23 November 2020

TRANCHE 4 DRILLING RESULTS FURTHER CONFIRM POTENTIAL OF MATERIAL RESOURCE UPGRADE

- **Tranche 4 drill assays show continuation of mineralisation up to the boundary of EL 1766, with further elevated Heavy Rare Earths zone identified**
- **Highly encouraging for the resource potential in the new application area TN03424 immediately adjoining EL 1766**
- **All program drill samples received in Perth for analysis**

Ionic Rare Earths Limited ("**IonicRE**" or "the Company") (ASX: IXR) is pleased to provide an update on the receipt of drill assays from the recently completed Phase 2 drill program at its 51% owned Makuutu Rare Earths Project ("**Makuutu**") in Uganda.

Drill assay results have been received for the remaining area of a massive radiometric anomaly located on the Makuutu Eastern Zone EL 1766, illustrated as Area J within Figure 1. Pleasingly all reported drill hole assays have confirmed intervals above the existing resource cut-off grade, and a selection of holes showing elevated proportions of heavy rare earths (HREO) consistent with those previously reported on 5th November 2020.

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

"These results confirm the potential of EL 1766 to add a material increase in resource tonnage, this exceeds expectations. The positive takeaway here is the elevated proportion of HREO is between 30% to 40% of the TREO grade along the boundary of EL 1766 and the new exploration licence application TN03424."

"We now have received the remaining samples in Australia and plan to have assays results by the end of 2020. We anticipate a material resource update in Q1 2021, that has the potential to fundamentally change the scale of Makuutu. Activity will now focus on initiating new parallel work streams to expedite the development of the Makuutu Rare Earths Project. This could potentially see additional modules for a staged ramp up of rare earth production to maximise value for shareholders."

"Makuutu is truly unique as an ionic clay based CREO / HREO dominant project when compared to other types of rare earth peers listed on the ASX. Ionic clay mineralisation projects are characterised by simpler mining and processing, higher value basket potential, including a more even spread of highly desired HREOs. Importantly, approximately one third of the Makuutu product is magnet metals, including 5% Dy and Tb. This has the potential to generate a high margin for an expected long life, low cost CREO/HREO asset."

Drilling Results

The fourth tranche of assay results for the Makuutu resource expansion program have been received from the Phase 2 drill program which consisted of 3,745 metres of core drilling across the three (3) tenements at Makuutu. The aim of the program was to validate the Company's Exploration Target (set out within), quantify the potential of the 26-kilometre-long Makuutu mineralisation corridor and provide data for an upcoming mineral resource expansion, all of which has proven to be successful.

The Phase 2 drill program tested an area which is more than three (3) times greater than the area covered by the existing mineral resource estimate and included 68 drill holes across the Makuutu Eastern Zone (MEZ) on Exploration Licence 1766 (EL 1766). These 68 drill holes follow on from the 5 reconnaissance holes drilled in late 2019.

The drill results reported in this tranche are for the remaining 23 drill holes in the most easterly portion of the MEZ (Area J) and confirm the continuation of near surface mineralisation with all reported holes containing intersections above the MRE cut-off grade (300 ppm TREO-Ce_2O_3). The hole locations of these latest results are shown as red points in Figure 1.

Areas H (1.0 km^2) , I (1.3 km^2) and J (7.2 km^2) represent a combined area of 9.5 km^2, nearly double that of the existing MRE area which is 4.9 km^2.

