10 September 2020

MAKUUTU INFILL DRILLING RESULTS CONTINUE TO DELIVER THICK INTERVALS OF HIGH-GRADE REE

- **First 11 Infill drilling results from the recommenced program confirms expected continuous thick, near surface and high-grade clay Rare Earth Element mineralisation within existing Resource area**
- **Significant Intersections include:**
  - **RRMDD061 10.1 metres at 1,057ppm TREO from 6.6 metres**
  - **RRMDD062 12.0 metres at 929 ppm TREO from 10.5 metres**
  - **RRMDD065 9.9 metres at 1,188 ppm TREO from 3.5 metres**
  - **RRMDD066 9.3 metres at 1,113 ppm TREO from 3.3 metres**
  - **RRMDD067 11.7 metres at 1,017 ppm TREO from 4.5 metres**
- **Drilling progress continues at a rapid rate, with 2,217 metres (134 holes) of the 3,700 metre program completed to date**
- **Assay results for 5 extensional holes are pending release**
- **Second tranche of samples (32 extension holes) has arrived in Perth for assay,**
- **Third tranche of samples (45 extension holes) expected to depart Uganda next week**

Ionic Rare Earths Limited ("**IonicRE**" or "the Company") (ASX: IXR) is pleased to provide an update on 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 planned to further quantify the potential of the 26-kilometre-long Makuutu mineralisation corridor including infill drilling of the existing reported resource. The initial 11-hole infill program was completed in July 2020 and results have been received. This infill drilling was designed to provide data for geostatistical evaluation of grade distribution applied to optimisation of drill spacing, and grade estimation confidence.

The results further reinforce the continuity of Total Rare Earth Oxide (TREO) grade and the presence of the geological features observed within the Project to date. Evaluation of this new data, with the existing resource drilling, indicates that a 200 metre x 200 metre drill hole spacing will provide adequate data density to potentially classify an Indicated Resource, which will be included in future resource updates.

Results above a cut-off grade of 300 ppm TREO-Ce_2O_3 are:

- RRMDD058 15.1 metres at 703 ppm TREO from 5.5 metres
- RRMDD059 9.6 metres at 1,026 ppm TREO from 7.9 metres
- RRMDD060 17.9 metres at 670ppm TREO from 7.5 metres
- RRMDD061 10.1 metres at 1,057ppm TREO from 6.6 metres
- RRMDD062 0.9 metres at 564 ppm TREO from 4.9 metres, and
  12.0 metres at 929 ppm TREO from 10.5 metres
- RRMDD063 0.9 metres at 640 ppm TREO from 5.6 metres, and
  1.8 metres at 1239 ppm TREO from 10.9 metres, and
  7.6 metres at 883 ppm TREO from 16.5 metres
- RRMDD064 6.0 metres at 867 ppm TREO from 4.5 metres, and
  2.6 metres at 855 ppm TREO from 13.5 metres
- RRMDD065 9.9 metres at 1,188 ppm TREO from 3.5 metres
- RRMDD066 9.3 metres at 1,113 ppm TREO from 3.3 metres
- RRMDD067 11.7 metres at 1,017 ppm TREO from 4.5 metres
- RRMDD068 11.6 metres at 906 ppm TREO from 3.4 metres

Drilling Progress

Further to the ASX announcement on 27th August 2020, the drilling program continues at a steady rate with the two rigs now progressing through the Makuutu Western Zone (MWZ, RL 00007). To date, 134 drill holes totaling 2,217 metres have been completed and it is expected the drilling will be completed at MWZ within the week.

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-Ce_2O_3

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

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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.**

Once drilling is completed at MWZ, the remaining resource expansion program will return 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. It is expected that at the current rate the entire program will be completed by mid-October 2020.

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

"The infill results demonstrate the consistently thick nature of the mineralisation and have validated the expectations of the Company confirming continuity of resource grade. This validation means we can now progress with plans to maximise an increase in resource confidence through an optimised 200 metre spaced infill pattern.

Drilling progress remains on target and we are pleased to have reached our milestones in completing the first program at Makuutu Eastern Zone, and only days away from expected completion at Makuutu Western Zone. With the second tranche of samples now in Australia, we will get a firm idea on the potential for resource extension at Makuutu Central. The drilling to date has encountered expected clay intervals across the zones tested and as the drill assay data comes through over the course of the coming months, we remain focused on building a resource that underpins a long life alternative supply for critical and heavy rare earths applications. We are well progressed into a very exciting development phase for the Company."

Drilling Program

The planned diamond core drilling program, which follows on from the 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 in this announcement*.
2) Resource extensional drilling to expand the current Mineral Resource area further to the east (on tenement RL 1693) – *37 drill holes completed; results pending on 5 drill holes, samples for 32 drill holes arrived in Perth for analysis.*
3) Exploration drilling on adjacent tenement EL 1766, or Makuutu Eastern Zone (MEZ) – *68 drill holes completed. 45 drill hole samples pending dispatch to Perth from Uganda.*
4) Exploration drilling on adjacent tenement RL 00007, or Makuutu Western Zone (MWZ) – *18 drill holes completed, 7 remaining, expected completion this week.*
5) Exploration drilling on the western side of the current Mineral Resource area further to the west (on tenement RL 1693). To commence following MWZ drilling.
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.

Assay reports for the further five (5) resource extension holes are pending.

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.

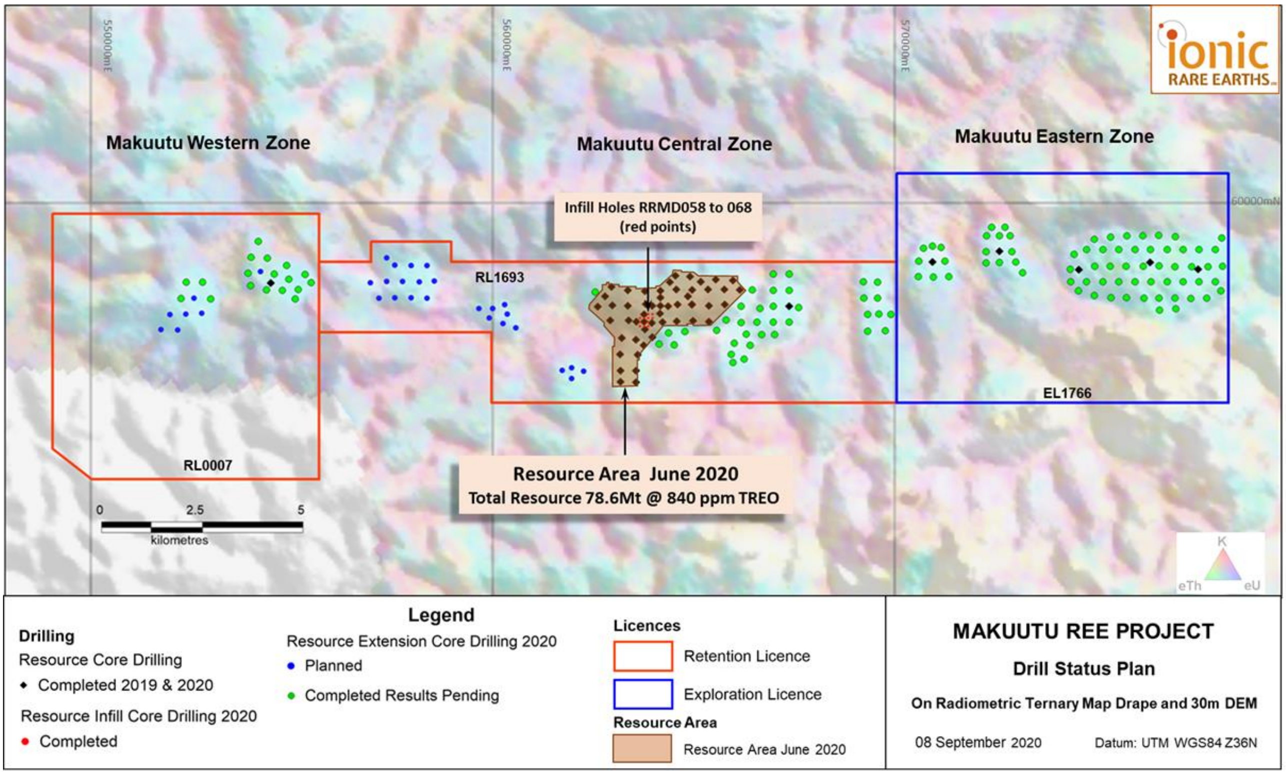

Figure 1: Current drill program showing both completed (red & green) and planned (blue) drill holes stretching over 26 kilometres across the three tenements at the Makuutu Rare Earths Project.

