.7	3.7	1.4	150.5	1281	Mottled		
RRMDD072	3.9	4.8	0.9	275.6	249.5	57.5	198.3	29.1	4.9	22.1	3.0	19.0	3.6	10.0	1.5	3.0	1.3	127.0	1005	Mottled		
RRMDD072	4.8	5.8	1.0	179.4	261.2	38.6	137.1	21.2	3.1	14.0	1.9	11.9	2.2	6.0	0.9	1.9	0.8	70.1	750	Mottled		
RRMDD072	5.8	6.8	1.0	145.4	472.0	33.0	113.8	17.7	2.8	11.7	1.7	9.7	1.8	5.0	0.8	1.7	0.7	56.4	874	Clay		
RRMDD072	6.8	7.8	1.0	256.8	349.0	59.1	211.1	35.1	6.0	24.2	3.4	18.8	3.2	8.6	1.2	3.3	1.0	86.2	1067	Clay		
RRMDD072	7.8	8.8	1.0	186.5	336.2	43.2	152.8	24.6	4.4	17.9	2.4	13.8	2.5	7.1	1.0	2.4	0.9	80.6	876	Clay		
RRMDD072	8.8	9.8	1.0	143.1	242.5	31.7	111.7	18.6	3.3	13.7	1.9	12.7	2.3	6.9	1.1	1.9	0.9	86.5	679	Clay		
RRMDD072	9.8	10.7	0.9	136.0	133.5	29.0	109.1	18.6	3.3	14.2	2.0	13.0	2.5	6.8	1.0	2.0	0.9	85.8	558	Upper Saprolite		
RRMDD072	10.7	11.7	1.0	158.9	218.4	34.8	122.5	20.9	4.0	17.3	2.4	15.9	2.9	8.4	1.2	2.4	1.0	101.3	712	Upper Saprolite		
RRMDD072	11.7	12.6	0.9	97.7	166.9	21.4	80.5	14.6	2.9	13.5	2.0	12.4	2.5	7.7	1.1	2.0	0.9	91.9	518	Upper Saprolite		
RRMDD072	12.6	13.5	0.9	92.9	184.5	19.7	71.9	12.6	2.4	10.3	1.5	9.1	1.8	5.3	0.8	1.5	0.7	63.7	479	Upper Saprolite		
RRMDD072	13.5	14.4	0.9	118.5	268.2	27.5	102.4	19.4	3.9	15.8	2.2	13.9	2.7	7.5	1.1	2.2	0.9	88.4	674	Upper Saprolite		
RRMDD072	14.4	15.2	0.8	112.8	254.2	26.7	95.8	17.7	3.8	14.8	2.2	13.5	2.5	7.2	1.1	2.1	0.9	80.8	636	Lower Saprolite	12.6	779
RRMDD072	15.2	16.1	0.9	83.2	168.1	17.8	62.5	10.4	1.9	7.6	1.0	6.1	1.1	3.5	0.5	1.0	0.5	37.0	402	Lower Saprolite		
RRMDD072	16.1	17.0	0.9	87.1	186.2	19.4	70.0	13.1	2.4	8.9	1.3	7.8	2.1	4.2	0.6	1.3	0.5	43.9	449	Saprock		
RRMDD072	17.0	18.0	0.9	63.6	120.6	14.6	54.4	9.9	2.1	7.6	1.2	7.4	1.4	3.8	0.6	1.1	0.5	43.0	332	Saprock		
RRMDD072	18.0	18.8	0.9	78.3	163.4	16.9	59.6	10.7	2.0	7.7	1.1	6.6	1.3	4.0	0.6	1.1	0.5	43.4	397	Saprock		
RRMDD072	18.8	19.7	0.9	77.4	162.2	16.9	58.2	10.2	1.9	7.4	1.1	6.2	1.2	3.8	0.5	1.1	0.5	38.7	387	Saprock		
RRMDD072	19.7	20.6	0.9	61.0	128.3	12.2	43.4	7.6	1.4	5.3	0.8	4.9	1.0	3.0	0.5	0.8	0.4	31.7	302	Saprock		
RRMDD072	20.6	21.0	0.4	55.2	109.0	13.3	47.9	9.1	1.9	6.7	1.0	6.0	1.1	3.4	0.5	1.0	0.5	34.3	291	Saprock		
RRMDD073	0.0	0.9	0.9	37.1	193.9	6.3	21.5	3.7	0.6	3.0	0.6	3.2	0.7	2.3	0.4	0.5	0.4	19.3	293	Soil		
RRMDD073	0.9	1.8	0.9	41.3	410.0	7.5	24.3	4.2	0.7	3.4	0.6	3.7	0.8	2.5	0.4	0.6	0.4	21.6	522	Hardcap		

Hole ID	From m	To m	Int.	La ₂ O ₃ ppm	Ce ₂ O ₃ ppm	Pr ₂ O ₃ ppm	Nd ₂ O ₃ ppm	Sm ₂ O ₃ ppm	Eu ₂ O ₃ ppm	Gd ₂ O ₃ ppm	Tb ₂ O ₃ ppm	Dy ₂ O ₃ ppm	Ho ₂ O ₃ ppm	Er ₂ O ₃ ppm	Tm ₂ O ₃ ppm	Yb ₂ O ₃ ppm	Lu ₂ O ₃ ppm	Y ₂ O ₃ ppm	TREO ppm	Regolith Zone	>300ppm TREO-Ce ₂ O ₃ Interval	
																					Length (m)	TREO ppm
RRMDD073	1.8	2.7	0.9	77.3	815.2	14.6	50.4	7.9	1.2	5.8	1.0	5.8	1.2	3.7	0.6	1.0	0.6	34.5	1021	Hardcap		
RRMDD073	2.7	3.6	0.9	124.3	449.8	23.8	81.2	12.9	2.0	9.3	1.5	8.3	1.7	5.1	0.8	1.5	0.8	47.5	770	Hardcap		
RRMDD073	3.6	4.0	0.3	127.2	367.8	23.3	80.8	13.3	2.0	9.5	1.5	8.5	1.8	5.0	0.8	1.5	0.8	48.0	692	Transition		
RRMDD073	4.0	5.0	1.0	110.1	121.2	24.9	89.5	15.5	2.7	11.9	1.7	11.5	2.3	6.9	1.0	1.7	1.1	73.9	476	Clay		
RRMDD073	5.0	6.0	1.0	165.4	229.6	39.0	138.2	23.4	4.3	18.7	2.6	16.5	3.0	8.9	1.4	2.6	1.1	93.2	748	Clay		
RRMDD073	6.0	7.0	1.0	153.1	256.5	36.5	128.9	22.5	3.9	17.0	2.4	15.5	3.0	8.4	1.3	2.4	1.2	96.4	749	Clay		