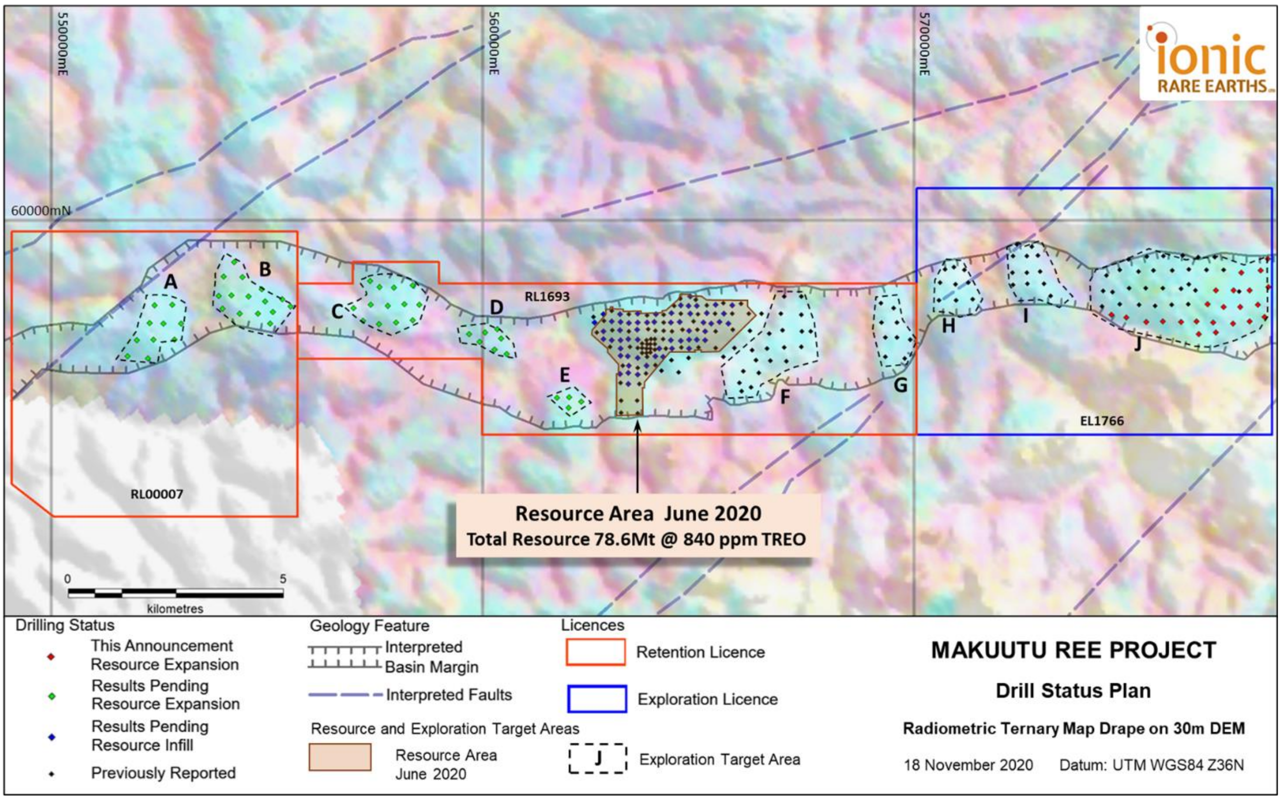

Figure 1: Drill program plan showing drill holes stretching over 26 kilometres across the three tenements at the Makuutu Rare Earths Project with the MRE and target areas.

The assay results show mineralisation average thickness of 6.0 metres ranging from 1.8 metres to 11.9 metres and TREO grades ranging from 515 ppm to 854 ppm averaging 604 ppm. Intersections notable for grade and thickness are:

- RRMDD167 5.4 metres at 817 ppm TREO from 10.9 metres
- RRMDD160 8.9 metres at 699 ppm TREO from 5.1 metres

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- RRMDD170 5.8 metres at 653 ppm TREO from 2.4 metres
- RRMDD169 11.9 metres at 610 ppm TREO from 3.6 metres
- RRMDD166 7.3 metres at 599 ppm TREO from 5.3 metres

The location and results for these drill holes are shown on the plan of the Makuutu Eastern Zone, Figure 2 with results of the previously announced (5th November 2020) adjacent drilling.