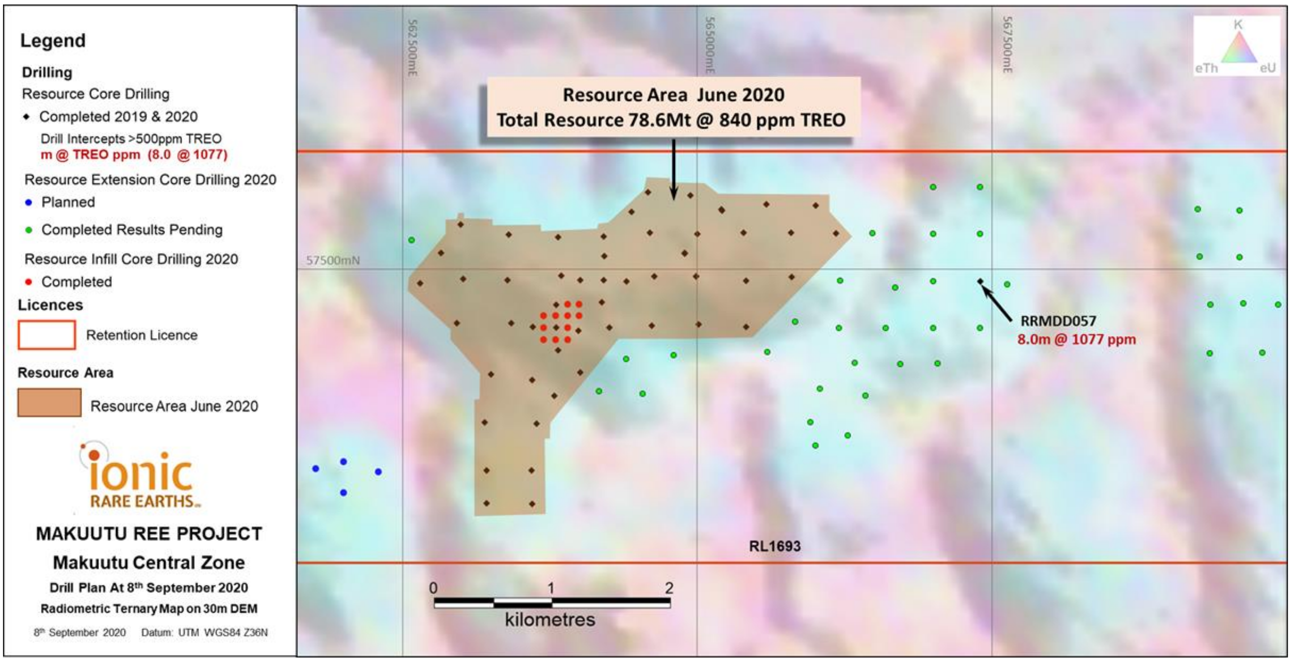

Figure 2: Current drill program showing reported infill holes (red), plus completed (green) and planned (blue) drill holes adjacent to the existing June 2020 Mineral Resource Estimate.

Increasing Ownership of Makuutu Rare Earths Project

IonicRE is progressing rapidly towards increasing the overall ownership in the Rwenzori Rare Metals Limited, the 100% owner of the Makuutu Rare Earths Project. IonicRE presently owns 31% of Rwenzori, and by nature 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.

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

Resource Classification	Tonnes (millions)	TREO (ppm)	TREO-Ce_2O_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.

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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
RRMDD058	563913	57210	1190	HQ DD	22.70	0	-90
RRMDD059	563993	57212	1190	HQ DD	19.50	0	-90
RRMDD060	564003	57098	1187	HQ DD	28.50	0	-90
RRMDD061	563901	57100	1188	HQ DD	23.50	0	-90
RRMDD062	563813	57096	1170	HQ DD	26.70	0	-90
RRMDD063	563700	57105	1170	HQ DD	27.00	0	-90
RRMDD064	563703	57004	1163	HQ DD	18.60	0	-90
RRMDD065	563803	56895	1164	HQ DD	15.00	0	-90
RRMDD066	563705	56895	1164	HQ DD	14.00	0	-90
RRMDD067	563899	56994	1167	HQ DD	16.20	0	-90
RRMDD068	563897	56900	1163	HQ DD	15.00	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 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 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 Rare Earths 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-Ce_2O_3

Hole ID	From m	To m	Int.	La_2O_3 ppm	Ce_2O_3 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	>300ppm TREO-Ce_2O_3 Interval Length (m)	>300ppm TREO-Ce_2O_3 Interval TREO ppm
RRMDD058	0.0	0.2	0.2	147.8	241.3	27.7	94.5	14.6	2.4	9.3	1.3	8.0	1.5	4.3	0.7	1.3	0.7	40.1	595	Soil		
RRMDD058	0.2	1.2	1.0	163.6	267.1	31.6	110.2	16.8	2.9	11.2	1.6	8.8	1.7	4.8	0.7	1.6	0.7	42.5	666	Hardcap		
RRMDD058	1.2	1.6	0.4	148.4	231.3	28.2	98.7	15.2	2.8	10.5	1.5	8.8	1.6	4.3	0.7	1.5	0.7	41.7	596	Hardcap		
RRMDD058	1.6	2.5	0.9	148.9	240.1	28.3	95.6	14.1	2.5	9.6	1.4	8.0	1.5	4.3	0.7	1.4	0.7	38.7	596	Hardcap		
RRMDD058	2.5	3.5	1.0	160.1	296.3	31.1	109.5	16.0	2.7	10.0	1.5	8.2	1.6	4.5	0.6	1.5	0.7	37.0	681	Hardcap		
RRMDD058	3.5	4.5	1.0	126.7	575.1	23.4	81.1	11.8	1.9	7.4	1.2	6.9	1.3	3.6	0.6	1.2	0.6	31.2	874	Hardcap		
RRMDD058	4.5	5.2	0.7	117.9	728.5	21.5	71.3	10.9	1.9	7.7	1.2	6.8	1.2	3.6	0.6	1.2	0.6	30.9	1006	Hardcap		
RRMDD058	5.2	5.5	0.3	47.9	115.8	8.0	27.9	4.7	0.7	3.1	0.5	3.0	0.7	2.2	0.4	0.5	0.4	20.1	236	Transition		
RRMDD058	5.5	6.5	1.0	190.0	240.1	37.0	128.9	22.3	3.5	13.2	1.7	9.3	1.6	4.2	0.7	1.7	0.7	45.6	700	Mottled		
RRMDD058	6.5	7.3	0.8	120.8	166.3	27.2	100.4	18.2	2.7	10.2	1.5	7.9	1.4	4.1	0.6	1.4	0.6	43.0	506	Clay		
RRMDD058	7.3	8.2	0.9	120.8	219.0	31.8	119.0	21.7	3.4	12.6	1.7	9.2	1.6	4.3	0.6	1.7	0.6	45.0	593	Clay		
RRMDD058	8.2	9.1	0.9	139.0	235.4	36.3	138.2	26.1	4.2	15.2	2.0	10.6	1.7	4.6	0.7	2.0	0.6	45.1	662	Clay		
RRMDD058	9.1	9.8	0.7	117.9	224.9	34.2	133.6	24.7	3.9	14.3	2.0	10.0	1.7	4.5	0.6	2.0	0.6	45.3	620	Clay		
RRMDD058	9.8	10.1	0.3	106.5	203.2	34.6	137.6	26.3	4.3	15.7	2.2	10.8	1.8	5.0	0.7	2.1	0.6	46.9	599	Clay		
RRMDD058	10.1	10.9	0.8	122.6	219.6	37.0	140.0	27.5	4.3	15.3	2.1	10.5	1.8	4.6	0.7	2.1	0.6	44.4	633	Clay		
RRMDD058	10.9	11.6	0.7	147.2	279.9	54.3	211.1	45.2	7.9	33.3	5.9	38.6	8.2	23.1	3.7	5.9	3.4	255.2	1123	Clay		
RRMDD058	11.6	12.1	0.5	124.3	244.8	37.4	142.9	27.4	4.5	17.6	2.6	15.2	3.0	8.2	1.3	2.6	1.1	84.6	718	Clay		
RRMDD058	12.1	13.0	0.9	124.3	240.1	48.6	190.7	38.5	6.4	24.8	4.0	22.3	4.2	11.7	1.8	4.0	1.6	113.7	837	Clay		
RRMDD058	13.0	14.0	1.0	119.6	212.6	41.4	163.9	32.6	5.4	21.2	3.2	18.6	3.7	9.9	1.5	3.2	1.5	104.0	742	Clay		
RRMDD058	14.0	15.0	1.0	436.3	591.5	97.5	386.1	72.0	12.3	49.8	6.6	33.6	5.9	14.5	2.0	6.5	1.9	153.0	1869	Upper Saprolite		
RRMDD058	15.0	16.0	1.0	79.0	133.5	23.2	91.6	17.4	2.7	10.8	1.5	8.0	1.5	4.0	0.6	1.5	0.6	42.3	418	Upper Saprolite		
RRMDD058	16.0	17.0	1.0	81.3	148.8	25.4	105.3	20.7	3.7	15.5	2.1	11.8	2.2	6.1	0.9	2.1	0.8	63.0	490	Upper Saprolite		
RRMDD058	17.0	18.0	1.0	94.3	173.9	30.3	122.5	23.9	4.0	15.6	2.3	12.2	2.3	6.0	0.9	2.3	0.8	64.1	555	Upper Saprolite		
RRMDD058	18.0	18.3	0.3	81.3	148.2	23.4	95.8	18.8	3.5	15.8	2.4	13.7	2.7	7.9	1.2	2.4	1.1	96.5	515	Upper Saprolite		
RRMDD058	18.3	19.2	0.9	70.7	117.7	16.4	62.4	11.5	2.2	10.3	1.5	9.1	1.9	5.5	0.8	1.5	0.8	68.1	380	Lower Saprolite		
RRMDD058	19.2	19.7	0.5	81.0	134.7	20.7	84.0	16.6	2.9	13.7	1.9	10.8	2.0	5.7	0.9	1.9	0.8	59.1	437	Lower Saprolite		
RRMDD058	19.7	20.6	0.9	94.8	155.2	22.9	96.3	19.4	3.6	20.0	3.0	19.6	4.2	11.5	1.7	3.0	1.6	150.5	607	Lower Saprolite	**15.1**	**703**
RRMDD058	20.6	21.5	0.9	99.2	154.0	21.9	90.5	16.5	3.4	17.1	2.4	14.5	3.1	8.8	1.3	2.4	1.1	121.9	558	Saprock		
RRMDD058	21.5	22.4	0.9	102.0	158.7	21.9	90.7	16.6	3.1	14.1	1.9	10.4	2.1	5.7	0.9	1.9	0.8	71.1	502	Saprock		
RRMDD058	22.4	22.7	0.3	69.0	126.5	14.3	55.5	9.2	1.7	7.4	1.0	5.8	1.2	3.4	0.5	1.0	0.5	40.6	338	Saprock		
RRMDD059	0.0	0.2	0.2	134.3	224.9	25.4	88.1	13.6	2.4	9.7	1.3	7.9	1.4	4.3	0.7	1.3	0.6	39.5	555	Soil		
RRMDD059	0.2	1.2	1.0	185.3	292.8	36.3	135.9	22.3	3.9	14.9	2.0	10.6	1.9	5.0	0.7	2.0	0.8	42.0	756	Hardcap		
RRMDD059	1.2	2.1	0.9	168.9	369.0	33.0	123.1	21.5	3.7	13.1	1.9	10.0	1.6	4.2	0.6	1.9	0.6	37.1	790	Hardcap		
RRMDD059	2.1	3.0	0.9	170.6	410.0	34.6	128.9	22.4	3.7	13.2	1.9	9.7	1.6	4.2	0.7	1.9	0.6	35.6	839	Hardcap		
RRMDD059	3.0	3.8	0.8	140.7	405.3	29.7	114.2	20.4	3.2	12.5	1.7	9.4	1.6	4.3	0.6	1.7	0.6	33.9	780	Hardcap		
RRMDD059	3.8	4.3	0.5	252.2	579.8	46.9	162.1	25.9	3.8	14.8	1.7	8.2	1.3	3.4	0.5	1.6	0.5	27.6	1130	Hardcap		
RRMDD059	4.3	5.2	0.9	115.1	225.5	19.5	67.7	11.3	1.9	8.4	1.2	6.2	1.1	3.5	0.5	1.2	0.6	32.4	496	Mottled		
RRMDD059	5.2	6.1	0.9	47.3	204.4	10.5	39.4	6.9	1.1	5.3	0.8	4.2	0.9	2.6	0.5	0.8	0.5	26.2	351	Mottled		
RRMDD059	6.1	7.0	0.9	74.7	168.7	22.1	80.2	14.7	2.5	9.2	1.3	7.1	1.4	3.9	0.6	1.3	0.6	41.0	429	Mottled		
RRMDD059	7.0	7.9	0.9	78.2	184.5	23.3	83.7	14.8	2.4	9.6	1.3	7.4	1.4	3.8	0.6	1.3	0.6	42.8	456	Mottled		
RRMDD059	7.9	8.9	1.0	106.8	227.8	32.2	120.7	23.8	4.1	15.5	2.3	12.9	2.3	6.5	0.9	2.3	0.9	74.5	634	Mottled		
RRMDD059	8.9	9.8	0.9	131.4	325.6	30.4	111.0	19.8	3.4	13.2	1.9	9.9	1.8	5.0	0.8	1.8	0.8	54.6	711	Clay		
RRMDD059	9.8	10.7	0.9	99.5	192.1	28.7	102.9	18.7	3.3	13.5	1.8	10.0	1.8	5.2	0.8	1.8	0.7	51.9	533	Clay		