RRMDD073	7.0	8.0	1.0	219.9	261.2	52.7	182.5	31.5	5.5	22.9	3.2	18.7	3.3	9.4	1.5	3.2	1.3	105.3	922	Clay		
RRMDD073	8.0	9.0	1.0	296.7	395.9	71.0	250.8	43.5	7.5	30.4	4.3	24.9	4.5	12.3	1.8	4.3	1.6	138.4	1288	Upper Saprolite		
RRMDD073	9.0	10.0	1.0	247.5	277.6	53.8	186.6	32.4	6.1	25.5	3.5	19.6	3.5	9.6	1.4	3.5	1.2	104.1	976	Upper Saprolite		
RRMDD073	10.0	11.0	1.0	123.1	178.0	27.0	96.6	15.8	3.0	12.4	1.7	10.4	2.0	5.8	0.8	1.7	0.8	65.0	544	Upper Saprolite		
RRMDD073	11.0	12.0	1.0	105.7	175.1	22.9	83.6	14.9	2.5	10.5	1.5	8.9	1.8	4.8	0.7	1.5	0.7	59.1	494	Lower Saprolite		
RRMDD073	12.0	13.0	1.0	150.7	182.1	29.6	107.1	20.8	4.1	19.6	3.2	20.9	4.3	12.2	1.7	3.2	1.7	153.0	714	Lower Saprolite		
RRMDD073	13.0	14.0	0.9	106.7	188.6	24.7	93.5	17.9	3.6	15.7	2.2	13.0	2.5	6.8	1.0	2.2	0.9	81.4	560	Lower Saprolite	10.0	747
RRMDD073	14.0	14.9	1.0	57.5	138.2	12.2	39.7	6.2	1.1	4.7	0.6	3.5	0.6	1.9	0.3	0.6	0.3	19.7	287	Saprock		
RRMDD073	14.9	15.8	0.9	48.9	101.7	10.0	33.9	5.5	1.0	3.7	0.5	2.8	0.5	1.6	0.3	0.5	0.3	16.0	227	Saprock		
RRMDD073	15.8	16.5	0.7	55.2	111.0	13.5	48.6	9.4	1.7	6.7	1.0	6.1	1.2	3.4	0.5	1.0	0.5	35.2	295	Saprock		

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	<ul style="list-style-type: none"> 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. 	<p>Diamond Core Drilling</p> <p>Drill core was collected from a core barrel and placed in appropriately marked core trays. Down hole core run depths were measured and marked with core blocks. Core was measured for core loss and core photography and geological logging completed.</p> <p>Sample lengths were determined by geological boundaries with a maximum sample length of 1 metre applied in clay zones and up to 2 metres in laterite zones where core recovery was occasionally low.</p> <p>Where the core contained continuous lengths of soft clay a carving knife was used to cut the core. When the core was too hard to knife cut it was cut using an electric core saw.</p> <p>Using either method core was initial cut in half then one half was further cut in half to give quarter core.</p> <p>Quarter core was submitted to ALS for chemical analysis using industry standard sample preparation and analytical techniques.</p> <p>Half core was collected for metallurgical testwork.</p>
Drilling techniques	<ul style="list-style-type: none"> 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). 	<p>Diamond Core Drilling</p> <p>Core size was HQ triple tube.</p> <p>The core was not oriented (vertical)</p>
Drill sample recovery	<ul style="list-style-type: none"> 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. 	<p>Diamond Drilling</p> <p>Core recovery was calculated by measuring actual core length versus drillers core run lengths. Core recovery ranged from 83% to 100% and averaged 98%.</p> <p>No relationship exists between core recovery and grade.</p>
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and 	<p>All (100%) drill core has been geologically logged and core photographs taken.</p>

Criteria	JORC Code explanation	Commentary								