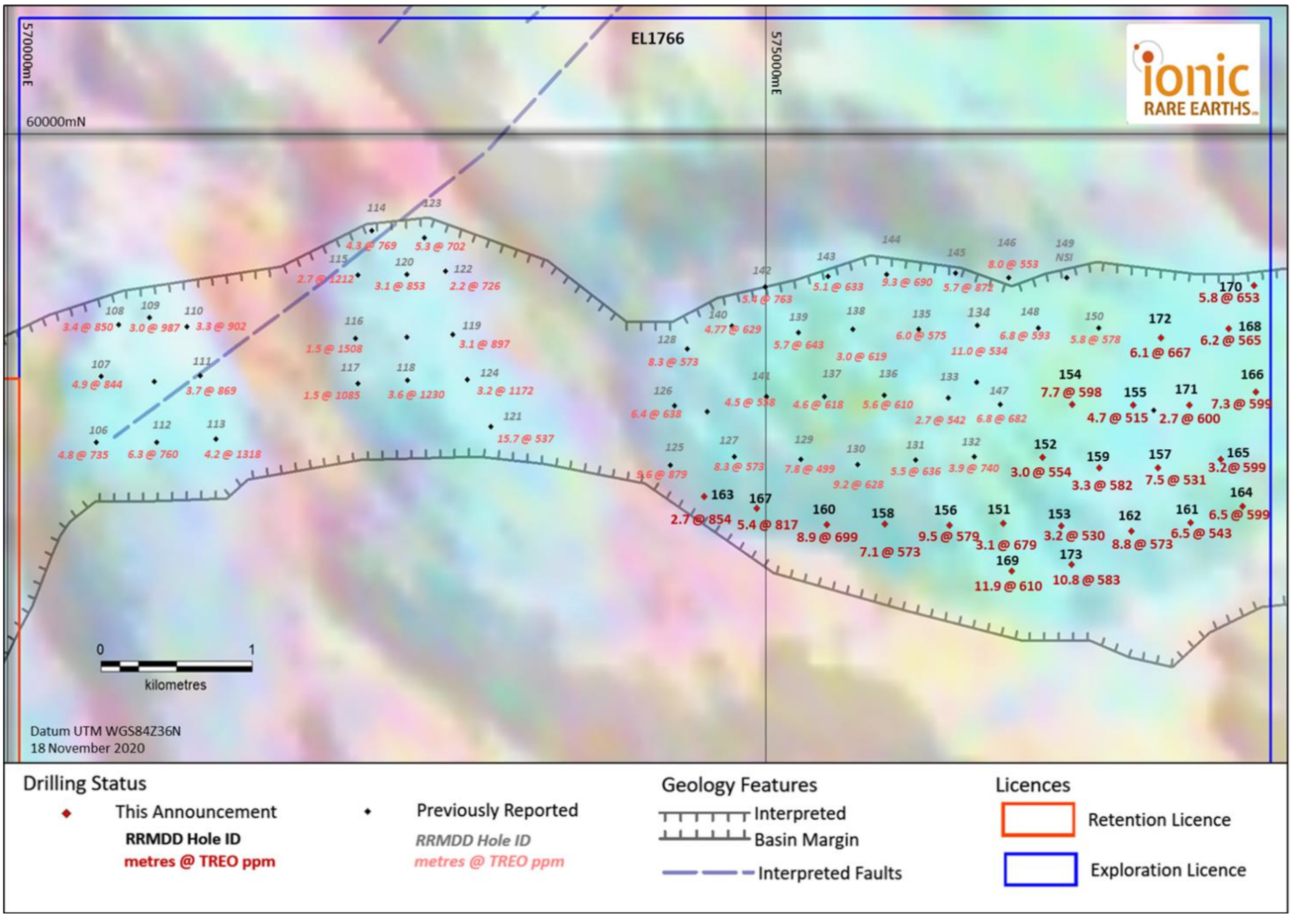

Figure 2: Makuutu Eastern Zone drill plan. Holes RRMDD0151 to 180 highlighted (bold).