Hole ID	From m	To m	Int.	La_2O_3 ppm	Ce_2O_3 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	>300ppm $TREO-Ce_2O_3$ Interval Length (m)	TREO ppm
RRMDD059	10.7	11.6	0.9	96.2	204.4	33.2	116.6	22.3	3.7	13.5	1.8	9.5	1.8	4.6	0.7	1.8	0.7	45.7	556	Clay		
RRMDD059	11.6	12.5	0.9	78.0	256.5	22.3	78.4	14.1	2.4	9.8	1.4	7.4	1.5	3.9	0.6	1.3	0.6	39.2	517	Clay		
RRMDD059	12.5	13.4	0.9	78.8	152.9	22.5	79.1	14.3	2.5	9.3	1.3	7.1	1.4	4.1	0.6	1.3	0.6	41.4	417	Clay		
RRMDD059	13.4	14.4	1.0	105.7	210.8	34.9	131.2	27.8	5.5	30.3	4.9	31.2	7.0	20.9	2.8	4.9	2.5	262.9	883	Upper Saprolite		
RRMDD059	14.4	15.3	0.9	156.0	344.4	57.9	235.6	55.7	11.5	67.7	10.7	70.2	16.0	45.6	6.4	10.7	5.5	582.9	1677	Upper Saprolite		
RRMDD059	15.3	16.0	0.7	472.6	646.6	134.6	555.2	116.5	23.7	139.5	20.4	125.7	27.1	75.8	10.0	20.3	8.7	1014.7	3391	Lower Saprolite		
RRMDD059	16.0	16.6	0.6	316.7	373.6	85.8	353.4	75.6	15.3	86.6	13.2	81.5	17.5	49.6	6.7	13.1	5.9	618.4	2113	Lower Saprolite		
RRMDD059	16.6	17.5	0.9	129.0	176.3	25.5	106.0	19.1	4.2	25.2	3.5	22.2	5.1	14.9	2.0	3.5	1.7	194.3	732	Lower Saprolite	9.6	1026
RRMDD059	17.5	18.5	1.0	73.9	120.1	14.3	51.2	7.9	1.6	8.5	1.1	7.0	1.7	4.9	0.6	1.1	0.7	70.1	365	Saprock		
RRMDD059	18.5	19.5	1.0	76.2	129.4	15.2	53.3	9.0	1.6	7.2	1.0	5.9	1.3	3.8	0.6	1.0	0.5	54.9	361	Saprock		
RRMDD060	0.0	0.8	0.8	155.4	332.6	27.4	91.7	13.7	2.0	8.5	1.2	6.9	1.3	3.8	0.6	1.2	0.6	33.4	680	Soil		
RRMDD060	0.8	1.5	0.8	150.7	390.0	27.0	86.3	12.9	2.1	8.3	1.2	7.3	1.3	3.7	0.5	1.2	0.5	32.0	725	Hardcap		
RRMDD060	1.5	2.6	1.1	169.5	654.8	30.0	96.3	16.3	2.6	10.7	1.5	8.1	1.4	4.2	0.7	1.5	0.7	37.2	1035	Hardcap		
RRMDD060	2.6	3.6	1.1	146.0	667.6	26.6	88.8	14.3	2.3	9.7	1.5	8.8	1.5	4.3	0.7	1.5	0.7	36.8	1011	Hardcap		
RRMDD060	3.6	4.6	1.0	175.9	475.5	29.5	94.2	15.4	2.3	9.9	1.4	7.7	1.3	3.8	0.6	1.4	0.6	32.4	852	Hardcap		
RRMDD060	4.6	5.5	0.9	49.3	328.0	10.4	35.0	6.0	1.0	4.6	0.7	4.8	1.0	3.4	0.6	0.7	0.6	31.1	477	Mottled		
RRMDD060	5.5	6.5	1.0	117.3	191.5	19.8	61.0	9.8	1.5	7.2	1.0	6.0	1.2	4.0	0.7	1.0	0.7	36.7	459	Mottled		
RRMDD060	6.5	7.5	1.0	88.0	131.8	19.3	61.8	9.7	1.6	6.7	0.9	5.9	1.2	3.8	0.7	0.9	0.8	35.7	369	Mottled		
RRMDD060	7.5	8.4	0.9	146.6	226.6	35.9	123.6	20.3	3.4	13.5	1.8	10.2	1.8	5.1	0.8	1.8	0.8	46.5	639	Clay		
RRMDD060	8.4	9.4	1.0	140.7	223.7	35.9	121.9	19.5	3.2	12.5	1.7	9.2	1.7	4.7	0.8	1.7	0.8	45.6	624	Clay		
RRMDD060	9.4	10.3	0.9	119.6	536.5	29.8	99.4	17.0	2.9	11.3	1.5	8.5	1.6	4.7	0.8	1.5	0.7	44.4	880	Clay		
RRMDD060	10.3	11.2	0.9	112.0	483.7	28.2	93.2	16.4	2.8	10.8	1.5	7.8	1.5	4.3	0.7	1.5	0.7	37.7	803	Clay		
RRMDD060	11.2	12.1	0.9	69.2	536.5	18.7	65.7	11.6	2.2	8.8	1.3	7.6	1.5	4.3	0.7	1.3	0.7	39.1	769	Clay		
RRMDD060	12.1	13.0	0.9	94.9	672.3	24.3	82.3	14.0	2.4	9.8	1.4	7.6	1.5	4.1	0.7	1.4	0.7	39.5	957	Clay		
RRMDD060	13.0	14.0	1.0	105.3	479.1	27.0	93.1	15.8	2.7	11.2	1.6	8.8	1.6	5.0	0.7	1.6	0.7	46.4	801	Clay		
RRMDD060	14.0	15.0	1.0	132.5	301.0	35.0	119.6	19.8	3.3	13.2	1.8	9.4	1.8	5.0	0.8	1.8	0.7	51.0	697	Upper Saprolite		
RRMDD060	15.0	15.9	0.9	107.9	175.7	33.9	122.5	21.5	3.5	14.1	1.9	10.4	1.9	5.2	0.8	1.9	0.7	50.0	552	Upper Saprolite		
RRMDD060	15.9	16.8	0.9	98.6	136.5	32.4	119.0	22.3	3.6	13.8	1.9	10.0	1.7	4.6	0.6	1.9	0.6	43.2	491	Upper Saprolite		
RRMDD060	16.8	17.8	1.0	72.9	97.1	22.3	81.1	14.2	2.3	9.3	1.2	7.0	1.3	3.4	0.5	1.2	0.5	33.1	347	Upper Saprolite		
RRMDD060	17.8	18.7	0.9	104.4	183.3	25.5	83.6	15.0	2.6	9.6	1.3	7.1	1.3	3.6	0.5	1.3	0.5	33.0	473	Upper Saprolite		
RRMDD060	18.7	19.6	0.9	92.8	188.6	28.3	99.7	17.9	2.9	10.8	1.5	8.0	1.4	3.8	0.5	1.5	0.5	34.4	493	Upper Saprolite		
RRMDD060	19.6	20.6	1.0	136.6	213.2	42.6	170.3	31.0	5.3	21.6	3.0	14.1	2.4	6.6	0.9	3.0	0.6	59.4	711	Lower Saprolite		
RRMDD060	20.6	21.5	0.9	118.5	149.9	29.7	121.3	23.3	4.9	28.4	4.4	26.6	6.1	19.2	2.7	4.4	2.3	267.9	810	Lower Saprolite		
RRMDD060	21.5	22.5	1.0	160.1	255.3	32.1	133.6	22.4	4.1	20.9	2.9	15.4	3.2	8.2	1.2	2.8	1.2	97.4	761	Lower Saprolite		
RRMDD060	22.5	23.5	1.0	142.5	236.6	27.5	110.5	18.3	3.4	19.4	2.6	15.3	3.4	9.7	1.4	2.6	1.3	141.0	735	Lower Saprolite		
RRMDD060	23.5	24.5	1.0	93.5	185.1	17.4	63.1	9.8	1.6	8.3	1.1	5.8	1.2	3.5	0.6	1.1	0.5	43.3	436	Lower Saprolite		
RRMDD060	24.5	25.4	0.9	109.1	240.1	30.3	131.2	26.7	5.1	24.4	3.6	20.8	4.2	11.7	1.6	3.6	1.3	153.0	767	Lower Saprolite	17.9	670
RRMDD060	25.4	26.3	0.9	69.7	142.3	14.7	52.5	8.5	1.5	6.0	0.9	4.5	0.9	2.5	0.4	0.9	0.4	33.5	339	Saprock		
RRMDD060	26.3	27.2	0.9	67.0	148.2	14.9	57.0	10.1	1.9	8.4	1.3	7.5	1.6	4.5	0.7	1.3	0.7	58.0	383	Saprock		
RRMDD060	27.2	28.1	0.9	59.2	117.7	13.2	49.2	8.7	1.7	6.3	0.9	4.8	1.0	2.8	0.4	0.9	0.4	30.4	298	Saprock		
RRMDD060	28.1	28.5	0.4	60.8	119.5	14.5	53.5	9.6	1.9	7.5	1.1	6.3	1.2	3.3	0.5	1.1	0.5	38.0	319	Saprock		
RRMDD060	25.4	26.3	0.9	69.7	142.3	14.7	52.5	8.5	1.5	6.0	0.9	4.5	0.9	2.5	0.4	0.9	0.4	33.5	339	Saprock		
RRMDD061	0.0	0.2	0.2	119.6	202.0	21.4	74.8	11.7	2.0	8.4	1.3	8.1	1.6	4.4	0.8	1.2	0.8	45.6	504	Soil		
RRMDD061	0.2	1.1	0.9	112.7	311.6	21.1	73.7	11.3	2.1	7.5	1.0	6.2	1.1	3.3	0.5	1.0	0.5	26.8	580	Hardcap		
RRMDD061	1.1	2.1	1.0	131.9	524.7	25.2	89.8	13.7	2.3	8.8	1.2	6.8	1.2	3.1	0.5	1.2	0.6	26.7	838	Hardcap		
RRMDD061	2.1	3.0	0.9	158.9	914.8	28.0	91.6	15.2	2.2	9.7	1.3	8.0	1.4	4.1	0.7	1.3	0.6	32.8	1271	Hardcap		
RRMDD061	3.0	3.9	0.9	123.1	325.6	23.5	84.6	14.5	2.3	9.8	1.3	6.1	1.1	2.9	0.5	1.3	0.5	28.4	626	Mottled		