	<p><i>geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></p> <ul style="list-style-type: none"> <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i> <i>The total length and percentage of the relevant intersections logged.</i> 	<p>Logging is qualitative with description of colour, weathering status, alteration, major and minor rock types, texture, grain size, regolith zone, presence of kaolinite, hematite, veins and alteration and comments added where further observation is made.</p> <p>Additional non-geological qualitative logging includes comments for sample recovery, humidity, and hardness for each logged interval.</p>								
<p>Sub-sampling techniques and sample preparation</p>	<ul style="list-style-type: none"> <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> <i>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.</i> <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	<p>Diamond Drill Core</p> <p>Where the core contained continuous lengths of soft clay a carving knife was used to cut the core. When the core was too hard to knife cut it was cut using an electric core saw.</p> <p>Sample lengths were determined by geological boundaries with a maximum sample length of 1 metre applied in clay zones and up to 2 metres in laterite zones where core recovery was occasionally low.</p> <p>Samples were collected from core trays by hand and placed in individually numbered bags. These bags were dispatched to ALS for analysis with no further field preparation.</p> <p>Sample weights were recorded prior to sample dispatch. Sample mass is considered appropriate for the grain size of the material being sampled that is generally very fine grained and uniform.</p> <p>Field duplicate sampling was conducted at a ratio of 1:25 samples. Duplicates were created by lengthways halving the ¼ core primary sample into 2 identical portions. Duplicate samples were allocated separate sample numbers and submitted with the same analytical batch as the primary sample.</p>								
<p>Quality of assay data and laboratory tests</p>	<ul style="list-style-type: none"> <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> <i>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.</i> <i>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.</i> 	<p>Assay and Laboratory Procedures – All Samples</p> <p>Samples were dispatched by air freight direct to ALS laboratory Perth Australia. The preparation and analysis protocol used is as follows:</p> <table border="1" data-bbox="1108 1220 1966 1431"> <thead> <tr> <th data-bbox="1108 1220 1541 1273">ALS Code</th> <th data-bbox="1541 1220 1966 1273">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="1108 1273 1541 1326">WEI-21</td> <td data-bbox="1541 1273 1966 1326">Received sample weight</td> </tr> <tr> <td data-bbox="1108 1326 1541 1378">LOG-22</td> <td data-bbox="1541 1326 1966 1378">Sample Login w/o Barcode</td> </tr> <tr> <td data-bbox="1108 1378 1541 1431">DRY-21</td> <td data-bbox="1541 1378 1966 1431">High temperature drying</td> </tr> </tbody> </table>	ALS Code	Description	WEI-21	Received sample weight	LOG-22	Sample Login w/o Barcode	DRY-21	High temperature drying
ALS Code	Description									
WEI-21	Received sample weight									
LOG-22	Sample Login w/o Barcode									
DRY-21	High temperature drying									

Criteria	JORC Code explanation	Commentary
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CRU-21	Crush entire sample
CRU-31	Fine crushing – 70% <2mm
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

Diamond Drill Core Samples

- Analytical Standards