Two important features of this drilling in Area J, and further confirmed within the data reported in the announcement are;

1. The drilling shows more kaolin clay development visually in the drill core and supported by geochemical evaluation. The potential that kaolin is the dominant clay type is a positive indicator for REE extraction.
2. A consistent zone of HREO as a percentage of TREO, that is greater than the existing MRE average of 25%. Intercepts in the eastern zone range from 21% to 45% HREO in TREO. Figure 3 shows the %HREO for the intercepts above resource cut-off grade with the zone of elevated HREO as a percentage of TREO highlighted. The highlighted area averages 30% HREO in TREO.

The drill hole assays received, confirming the zone of elevated HREO content, extends to the eastern boundary of EL 1766. This bodes well for continued elevated composition of HREO continuing east to the newly applied Exploration Licence application TN03424, as illustrated in Figure 4.

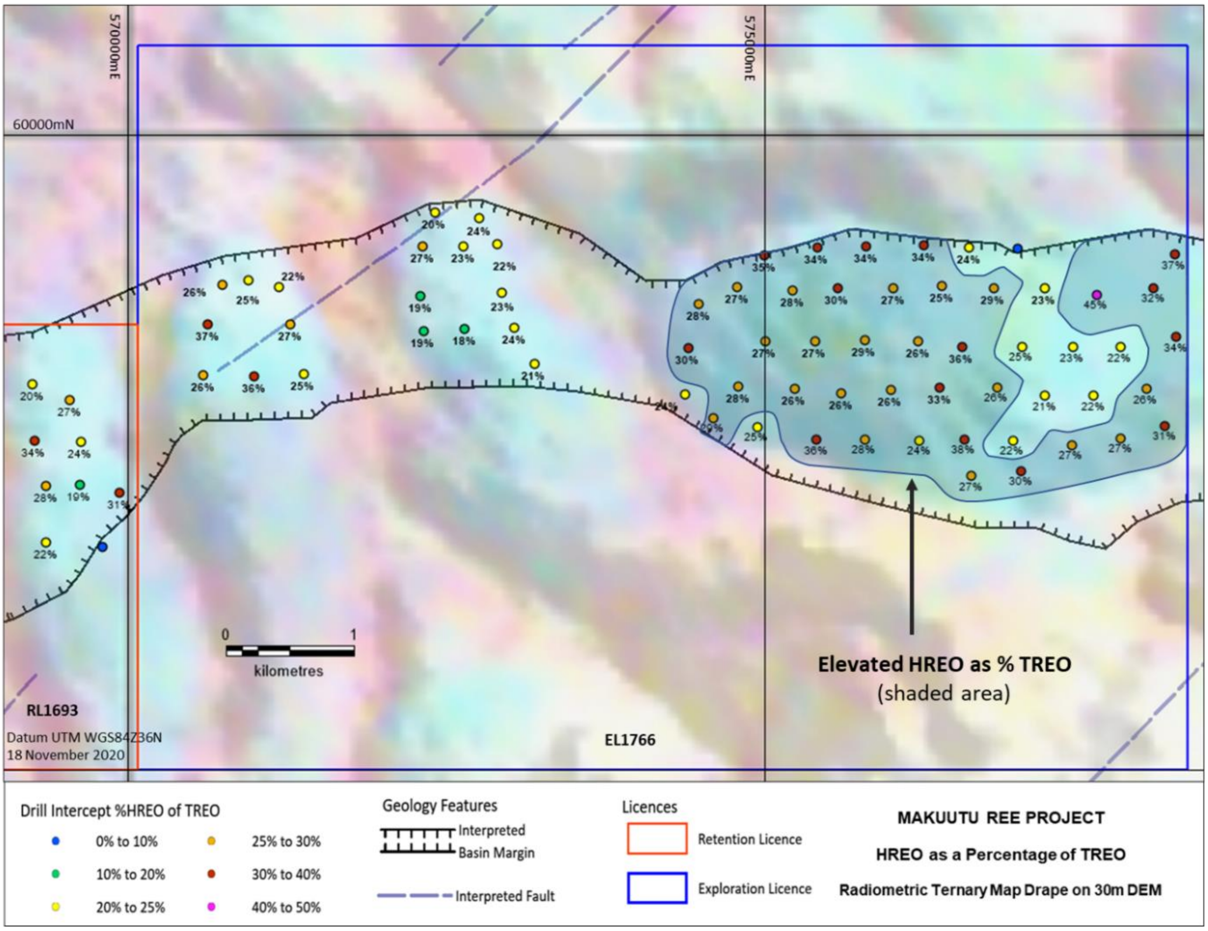

Figure 3: Eastern Zones showing MRE extensional holes highlighting increased HREO as a percentage of TREO in the east (shaded area).

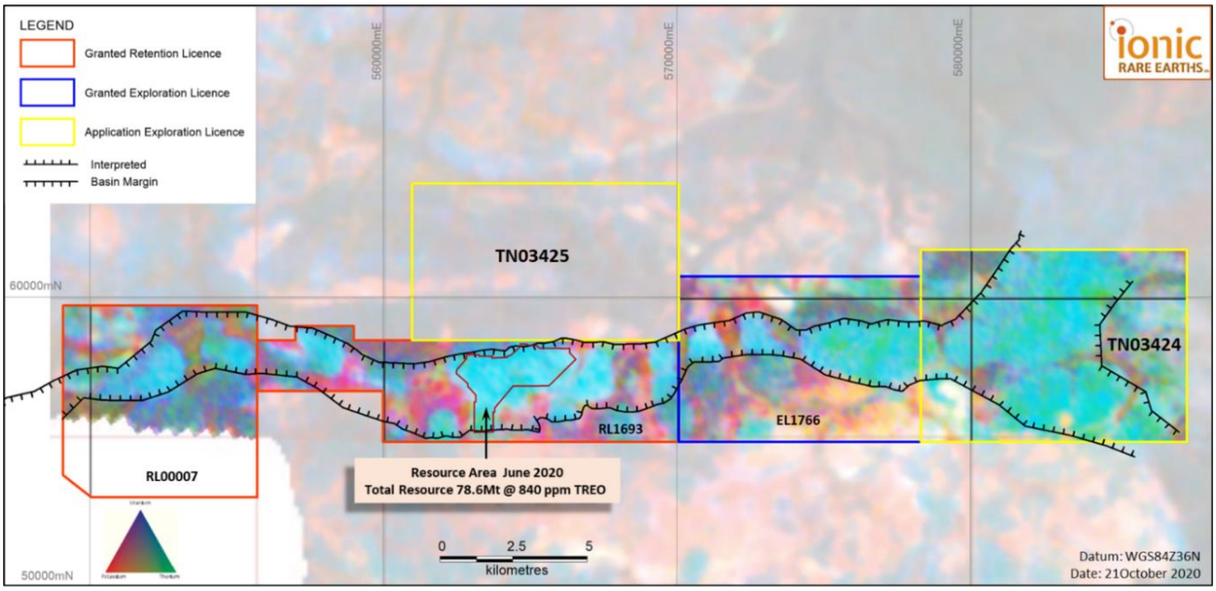

Figure 4: Makuutu Rare Earths Project Licences (existing and new applications in yellow) on regional Radiometric Ternary Image and Interpreted REE Host Sedimentary Basin extending east of EL 1766.

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Drilling Program

The diamond core drilling program, which followed on from the previous drilling program undertaken by the Company in Q1 2020, is illustrated in Figure 1. The program consisted of 3,745 metres of drilling from 222 holes with the following objectives:

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 and reported by 26th September 2020.*

3) Exploration drilling on adjacent tenement EL 1766, or Makuutu Eastern Zone (MEZ) – *68 holes completed. 45 holes reported 5th November 2020. Remaining 23 holes reported in this announcement.*

4) Exploration drilling on adjacent tenement RL 00007, or Makuutu Western Zone (MWZ) – *25 drill holes completed. All drill hole samples arrived in Perth for analysis. Assays pending.*

5) Exploration drilling on the western side of the current Mineral Resource area further to the west (on tenement RL 1693) – *24 drill holes completed. Samples from all drill holes arrived in Perth for analysis.*

6) In-fill drilling within the area of the current Mineral Resource (on tenement RL 1693) to enhance resource grade estimation confidence. – *57 drill holes completed. Samples from all drill holes arrived in Perth for analysis.*

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 has tested the 26-kilometre-long Makuutu mineralisation corridor with the initial 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.