Hole ID	From m	To m	Int.	La_2O_3 ppm	Ce_2O_3 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	>300ppm $TREO-Ce_2O_3$ Interval Length (m)	>300ppm $TREO-Ce_2O_3$ Interval TREO ppm
RRMDD061	3.9	4.8	0.9	47.9	91.2	11.5	38.7	6.4	1.1	4.4	0.6	3.5	0.7	2.3	0.4	0.6	0.4	20.8	231	Mottled		
RRMDD061	4.8	5.7	0.9	58.8	151.1	13.0	44.1	6.9	1.2	4.5	0.7	4.0	0.7	2.4	0.3	0.7	0.4	21.1	310	Mottled		
RRMDD061	5.7	6.6	0.9	60.9	155.8	13.3	46.5	7.5	1.3	5.0	0.8	4.1	0.8	2.7	0.4	0.8	0.5	24.3	325	Clay		
RRMDD061	6.6	7.5	0.9	115.4	585.7	30.7	108.2	18.1	2.9	11.4	1.7	9.5	1.7	5.1	0.8	1.7	0.7	48.0	942	Clay		
RRMDD061	7.5	8.5	1.0	109.7	315.1	29.7	104.4	16.9	3.0	11.5	1.7	9.6	1.8	4.8	0.8	1.7	0.7	48.4	660	Clay		
RRMDD061	8.5	9.5	1.0	119.0	253.0	32.2	113.7	19.2	3.2	12.4	1.7	9.6	1.8	4.8	0.7	1.7	0.7	50.5	624	Clay		
RRMDD061	9.5	10.5	1.0	152.5	283.5	43.3	163.9	29.2	5.4	24.4	3.6	20.1	4.0	10.9	1.6	3.6	1.4	127.6	875	Clay		
RRMDD061	10.5	11.5	1.0	566.5	696.9	138.1	541.2	105.4	19.7	99.9	16.3	102.1	21.3	59.7	8.6	16.2	7.5	758.1	3158	Upper Saprolite		
RRMDD061	11.5	12.2	0.7	436.3	630.2	125.8	472.4	88.7	15.0	59.2	8.2	40.1	6.4	15.4	2.1	8.1	1.5	150.5	2060	Upper Saprolite		
RRMDD061	12.2	13.1	0.9	107.7	189.8	29.5	112.8	21.9	4.7	20.5	3.3	19.9	3.8	11.0	1.7	3.2	1.6	97.0	628	Lower Saprolite		
RRMDD061	13.1	14.0	0.9	106.3	185.1	26.9	102.5	19.9	3.9	18.0	2.9	17.8	3.4	10.0	1.5	2.8	1.4	96.6	599	Lower Saprolite		
RRMDD061	14.0	14.9	0.9	110.6	183.9	28.3	116.6	23.0	4.6	22.1	3.5	21.7	4.4	12.4	1.8	3.5	1.7	115.2	653	Lower Saprolite		
RRMDD061	14.9	15.8	0.9	164.8	235.4	44.1	180.8	34.0	6.6	32.7	4.8	28.0	5.6	14.8	2.1	4.8	1.9	153.0	913	Lower Saprolite		
RRMDD061	15.8	16.7	0.9	120.2	157.0	22.6	93.7	16.0	3.1	17.7	2.7	16.2	3.8	10.5	1.5	2.6	1.4	147.9	617	Lower Saprolite	10.1	1057
RRMDD061	16.7	17.6	0.9	89.4	152.9	17.2	67.2	11.5	2.4	11.0	1.5	9.3	1.9	5.4	0.7	1.5	0.7	72.4	445	Saprock		
RRMDD061	17.6	18.5	0.9	79.4	146.4	16.0	61.6	11.1	2.2	10.3	1.4	8.7	1.8	5.2	0.7	1.4	0.7	75.3	422	Saprock		
RRMDD061	18.5	19.5	1.0	69.9	140.6	15.3	56.6	10.2	1.9	8.0	1.1	6.7	1.4	3.9	0.5	1.1	0.5	53.6	371	Saprock		
RRMDD061	19.5	20.5	1.0	68.4	136.5	14.0	51.0	8.4	1.5	6.2	0.9	5.6	1.1	3.0	0.5	0.9	0.5	36.3	335	Saprock		
RRMDD061	20.5	21.5	1.0	63.4	145.2	17.4	69.8	14.0	2.9	11.5	1.7	9.9	1.9	5.1	0.7	1.7	0.6	60.7	407	Saprock		
RRMDD061	21.5	22.5	1.0	60.5	125.3	13.0	45.8	7.7	1.5	6.1	0.9	5.3	1.1	3.1	0.4	0.9	0.4	32.3	304	Saprock		
RRMDD061	22.5	23.5	1.0	62.9	129.4	13.0	45.3	7.7	1.4	5.3	0.7	4.1	0.8	2.4	0.4	0.7	0.4	25.4	300	Saprock		
RRMDD062	0.0	0.9	0.9	138.4	228.4	24.8	82.9	12.5	2.0	9.0	1.3	7.3	1.4	4.2	0.6	1.3	0.7	40.4	555	Soil		
RRMDD062	0.9	1.7	0.9	139.0	238.9	25.0	84.1	13.6	2.1	9.0	1.4	8.0	1.5	5.2	0.7	1.4	0.8	46.0	577	Soil		
RRMDD062	1.7	2.6	0.9	171.8	434.6	32.3	104.6	14.2	2.4	9.6	1.4	8.4	1.5	4.6	0.7	1.4	0.7	40.4	829	Hardcap		
RRMDD062	2.6	3.5	0.9	166.5	598.5	30.5	90.6	12.7	2.0	7.2	1.2	6.7	1.2	3.5	0.6	1.1	0.5	32.3	955	Hardcap		
RRMDD062	3.5	4.4	0.9	160.7	591.5	27.3	82.1	11.4	1.9	7.2	1.0	6.4	1.3	3.4	0.5	1.0	0.6	30.9	927	Hardcap		
RRMDD062	4.4	4.9	0.5	108.7	470.9	18.7	59.8	9.8	1.6	6.8	1.0	5.8	1.1	3.2	0.5	1.0	0.6	26.9	716	Hardcap		
RRMDD062	4.9	5.8	0.9	157.2	248.3	25.3	72.8	9.8	1.6	5.9	0.9	5.2	1.0	3.1	0.5	0.9	0.6	30.7	564	Mottled	0.9	564
RRMDD062	5.8	6.7	0.9	30.5	84.3	6.1	21.3	3.5	0.6	2.8	0.5	3.0	0.7	2.2	0.4	0.5	0.5	21.1	178	Mottled		
RRMDD062	6.7	7.6	0.9	76.2	124.7	11.4	34.2	4.9	0.8	3.3	0.6	3.6	0.7	2.6	0.4	0.6	0.5	23.6	288	Mottled		
RRMDD062	7.6	8.5	0.9	72.0	171.0	10.7	32.9	4.8	0.8	3.3	0.6	3.5	0.7	2.5	0.4	0.6	0.5	23.0	327	Mottled		
RRMDD062	8.5	9.5	1.0	19.9	91.7	5.1	19.8	3.6	0.7	3.2	0.6	3.9	0.9	2.9	0.4	0.6	0.5	27.7	182	Clay		
RRMDD062	9.5	10.5	1.0	119.6	398.2	17.2	54.8	8.8	1.6	6.3	1.0	5.8	1.2	3.7	0.6	1.0	0.7	35.3	656	Clay		
RRMDD062	10.5	11.5	1.0	115.1	306.9	27.7	99.4	17.0	3.0	12.0	1.9	10.6	2.1	6.4	0.9	1.9	1.0	60.3	666	Clay		
RRMDD062	11.5	12.5	1.0	184.7	304.5	34.5	116.6	19.9	3.5	13.2	2.1	12.4	2.4	6.9	1.0	2.1	1.0	65.7	771	Clay		
RRMDD062	12.5	13.5	1.0	183.5	377.2	58.4	227.4	40.2	7.1	28.5	4.4	25.1	4.7	13.0	1.8	4.4	1.6	131.4	1109	Clay		
RRMDD062	13.5	14.5	1.0	119.6	209.1	37.2	145.8	29.7	5.9	24.2	4.2	24.3	4.8	14.0	1.9	4.2	1.8	134.6	761	Clay		
RRMDD062	14.5	15.5	1.0	164.8	278.8	62.0	263.6	62.2	12.6	52.3	8.9	54.5	10.6	29.6	4.2	8.9	3.8	292.1	1309	Upper Saprolite		
RRMDD062	15.5	16.1	0.6	338.9	501.3	96.2	402.4	88.0	18.5	84.3	14.2	86.2	18.1	52.3	7.3	14.1	6.3	679.4	2408	Upper Saprolite		
RRMDD062	16.1	17.1	1.0	122.6	212.6	39.6	163.3	36.9	7.3	30.7	5.4	32.9	6.5	18.8	2.8	5.4	2.5	190.5	878	Upper Saprolite		
RRMDD062	17.1	18.0	0.9	148.9	264.7	39.9	157.5	29.9	5.9	25.1	3.9	22.9	4.6	12.9	1.8	3.9	1.6	139.1	863	Upper Saprolite		
RRMDD062	18.0	18.9	0.9	85.6	154.0	23.3	89.5	16.1	3.3	14.5	2.3	14.5	2.9	8.6	1.2	2.3	1.1	97.4	517	Upper Saprolite		
RRMDD062	18.9	19.8	0.9	113.5	203.2	35.2	141.1	27.8	5.8	26.2	4.3	25.8	5.3	15.8	2.2	4.3	2.0	164.5	777	Lower Saprolite		
RRMDD062	19.8	20.7	0.9	133.1	228.4	39.3	161.0	30.5	6.3	28.7	4.7	27.0	5.6	16.1	2.2	4.6	2.0	175.9	865	Lower Saprolite		
RRMDD062	20.7	21.6	0.9	121.4	195.0	35.8	145.2	26.1	5.3	25.1	3.7	21.2	4.3	12.7	1.7	3.7	1.5	146.7	749	Lower Saprolite		
RRMDD062	21.6	22.5	0.9	154.2	223.7	38.9	154.5	27.1	5.4	25.2	3.9	22.2	4.6	13.6	1.9	3.9	1.7	156.8	838	Lower Saprolite	12.0	929
RRMDD062	22.5	23.4	0.9	139.6	233.7	35.3	144.1	27.6	6.0	29.5	4.8	28.2	6.3	18.5	2.7	4.8	2.4	224.8	908	Saprock		