CRM AMIS0275 and AMIS0276 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
		<p>The assay results for the standards were consistent with the certified levels of accuracy and precision and no bias is evident.</p> <ul style="list-style-type: none"> • 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. <p>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.</p> <ul style="list-style-type: none"> • Duplicates Field duplicate sampling was conducted at a ratio of 1:25 samples. Duplicates were created by lengthways halving the ¼ core primary sample into 2 identical portions. 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. <p>Laboratory inserted standards, blanks and duplicates were analysed as per industry standard practice. There is no evidence of bias from these results.</p>
<p>Verification of sampling and assaying</p>	<ul style="list-style-type: none"> • <i>The verification of significant intersections by either independent or alternative company personnel.</i> • <i>The use of twinned holes.</i> • <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> • <i>Discuss any adjustment to assay data.</i> 	<p>No independent verification of significant intersection undertaken.</p> <p>No twinning of diamond core drill holes was undertaken.</p> <p>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.</p> <p>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 numbers from assay data are verified by algorithm in spreadsheet prior to entry into the database.</p> <p>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.</p> <p>Data validation of assay data and sampling data have been conducted to ensure data entry is correct.</p>

Criteria	JORC Code explanation	Commentary
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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	1.1713	Ce ₂ O ₃
Dy	1.1477	Dy ₂ O ₃
Er	1.1435	Er ₂ O ₃
Eu	1.1579	Eu ₂ O ₃
Gd	1.1526	Gd ₂ O ₃
Ho	1.1455	Ho ₂ O ₃
La	1.1728	La ₂ O ₃
Lu	1.1371	Lu ₂ O ₃
Nd	1.1664	Nd ₂ O ₃
Pr	1.1703	Pr ₂ O ₃
Sm	1.1596	Sm ₂ O ₃
Tb	1.151	Tb ₂ O ₃
Tm	1.1421	Tm ₂ O ₃
Y	1.2699	Y ₂ O ₃
Yb	1.1387	Yb ₂ O 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:

Criteria	JORC Code explanation	Commentary
		<p>TREO (Total Rare Earth Oxide) = $\text{La}_2\text{O}_3 + \text{Ce}_2\text{O}_3 + \text{Pr}_2\text{O}_3 + \text{Nd}_2\text{O}_3 + \text{Sm}_2\text{O}_3 + \text{Eu}_2\text{O}_3 + \text{Gd}_2\text{O}_3 + \text{Tb}_2\text{O}_3 + \text{Dy}_2\text{O}_3 + \text{Ho}_2\text{O}_3 + \text{Er}_2\text{O}_3 + \text{Tm}_2\text{O}_3 + \text{Yb}_2\text{O}_3 + \text{Y}_2\text{O}_3 + \text{Lu}_2\text{O}_3$.</p> <p>Note that Y_2O_3 is included in the TREO calculation.</p> <p>HREO (Heavy Rare Earth Oxide) = $\text{Sm}_2\text{O}_3 + \text{Eu}_2\text{O}_3 + \text{Gd}_2\text{O}_3 + \text{Tb}_2\text{O}_3 + \text{Dy}_2\text{O}_3 + \text{Ho}_2\text{O}_3 + \text{Er}_2\text{O}_3 + \text{Tm}_2\text{O}_3 + \text{Yb}_2\text{O}_3 + \text{Y}_2\text{O}_3 + \text{Lu}_2\text{O}_3$</p> <p>CREO (Critical Rare Earth Oxide) = $\text{Nd}_2\text{O}_3 + \text{Eu}_2\text{O}_3 + \text{Tb}_2\text{O}_3 + \text{Dy}_2\text{O}_3 + \text{Y}_2\text{O}_3$</p> <p>LREO (Light Rare Earth Oxide) = $\text{La}_2\text{O}_3 + \text{Ce}_2\text{O}_3 + \text{Pr}_2\text{O}_3 + \text{Nd}_2\text{O}_3$</p> <p>HREO% of TREO = $\text{HREO}/\text{TREO} \times 100$</p> <p>In elemental form the classifications are:</p> <p>TREE: La+Ce+Pr+Nd+Sm+Eu+Gd+Tb+Dy+Ho+Er+Tm+Yb+Lu+Y</p> <p>CREE: Nd+Eu+Tb+Dy+Y</p> <p>LREE: La+Ce+Pr+Nd</p>