Hole ID	From m	To m	Int.	La_2O_3 ppm	Ce_2O_3 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	>300ppm TREO-Ce_2O_3 Interval Length (m)	>300ppm TREO-Ce_2O_3 Interval TREO ppm
RRMDD062	23.4	24.3	0.9	85.4	174.5	21.7	85.7	15.7	3.0	15.5	2.5	15.3	3.3	10.3	1.4	2.4	1.3	122.4	560	Saprock		
RRMDD062	24.3	25.2	0.9	90.7	270.6	23.3	90.2	14.5	3.1	12.3	1.7	9.1	1.7	4.8	0.7	1.7	0.6	49.3	574	Saprock		
RRMDD062	25.2	26.1	0.9	51.8	108.2	13.3	51.4	8.9	2.0	7.7	1.2	6.3	1.3	3.7	0.6	1.1	0.6	35.8	294	Saprock		
RRMDD062	26.1	26.7	0.6	39.5	64.8	7.9	27.3	4.4	0.9	3.3	0.5	2.7	0.6	1.9	0.3	0.5	0.4	19.9	175	Saprock		
RRMDD063	0.0	0.1	0.1	119.6	197.4	21.0	70.5	10.4	1.9	8.0	1.3	7.5	1.5	4.5	0.7	1.2	0.6	42.7	489	Soil		
RRMDD063	0.1	1.1	1.0	98.3	218.4	17.0	55.8	8.1	1.5	5.6	0.9	5.2	1.0	3.1	0.5	0.9	0.5	26.7	443	Hardcap		
RRMDD063	1.1	2.0	0.9	95.9	522.4	17.2	54.6	8.4	1.4	5.9	1.0	5.8	1.1	3.3	0.5	1.0	0.6	27.7	747	Hardcap		
RRMDD063	2.0	3.0	1.0	167.7	612.6	25.9	79.4	11.9	2.1	8.2	1.3	7.8	1.5	4.0	0.7	1.3	0.7	36.3	961	Transition		
RRMDD063	3.0	3.8	0.8	188.2	818.7	27.4	79.0	11.8	2.0	8.5	1.3	7.4	1.4	4.1	0.6	1.3	0.6	35.0	1187	Transition		
RRMDD063	3.8	4.3	0.5	137.8	572.8	19.5	56.2	9.1	1.4	5.8	1.0	5.7	1.1	3.3	0.5	1.0	0.5	27.4	843	Transition		
RRMDD063	4.3	4.7	0.4	57.1	89.3	10.2	32.9	5.3	1.0	4.1	0.7	4.8	1.1	3.5	0.6	0.7	0.6	31.9	244	Mottled		
RRMDD063	4.7	5.6	0.9	101.3	159.9	19.6	64.5	10.4	1.8	7.2	1.2	6.6	1.3	4.1	0.7	1.1	0.7	41.3	422	Clay		
RRMDD063	5.6	6.5	0.9	160.7	302.2	27.0	82.6	11.8	2.0	7.2	1.1	5.5	1.1	3.5	0.5	1.1	0.6	32.8	640	Clay	**0.9**	**640**
RRMDD063	6.5	7.4	0.9	86.2	192.7	19.0	66.7	10.4	1.7	6.1	0.9	5.2	1.0	3.0	0.5	0.9	0.5	30.2	425	Clay		
RRMDD063	7.4	8.2	0.8	57.6	143.5	14.5	52.4	8.6	1.4	5.2	0.8	4.2	0.8	2.7	0.4	0.8	0.5	26.3	320	Clay		
RRMDD063	8.2	9.1	0.9	55.9	155.8	11.7	41.4	6.7	1.1	4.6	0.7	4.4	0.8	2.7	0.4	0.7	0.5	25.8	313	Clay		
RRMDD063	9.1	10.0	0.9	55.5	220.8	17.0	62.3	10.7	1.7	6.4	1.0	5.3	1.0	3.1	0.5	1.0	0.5	30.4	417	Clay		
RRMDD063	10.0	10.9	0.9	90.5	177.5	27.2	95.3	15.9	2.5	8.9	1.3	7.0	1.3	3.8	0.6	1.3	0.6	39.2	473	Clay		
RRMDD063	10.9	11.8	0.9	228.1	366.6	42.8	141.1	22.0	3.5	12.4	1.7	9.1	1.6	4.5	0.7	1.7	0.6	45.1	882	Clay		
RRMDD063	11.8	12.7	0.9	116.7	1259.1	29.1	105.7	17.6	3.0	10.4	1.6	8.0	1.4	4.0	0.6	1.6	0.6	38.1	1598	Clay	**1.8**	**1239**
RRMDD063	12.7	13.6	0.9	41.3	401.8	14.3	55.2	10.2	1.7	6.7	1.0	5.5	1.0	3.2	0.5	1.0	0.5	32.3	576	Clay		
RRMDD063	13.6	14.5	0.9	42.6	76.7	13.4	51.3	9.2	1.7	6.3	1.0	5.3	1.1	3.1	0.5	1.0	0.5	32.0	246	Clay		
RRMDD063	14.5	15.5	1.0	45.4	142.3	13.7	51.7	9.2	1.6	6.1	1.0	5.5	1.0	3.2	0.5	0.9	0.5	31.0	314	Clay		
RRMDD063	15.5	16.5	1.0	66.7	109.6	22.4	84.6	14.6	2.5	8.3	1.2	6.2	1.0	2.9	0.5	1.2	0.5	26.0	348	Clay		
RRMDD063	16.5	17.5	1.0	101.4	179.8	34.4	130.1	22.4	3.6	12.3	1.7	8.8	1.5	4.2	0.6	1.7	0.6	34.3	537	Clay		
RRMDD063	17.5	18.5	1.0	143.7	253.0	52.9	209.4	37.6	6.4	21.6	3.0	15.0	2.5	6.6	0.9	3.0	0.8	57.3	814	Clay		
RRMDD063	18.5	19.5	1.0	136.6	219.0	43.7	169.1	29.0	5.0	17.6	2.5	12.2	2.1	5.4	0.8	2.5	0.6	47.7	694	Upper Saprolite		
RRMDD063	19.5	20.5	1.0	99.6	157.5	25.7	102.6	18.6	3.6	15.8	2.3	13.4	2.7	7.7	1.2	2.3	1.0	88.6	543	Upper Saprolite		
RRMDD063	20.5	21.5	1.0	142.5	178.6	35.5	154.5	28.5	5.8	29.6	4.4	26.3	5.8	16.6	2.2	4.3	2.0	227.3	864	Lower Saprolite		
RRMDD063	21.5	22.3	0.8	144.8	183.9	36.3	164.5	34.1	8.1	47.0	7.6	48.8	11.3	33.2	4.5	7.6	3.9	497.8	1233	Lower Saprolite		
RRMDD063	22.3	23.2	0.9	92.2	152.9	23.8	106.5	26.0	6.8	40.7	7.4	50.8	11.5	35.7	5.1	7.4	4.6	458.4	1030	Lower Saprolite		
RRMDD063	23.2	24.1	0.9	93.2	152.9	24.6	120.7	35.4	9.4	64.5	11.5	79.4	18.8	57.6	8.0	11.4	7.2	812.7	1508	Lower Saprolite	**7.6**	**883**
RRMDD063	24.1	25.0	0.9	73.8	134.1	16.0	61.5	10.2	1.9	8.1	1.1	5.8	1.2	3.6	0.5	1.1	0.5	40.8	360	Saprock		
RRMDD063	25.0	26.0	1.0	68.8	128.8	13.5	49.3	8.2	1.6	7.1	1.0	6.5	1.4	4.2	0.6	1.0	0.6	50.8	343	Saprock		
RRMDD063	26.0	27.0	1.0	84.7	195.0	22.6	92.1	18.4	3.8	15.6	2.2	12.5	2.5	7.2	1.0	2.2	0.9	87.5	548	Saprock		
RRMDD064	0.0	0.2	0.2	106.4	189.2	19.5	66.0	10.7	1.8	8.6	1.3	7.9	1.6	4.9	0.8	1.3	0.8	47.9	469	Soil		
RRMDD064	0.2	1.1	0.9	95.2	229.0	17.0	54.9	8.3	1.5	6.1	1.0	6.1	1.2	3.6	0.6	1.0	0.6	30.9	457	Hardcap		
RRMDD064	1.1	2.0	0.9	168.9	465.0	27.2	86.2	12.2	2.2	8.0	1.2	7.3	1.3	4.3	0.6	1.2	0.6	35.8	822	Hardcap		
RRMDD064	2.0	2.9	0.9	167.1	775.4	25.2	78.6	13.0	2.2	8.3	1.4	8.0	1.6	4.5	0.7	1.4	0.7	38.2	1126	Hardcap		
RRMDD064	2.9	3.8	0.9	181.8	821.1	29.3	84.7	14.1	2.1	9.2	1.4	9.4	1.8	5.2	0.8	1.4	0.8	41.9	1205	Hardcap		
RRMDD064	3.8	4.5	0.8	204.1	579.8	36.9	117.2	16.1	2.4	9.3	1.5	8.6	1.7	4.7	0.8	1.5	0.9	43.7	1029	Transition		
RRMDD064	4.5	5.5	1.0	208.2	279.9	40.6	128.3	16.4	2.5	10.6	1.6	9.5	1.9	5.9	0.9	1.6	0.9	61.0	770	Mottled		
RRMDD064	5.5	6.5	1.0	240.4	620.8	37.4	107.9	15.3	2.4	9.2	1.5	8.1	1.6	4.8	0.8	1.5	0.7	43.0	1095	Mottled		
RRMDD064	6.5	7.5	1.0	240.4	338.5	42.2	126.6	17.9	3.1	11.6	1.7	9.8	1.8	5.3	0.8	1.7	0.8	53.8	856	Mottled		
RRMDD064	7.5	8.5	1.0	149.5	212.0	27.9	87.6	13.2	2.2	9.0	1.4	8.1	1.6	4.8	0.8	1.3	0.8	48.1	568	Mottled		
RRMDD064	8.5	9.5	1.0	303.8	459.1	55.2	168.0	22.5	3.5	12.5	1.8	9.7	1.8	5.3	0.8	1.8	0.9	49.1	1096	Mottled		
RRMDD064	9.5	10.5	1.0	182.4	378.3	38.5	122.5	16.8	2.9	10.4	1.5	8.6	1.6	4.9	0.8	1.5	0.8	46.0	817	Mottled	**6.0**	**867**

Hole ID	From	To	Int.	La_2O_3	Ce_2O_3	Pr_2O_3	Nd_2O_3	Sm_2O_3	Eu_2O_3	Gd_2O_3	Tb_2O_3	Dy_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3	Y_2O_3	TREO	Regolith	>300ppm TREO-Ce_2O_3 Interval	
	m	m		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	Zone	Length (m)	TREO ppm
RRMDD064	10.5	11.0	0.5	107.4	262.4	21.7	67.5	10.3	1.6	6.6	1.0	5.9	1.2	3.8	0.6	1.0	0.7	33.9	526	Clay		
RRMDD064	11.0	11.5	0.5	94.4	253.0	21.8	79.4	12.6	1.9	7.8	1.1	6.0	1.2	3.9	0.6	1.1	0.7	35.4	521	Clay		
RRMDD064	11.5	12.5	1.0	67.9	177.5	14.7	51.6	8.6	1.4	5.7	0.9	5.2	1.2	3.6	0.6	0.9	0.7	33.4	374	Clay		
RRMDD064	12.5	13.5	1.0	94.4	195.6	21.1	77.1	12.3	2.2	8.7	1.3	7.8	1.7	5.0	0.8	1.3	0.9	53.5	484	Upper Saprolite		
RRMDD064	13.5	14.5	1.0	87.1	186.2	20.7	77.1	13.3	2.3	10.6	1.8	10.6	2.3	6.9	1.0	1.8	1.0	79.9	503	Upper Saprolite		
RRMDD064	14.5	15.5	1.0	95.2	207.3	32.7	137.1	25.3	4.5	19.0	2.7	15.0	2.9	7.8	1.1	2.7	1.0	91.7	646	Upper Saprolite		
RRMDD064	15.5	16.1	0.6	266.2	583.3	97.0	421.1	82.7	14.4	58.1	8.1	41.7	7.0	17.6	2.4	8.0	1.8	182.9	1792	Upper Saprolite	2.6	855
RRMDD064	16.1	17.0	0.9	81.2	158.1	20.2	80.6	16.0	2.8	12.0	1.9	10.8	2.1	5.9	0.9	1.9	0.9	56.0	451	Lower Saprolite		
RRMDD064	17.0	17.9	0.9	253.3	470.9	91.9	449.1	100.7	21.0	111.1	17.4	109.8	23.6	68.7	9.8	17.2	8.9	876.2	2629	Saprock		
RRMDD064	17.9	18.6	0.6	247.5	413.5	53.1	240.3	42.8	9.0	56.2	7.3	43.7	10.1	28.4	3.6	7.3	3.1	549.9	1716	Saprock		
RRMDD065	0.0	0.2	0.2	119.6	194.4	23.3	79.5	13.2	2.3	9.7	1.5	9.3	1.9	5.5	0.8	1.5	0.8	53.6	517	Soil		
RRMDD065	0.2	1.1	0.9	108.2	173.4	20.2	69.1	11.1	1.8	8.2	1.2	7.5	1.4	4.2	0.6	1.2	0.7	39.2	448	Hardcap		
RRMDD065	1.1	2.0	0.9	95.9	153.4	17.2	59.6	9.3	1.6	6.9	1.0	6.7	1.2	3.7	0.6	1.0	0.6	34.8	394	Hardcap		
RRMDD065	2.0	2.9	0.9	92.2	317.4	18.1	62.8	10.7	1.8	7.3	1.3	7.8	1.5	4.5	0.8	1.3	0.8	38.0	566	Hardcap		
RRMDD065	2.9	3.5	0.6	156.6	677.0	27.2	85.6	14.8	2.4	10.9	1.8	11.7	2.1	6.2	1.0	1.8	0.9	53.2	1053	Transition		
RRMDD065	3.5	4.4	0.9	129.6	366.6	23.3	78.1	13.3	2.1	9.8	1.5	9.7	2.0	5.9	1.0	1.5	1.0	58.9	704	Mottled		
RRMDD065	4.4	5.3	0.9	123.1	425.2	28.3	111.9	19.8	3.3	16.2	2.5	14.4	3.1	9.3	1.4	2.4	1.4	100.3	863	Mottled		
RRMDD065	5.3	6.2	0.9	143.7	217.9	32.5	124.2	22.0	3.6	17.2	2.6	15.6	3.2	9.7	1.4	2.6	1.4	104.0	702	Mottled		
RRMDD065	6.2	7.1	0.9	143.7	290.5	29.0	102.3	17.7	2.8	13.4	2.1	12.4	2.5	7.1	1.1	2.0	1.2	73.7	701	Mottled		
RRMDD065	7.1	8.0	0.9	274.4	265.9	38.9	111.2	16.5	2.7	11.0	1.8	10.0	2.1	6.0	0.9	1.8	1.0	59.1	803	Mottled		
RRMDD065	8.0	8.9	0.9	75.3	138.8	22.6	88.1	16.8	2.8	13.8	2.0	12.2	2.5	7.1	1.1	2.0	1.1	78.9	465	Mottled		
RRMDD065	8.9	9.8	0.9	241.6	370.1	89.3	359.3	72.4	13.3	58.1	8.3	45.3	8.1	21.0	2.9	8.3	2.3	229.2	1529	Clay		
RRMDD065	9.8	10.8	1.0	492.6	643.0	142.8	583.2	112.6	20.3	102.7	15.2	91.4	18.8	51.0	7.0	15.1	6.2	731.5	3033	Clay		
RRMDD065	10.8	11.8	1.0	217.0	332.6	73.7	296.3	59.0	10.9	48.4	7.1	39.6	7.5	20.1	2.8	7.1	2.3	241.9	1366	Clay		
RRMDD065	11.8	12.8	1.0	145.4	231.3	41.0	163.3	31.5	5.5	26.3	3.8	22.2	4.4	11.5	1.7	3.8	1.5	146.7	840	Clay		
RRMDD065	12.8	13.4	0.6	346.0	395.9	92.5	405.9	80.6	16.1	87.9	13.1	81.9	17.4	49.5	6.9	13.0	6.3	676.9	2290	Upper Saprolite	9.9	1188
RRMDD065	13.4	13.7	0.3	173.6	223.1	34.6	158.6	32.7	7.3	53.8	7.8	52.2	13.0	38.7	5.2	7.8	4.9	631.1	1445	Fresh		
RRMDD065	13.7	14.4	0.7	84.4	166.3	18.6	67.9	10.7	1.9	7.4	1.0	4.8	0.8	2.2	0.3	0.9	0.3	28.8	396	Fresh		
RRMDD065	14.4	15.0	0.7	86.1	176.9	19.7	73.0	12.3	2.3	8.5	1.1	6.0	1.0	2.7	0.4	1.1	0.4	31.5	423	Fresh		
RRMDD066	0.0	0.1	0.1	117.0	214.9	22.2	78.5	13.8	2.2	10.7	1.6	10.4	2.1	5.7	0.9	1.6	0.8	62.7	545	Soil		
RRMDD066	0.1	1.1	1.0	99.0	373.6	17.0	55.9	8.6	1.5	6.3	1.0	6.6	1.3	3.7	0.6	1.0	0.6	33.9	611	Hardcap		
RRMDD066	1.1	2.0	0.9	148.4	885.5	24.1	79.3	12.5	2.0	8.0	1.3	8.1	1.6	4.6	0.7	1.3	0.7	39.0	1217	Hardcap		
RRMDD066	2.0	2.4	0.4	110.2	663.0	21.4	74.5	12.3	2.0	8.3	1.4	8.6	1.7	4.9	0.8	1.3	0.8	44.3	956	Hardcap		
RRMDD066	2.4	3.3	0.9	181.2	366.6	35.2	117.8	16.8	2.8	12.6	2.0	12.2	2.4	7.0	1.1	1.9	1.1	70.4	831	Transition		
RRMDD066	3.3	4.2	0.9	337.8	428.7	47.6	140.0	20.6	3.2	13.7	2.1	11.5	2.2	6.7	1.0	2.0	1.1	68.4	1087	Mottled		
RRMDD066	4.2	5.1	0.9	172.4	262.4	29.7	98.0	15.1	2.5	11.0	1.7	10.2	2.0	6.0	0.9	1.7	1.0	62.5	677	Mottled		
RRMDD066	5.1	6.0	0.9	126.7	250.7	21.7	75.2	13.3	2.1	10.3	1.6	9.7	1.9	5.8	0.9	1.6	0.9	63.0	585	Mottled		
RRMDD066	6.0	6.9	0.9	189.4	279.9	33.5	113.0	17.6	2.8	12.6	1.8	11.0	2.2	6.5	1.0	1.8	1.0	69.2	743	Clay		
RRMDD066	6.9	7.8	0.9	139.6	508.3	24.1	80.9	13.7	2.4	10.8	1.7	9.9	2.0	5.8	0.9	1.7	1.0	64.0	867	Clay		
RRMDD066	7.8	8.7	0.9	75.3	123.6	18.6	73.4	14.1	2.4	11.4	1.7	9.8	2.1	5.6	0.9	1.7	0.8	64.1	406	Clay		
RRMDD066	8.7	9.7	1.0	743.6	904.2	182.0	633.4	100.2	16.8	63.9	8.3	41.0	6.5	16.1	2.1	8.3	1.7	179.7	2908	Clay		
RRMDD066	9.7	10.7	1.0	81.6	173.9	20.5	85.6	17.4	3.3	15.3	2.3	12.6	2.7	7.6	1.1	2.3	1.0	84.8	512	Clay		
RRMDD066	10.7	11.3	0.6	122.0	220.8	36.5	161.5	37.9	7.1	34.3	5.3	30.8	6.2	17.0	2.2	5.2	2.1	181.0	870	Upper Saprolite		
RRMDD066	11.3	12.0	0.7	195.3	359.6	70.2	332.4	80.7	16.2	86.8	13.1	78.7	16.6	46.7	6.6	13.0	5.7	554.9	1877	Upper Saprolite		
RRMDD066	12.0	12.6	0.6	190.0	343.2	66.2	309.1	70.6	14.3	83.7	12.4	77.4	17.0	48.9	6.8	12.3	6.2	660.3	1918	Lower Saprolite	9.3	1113
RRMDD066	12.6	13.5	0.9	91.7	186.8	20.5	78.7	14.3	2.6	11.4	1.6	9.6	1.9	5.5	0.8	1.6	0.8	64.5	493	Saprock		
RRMDD066	13.5	14.0	0.5	88.7	182.7	20.1	73.5	14.0	2.4	10.3	1.5	7.8	1.6	4.3	0.6	1.5	0.6	49.1	459	Saprock		