<p>Location of data points</p>	<ul style="list-style-type: none"> • 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. 	<p>Drill hole collar locations for holes RRMDD001 to RRMDD041 were surveyed a relational DGPS system. The general accuracy for x,y and z is $\pm 0.2\text{m}$.</p> <p>Hole locations for RRMDD042 – RRMDD073 were surveyed using handheld GPS. The accuracy for this type of device is considered $\pm 5\text{m}$ in x and y coordinates however the elevation component of coordinates is variable and z accuracy may be low using this type of device.</p> <p>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.</p> <p>No downhole surveys were conducted. As all holes were vertical and shallow, the rig setup was checked using a spirit level for horizontal and vertical orientation Any deviation will be insignificant given the short lengths of the holes</p> <p>Detailed topographic data was not sourced or used.</p>
<p>Data spacing and distribution</p>	<ul style="list-style-type: none"> • 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. 	<p>Drilling was conducted on a nominal 400m x 400m spacing for holes RRMDD001 to RRMDD0041, RRMDD055, RRMDD056 and RRMDD069 to RRMDD073</p>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> Whether sample compositing has been applied. 	<p>Infill drill holes on RL1693 have been drilled on a 200m x 200m spacing for holes RRMDD047 to RRMDD053, and 100m x 100m spacing for drill holes RRMDD0058 to RRMDD068</p> <p>Exploration drill holes RRMDD042 to RRMDD046 on EL1766 were drilled where convenient on ternary and elevation anomalies and are not to any specific spacing.</p> <p>Historic RAB drilling has also been conducted on this spacing however the diamond drilling was offset by 200m from the RAB drilling</p> <p>Resource estimates have been made on the deposit and announce to the ASX and detail on classification and drill quality and spacing are made in the Table 1 related to the corresponding resource announcements.</p>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> 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. 	<p>The Makuutu mineralisation is interpreted to be in a flat lying weathered profile including cover soil, lateritic caprock, clays transitioning to saprolite and saprock. Below the saprock are fresh shales, siltstones and mudstones. Pit mapping and diamond drilling indicate the mineralised regolith to be generally horizontal</p> <p>All drill holes are vertical which is appropriate for horizontal bedding and regolith profile.</p>
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<p>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.</p> <p>Samples were subsequently transported from Australian customs to ALS Perth via road freight and inspected on arrival by a Company representative.</p>
Audits or reviews	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title 	The Makuutu Project is located in the Republic of Uganda. The mineral tenements comprise two (1) granted Retention Licences (RL1693 and RL0007), one (1) Exploration Licence (EL1766).