Hole ID	From m	To m	Int.	La_2O_3 ppm	Ce_2O_3 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	>300ppm TREO-Ce_2O_3 Interval Length (m)	>300ppm TREO-Ce_2O_3 Interval TREO ppm
RRMDD067	0.0	0.9	0.9	127.2	209.1	24.6	90.2	15.0	2.5	12.6	2.0	12.5	2.3	7.7	1.1	2.0	1.1	75.6	585	Soil		
RRMDD067	0.9	1.8	0.9	121.4	197.9	23.4	86.4	14.8	2.6	12.2	1.9	12.2	2.4	7.1	1.0	1.9	1.1	73.7	560	Hardcap		
RRMDD067	1.8	2.7	0.9	161.8	421.7	30.8	109.1	18.0	3.1	12.2	1.8	10.3	1.9	5.1	0.8	1.8	0.8	47.0	826	Hardcap		
RRMDD067	2.7	3.6	0.9	216.4	712.2	33.5	102.6	14.9	2.4	9.7	1.6	8.8	1.7	4.6	0.7	1.5	0.7	39.6	1151	Hardcap		
RRMDD067	3.6	4.5	0.9	154.8	540.0	24.1	76.9	12.9	2.1	9.3	1.6	8.8	1.7	5.1	0.8	1.6	0.8	43.0	883	Hardcap		
RRMDD067	4.5	5.0	0.5	75.8	85.2	20.0	80.1	16.1	2.9	14.1	2.2	13.4	2.9	8.2	1.3	2.1	1.2	87.0	412	Mottled		
RRMDD067	5.0	6.0	1.0	234.0	267.1	68.5	261.3	49.5	8.9	41.7	6.1	36.0	7.6	21.7	3.1	6.1	2.7	248.9	1263	Clay		
RRMDD067	6.0	6.9	0.9	192.3	228.4	55.1	218.1	43.4	7.5	36.1	5.4	32.4	6.8	19.0	2.7	5.3	2.6	222.9	1078	Clay		
RRMDD067	6.9	7.8	0.9	189.4	240.1	55.6	219.9	43.8	7.6	37.2	5.6	32.9	7.0	20.0	2.9	5.5	2.6	226.7	1097	Clay		
RRMDD067	7.8	8.6	0.8	143.1	179.2	40.0	155.7	31.3	5.6	26.3	4.1	23.2	4.9	14.4	2.1	4.0	1.9	161.9	798	Clay		
RRMDD067	8.6	9.5	0.9	129.6	149.9	39.9	162.1	38.3	7.3	32.6	5.2	30.3	6.0	16.4	2.4	5.2	2.1	159.4	787	Upper Saprolite		
RRMDD067	9.5	10.4	0.9	188.2	223.7	66.0	268.3	59.3	11.4	52.8	8.1	47.2	9.5	26.5	3.7	8.0	3.3	264.1	1240	Upper Saprolite		
RRMDD067	10.4	11.3	0.9	194.1	222.0	69.9	291.6	65.3	12.2	54.4	8.5	49.4	9.7	27.0	3.8	8.4	3.3	269.2	1289	Upper Saprolite		
RRMDD067	11.3	12.2	0.9	307.3	401.8	80.4	323.1	70.9	13.1	60.1	9.2	52.6	10.6	28.7	4.0	9.1	3.5	294.6	1669	Upper Saprolite		
RRMDD067	12.2	13.2	1.0	164.2	247.1	45.4	180.8	36.6	6.8	32.3	4.9	28.9	6.0	17.2	2.4	4.9	2.2	188.6	968	Upper Saprolite		
RRMDD067	13.2	14.2	1.0	151.3	234.3	36.6	138.8	24.8	4.3	21.0	3.1	18.1	3.9	11.3	1.6	3.1	1.5	134.6	788	Upper Saprolite		
RRMDD067	14.2	15.2	1.0	146.0	214.9	38.6	155.7	31.0	5.8	28.9	4.3	25.2	5.5	15.6	2.2	4.3	2.0	189.2	869	Lower Saprolite		
RRMDD067	15.2	16.2	1.0	129.0	238.9	31.0	123.1	22.9	4.1	19.5	2.9	16.9	3.7	10.4	1.5	2.9	1.3	130.2	738	Lower Saprolite	**11.7**	**1017**
RRMDD068	0.0	0.7	0.7	114.9	188.0	21.9	73.6	12.3	2.0	8.4	1.3	8.2	1.5	4.5	0.7	1.3	0.8	43.2	483	Soil		
RRMDD068	0.7	1.3	0.7	107.1	179.8	20.3	70.3	11.2	1.9	7.8	1.2	7.2	1.4	4.2	0.6	1.2	0.7	38.9	454	Hardcap		
RRMDD068	1.3	2.4	1.1	110.0	248.3	20.9	69.5	10.8	1.9	7.0	1.1	6.9	1.3	3.4	0.5	1.1	0.6	31.1	514	Transition		
RRMDD068	2.4	3.4	1.1	160.1	891.4	26.3	81.3	12.6	2.1	8.9	1.5	9.1	1.8	5.1	0.8	1.5	0.9	47.4	1251	Transition		
RRMDD068	3.4	4.1	0.7	208.2	432.2	33.0	105.0	16.4	2.6	12.2	1.9	11.3	2.2	6.7	1.0	1.8	1.1	73.8	909	Mottled		
RRMDD068	4.1	5.0	0.9	174.7	188.6	30.7	102.4	16.9	2.6	13.1	1.9	11.3	2.4	7.3	1.1	1.9	1.1	77.5	633	Mottled		
RRMDD068	5.0	5.9	0.9	473.8	727.4	65.8	193.6	29.3	4.3	16.9	2.4	12.5	2.4	6.5	1.0	2.4	1.0	65.3	1605	Mottled		
RRMDD068	5.9	6.8	0.9	86.9	160.5	17.7	61.5	10.6	1.6	7.9	1.2	7.6	1.6	5.4	0.8	1.2	1.0	53.5	419	Mottled		
RRMDD068	6.8	7.6	0.8	52.8	220.8	13.3	50.6	9.3	1.4	7.1	1.1	6.9	1.4	4.4	0.7	1.1	0.7	45.2	417	Mottled		
RRMDD068	7.6	8.5	0.9	723.6	645.4	114.6	353.4	53.9	8.4	34.6	4.8	24.4	4.0	10.4	1.5	4.8	1.2	104.6	2090	Clay		
RRMDD068	8.5	9.5	1.0	140.7	216.1	38.6	143.5	25.6	4.4	19.6	2.9	18.2	3.6	10.2	1.5	2.9	1.4	128.9	758	Clay		
RRMDD068	9.5	10.5	0.9	64.3	97.1	16.3	63.8	12.2	2.3	11.9	1.9	11.1	2.2	6.7	1.0	1.8	1.0	71.9	365	Clay		
RRMDD068	10.5	10.9	0.4	786.9	723.9	98.0	307.9	43.1	7.4	33.9	4.3	21.5	3.3	7.5	0.9	4.3	0.7	77.8	2121	Clay		
RRMDD068	10.9	11.4	0.5	109.8	146.4	27.2	107.3	20.1	3.6	17.8	2.6	16.0	3.2	9.5	1.3	2.6	1.3	113.7	582	Clay		
RRMDD068	11.4	12.3	0.9	57.9	73.9	16.4	68.6	13.7	2.6	13.8	2.1	13.3	2.7	7.9	1.1	2.1	1.0	90.8	368	Clay		
RRMDD068	12.3	13.3	1.0	92.4	104.7	25.3	104.9	22.4	4.1	20.5	3.2	19.5	3.9	11.1	1.5	3.1	1.4	121.3	539	Upper Saprolite		
RRMDD068	13.3	14.3	1.0	139.6	183.3	42.5	177.3	35.5	6.6	32.4	4.8	29.4	6.0	17.4	2.3	4.8	2.1	226.7	911	Upper Saprolite		
RRMDD068	14.3	15.0	0.7	273.3	340.8	81.9	334.8	66.8	12.1	56.5	8.6	49.7	9.9	28.1	3.7	8.5	3.1	370.8	1649	Lower Saprolite	**11.6**	**906**

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.*	**Diamond Core Drilling** 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. 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. 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. Using either method core was initial cut in half then one half was further cut in half to give quarter core. Quarter core was submitted to ALS for chemical analysis using industry standard sample preparation and analytical techniques. Half core was collected for metallurgical testwork.
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).*	**Diamond Core Drilling** Core size was HQ triple tube. The core was not oriented (vertical)
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.*	**Diamond Drilling** Core recovery was calculated by measuring actual core length versus drillers core run lengths. Core recovery ranged from 83% to 100% and averaged 98%. No relationship exists between core recovery and grade.
Logging	• *Whether core and chip samples have been geologically and*	All (100%) drill core has been geologically logged and core photographs taken.

Criteria	JORC Code explanation	Commentary
	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.*	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. Additional non-geological qualitative logging includes comments for sample recovery, humidity, and hardness for each logged interval.
Sub-sampling techniques and sample preparation	• *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.*	**Diamond Drill Core** 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. 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. 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. 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. 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.
Quality of assay data and laboratory tests	• *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.*	**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:

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

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
		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 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. 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 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.

Criteria	JORC Code explanation	Commentary
		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_2O_3
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	1.1703	Pr_2O_3
Sm	1.1596	Sm_2O_3
Tb	1.151	Tb_2O_3
Tm	1.1421	Tm_2O_3
Y	1.2699	Y_2O_3
Yb	1.1387	Yb_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:

Criteria	JORC Code explanation	Commentary
		TREO (Total Rare Earth Oxide) = La_2O_3 + Ce_2O_3 + Pr_2O_3 + Nd_2O_3 + Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_2O_3 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Y_2O_3 + Lu_2O_3. Note that Y_2O_3 is included in the TREO calculation. HREO (Heavy Rare Earth Oxide) = Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_2O_3 + 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_2O_3 + Dy_2O_3 + Y_2O_3 LREO (Light Rare Earth Oxide) = La_2O_3 + Ce_2O_3 + Pr_2O_3 + Nd_2O_3 HREO% of TREO= HREO/TREO x 100 In elemental form the classifications are: TREE: La+Ce+Pr+Nd+Sm+Eu+Gd+Tb+Dy+Ho+Er+Tm+Yb+Lu+Y CREE: Nd+Eu+Tb+Dy+Y LREE: La+Ce+Pr+Nd
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.*	Drill hole collar locations for holes RRMDD001 to RRMDD041 were surveyed a relational DGPS system. The general accuracy for x,y and z is ± 0.2m. Hole locations for RRMDD042 – RRMDD068 were surveyed using handheld GPS. The accuracy for this type of device is considered ± 5m in x and y coordinates however the elevation component of coordinates is variable and z accuracy may be low 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. 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 Detailed topographic data was not sourced or used.
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.*	Drilling was conducted on a nominal 400m x 400m spacing for holes RRMDD001 to RRMDD0041, RRMDD055 and RRMDD056.

Criteria	JORC Code explanation	Commentary
	• *Whether sample compositing has been applied.*	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 Exploration drill holes RRMDD042 to RRMDD046 on EL1766 were drilled where convenient on ternary and elevation anomalies and are not to any specific spacing. Historic RAB drilling has also been conducted on this spacing however the diamond drilling was offset by 200m from the RAB drilling 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.
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.*	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 All drill holes are vertical which is appropriate for horizontal bedding and regolith profile.
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*	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).

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td>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.</td><td>All licences are in good standing with no known impediments.

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.

1. 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>
<tr><th>Spend</th><th>Interest earned</th><th>Cumulative Interest earned</th></tr>
<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>
</table>
2. IXR to fund to completion of a bankable feasibility study to earn an additional 9% interest for a cumulative 60% interest in RRM.
3. During the earn-in phase there are milestone payments, payable in cash or IXR shares at the election of the Vendor, as follows:
• 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.
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 earnt by IXR.</td></tr>
<tr><td>Exploration done by other parties</td><td>• Acknowledgment and appraisal of exploration by other parties.</td><td>Previous exploration includes:

1980: Country wide airborne geophysical survey identifying uranium anomalies in the Project area.

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.</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
		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, 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 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. 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 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.
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*	The material information for drill holes relating to this announcement are contained in Table 2.

Criteria	JORC Code explanation	Commentary
	○ *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.*	
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 300 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 are considered true widths. The mineralisation is interpreted to be horizontal, flat lying sediments and weathering profile, with the vertical drilling perpendicular to mineralisation.
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.

Criteria	JORC Code explanation	Commentary
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 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 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. 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 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)