Criteria	JORC Code explanation	Commentary															
	<p><i>interests, historical sites, wilderness or national park and environmental settings.</i></p> <ul style="list-style-type: none"> <i>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.</i> 	<p>All licences are in good standing with no known impediments.</p> <p>The Makuutu Rare Earths Project is 100% owned by Rwenzori Rare Metals Limited (RRM), a Ugandan registered company. Ionic Rare Earths (IXR) currently has a 31% shareholding in RRM and may increase its shareholding to 60% by meeting expenditure commitments.</p> <ol style="list-style-type: none"> IXR to contribute US\$1,700,000 of expenditure by 1 October 2020 to earn up to a 51% staged interest in RRM as follows; <table border="1" data-bbox="1108 451 1989 657"> <thead> <tr> <th>Spend</th> <th>Interest earned</th> <th>Cumulative Interest earned</th> </tr> </thead> <tbody> <tr> <td>Exercise of Option US\$100,000 of cash plus US\$150,000 of shares</td> <td>20%</td> <td>20%</td> </tr> <tr> <td>Expenditure contribution of US\$650,000</td> <td>11%</td> <td>31%</td> </tr> <tr> <td>Expenditure contribution of a further US\$800,000</td> <td>15%</td> <td>46%</td> </tr> <tr> <td>Expenditure contribution of a further US\$350,000</td> <td>5%</td> <td>51%</td> </tr> </tbody> </table> <ol style="list-style-type: none"> IXR to fund to completion of a bankable feasibility study to earn an additional 9% interest for a cumulative 60% interest in RRM. During the earn-in phase there are milestone payments, payable in cash or IXR shares at the election of the Vendor, as follows: <ul style="list-style-type: none"> US\$750,000 on the Grant of Retention Licence over RL1693 which is due to expire on 1 November 2020; US\$375,000 on production of 10 kg of mixed rare-earth product from pilot or demonstration plant activities; and US\$375,000 on conversion of existing licences to mining licences. <p>At any time should IXR 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 IXR and reclaim all interest earned by IXR.</p>	Spend	Interest earned	Cumulative Interest earned	Exercise of Option US\$100,000 of cash plus US\$150,000 of shares	20%	20%	Expenditure contribution of US\$650,000	11%	31%	Expenditure contribution of a further US\$800,000	15%	46%	Expenditure contribution of a further US\$350,000	5%	51%
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<p>Exploration done by other parties</p>	<ul style="list-style-type: none"> <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<p>Previous exploration includes:</p> <p>1980: Country wide airborne geophysical survey identifying uranium anomalies in the Project area.</p> <p>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.</p> <p>2006-2009: Country wide high resolution airborne magnetic and radiometric survey identified U anomalism in the Project area.</p> <p>2009: Finland GTK reprocessed radiometric data and refined the Project anomalies.</p>															

Criteria	JORC Code explanation	Commentary
		<p>2010: Kweri Ltd undertook field verification of radiometric anomalies including scout sampling of existing community pits. Samples showed an enrichment of REE and Sc.</p> <p>2011: Kweri Ltd conducted ground radiometric survey and evaluated historic groundwater borehole logs.</p> <p>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.</p> <p>2016 – 2017: Rwenzori Rare Metals conduct excavation of 11 pits, ground gravity survey, RAB drilling (109 drill holes) and one (1) diamond drill hole.</p> <p>The historic exploration has been conducted to a professional standard and is appropriate for the exploration stage of the prospect.</p>
Geology	<ul style="list-style-type: none"> • <i>Deposit type, geological setting and style of mineralisation.</i> 	<p>The Makuutu deposit is interpreted to be an ionic adsorption REE clay-type deposits similar to those in South China, Madagascar and Brazil.</p> <p>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 rocks. These granitic rocks are considered the original source of the REE which were then accumulated in the sediments of the basin as the granites have degraded. These sediments then form the protolith that was subjected to prolonged tropical weathering.</p> <p>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.</p> <p>The REE mineralisation is concentrated in the weathered profile where it has dissolved from its primary mineral form, such as monazite and xenotime, then adsorbed on to fine particles of aluminosilicate clays (e.g. kaolinite, illite, smectite). This adsorbed REE is the target for extraction and production of REO.</p>
Drill hole Information	<ul style="list-style-type: none"> • <i>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:</i> <ul style="list-style-type: none"> ○ <i>easting and northing of the drill hole collar</i> 	<p>The material information for drill holes relating to this announcement are contained in Table 2.</p>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> ○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> ○ <i>dip and azimuth of the hole</i> ○ <i>down hole length and interception depth</i> ○ <i>hole length.</i> ● <i>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.</i> 	
Data aggregation methods	<ul style="list-style-type: none"> ● <i>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.</i> ● <i>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.</i> ● <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	<p>A lower cut-off of 300 ppm TREO-Ce₂O₃ 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</p> <p>Significant intervals were tabulated downhole for reporting. All individual samples were included in length weighted averaging over the entire tabulated range.</p> <p>No metal equivalent values are used.</p>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> ● <i>These relationships are particularly important in the reporting of Exploration Results.</i> ● <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> ● <i>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’).</i> 	<p>Down hole lengths are considered true widths.</p> <p>The mineralisation is interpreted to be horizontal, flat lying sediments and weathering profile, with the vertical drilling perpendicular to mineralisation.</p>
Diagrams	<ul style="list-style-type: none"> ● <i>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.</i> 	<p>Refer to diagrams in body of text.</p>

Criteria	JORC Code explanation	Commentary
Balanced reporting	<ul style="list-style-type: none"> 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. 	<p>This report contains all drilling results that are consistent with the JORC guidelines. Where data may have been excluded, it is considered not material.</p>
Other substantive exploration data	<ul style="list-style-type: none"> 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. 	<p>Metallurgical leach testing was previously conducted on samples derived from exploration pits, RAB drilling, and one 8.5 tonne bulk pit sample.</p> <p>In 2012, 5 pit samples were sent to the Toronto Aqueous Research Laboratory at the University of Toronto for leachability tests</p> <p>In 2017, 2 pit samples were sent to SGS Laboratory Toronto for leachability tests.</p> <p>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.</p> <p>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.</p> <p>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%.</p> <p>2020: Testing of composite samples with lower extractions from the variation testing were tested using increasing rates of acid addition and leach time. Significant increases in extractions were achieved by adding acid to the leach liquor.</p> <p>Testing of samples from the project is ongoing.</p>
Further work	<ul style="list-style-type: none"> 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. 	<p>Future work programs are intended to further evaluate the economic opportunity of the project including extraction recovery maximisation, resource definition and estimation on the known areas of mineralisation, regional exploration and compilation of a Preliminary Economic Assessment (PEA)</p>