All remaining geochemical and metallurgical samples from the program have now been received in Perth and are the subject of further analysis and testwork.

Mineral Resource Update

A Mineral Resource Estimate update is scheduled to be conducted once all drill hole assays have been reported. It is expected all drill hole assay data will be received by the end of 2020, with the MRE update nominally in early Q1 2021. The drill assay data received remains in line with expectations regarding the Exploration Target basis.

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Makuutu Rare Earths Project Status

Given the material increase in the Mineral Resource Estimate that is expected in Q1 2021, the Company will be completing an update of the Scoping Study ("Study") to reflect the significantly increased scale of the Makuutu. The updated Study will potentially feature multiple process modules and present options for accelerated production capacity ramp up further to the scenarios considered in the Study.

The Company remains in regular contact with authorities in Uganda as we await confirmation of the renewal of Retention Licence No 1693 (RL 1693, or Makuutu Central Zone).

Furthermore, the Company is eagerly awaiting confirmation on the successful application for the new Exploration Licence applications TN03424 and TN03425, shown on Figure 4.

A summary of the application areas is as follows:

- **TN03424**: 60.3 square kilometres in area, due east and contiguous with existing exploration licence EL1766. The application is interpreted to cover the eastern extension of the sedimentary basin with the blue/green (eU/eTh) colours on the radiometric ternary image are interpreted to be lateritic hardcap at surface which overlies the rare earth hosting ionic adsorption clays on the current Project area.

  If granted, TN03424 will extend the Project coverage of the rare earth prospective basin to approximately 36 kilometres in length. No prior rare earth exploration is known of on this application area.

- **TN03425**: 48.15 square kilometres in area due north and contiguous with existing retention licence RL1693. This application includes a range of commodities and provides a strategic holding for exploration for rare earths but also aggregate, stone and other materials that may be of use during project development.

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.

Table 2: Makuutu Rare Earths Project Core Hole Details This Announcement (Datum UTM WGS84 Zone 36N)

Drill Hole ID	UTM East (m.)	UTM North (m.)	Elevation (m.a.s.l.)	Drill Type	Hole Length EOH (m.)	Azimuth	Inclination
RRMDD151	576567	57619	1146	HQ DD	11.50	0	-90
RRMDD152	576825	58024	1145	HQ DD	12.80	0	-90
RRMDD153	576950	57605	1150	HQ DD	18.50	0	-90
RRMDD154	577019	58346	1141	HQ DD	20.70	0	-90
RRMDD155	577422	58341	1144	HQ DD	24.00	0	-90
RRMDD156	576214	57608	1142	HQ DD	17.20	0	-90
RRMDD157	577587	57958	1146	HQ DD	21.40	0	-90
RRMDD158	575786	57619	1133	HQ DD	14.50	0	-90
RRMDD159	577201	57960	1150	HQ DD	16.70	0	-90
RRMDD160	575405	57612	1123	HQ DD	14.80	0	-90
RRMDD161	577800	57625	1136	HQ DD	20.80	0	-90
RRMDD162	577412	57572	1146	HQ DD	22.50	0	-90
RRMDD163	574595	57785	1114	HQ DD	12.50	0	-90
RRMDD164	578145	57725	1128	HQ DD	19.20	0	-90
RRMDD165	577999	58012	1136	HQ DD	17.40	0	-90
RRMDD166	578233	58423	1130	HQ DD	19.20	0	-90
RRMDD167	574940	57714	1119	HQ DD	19.00	0	-90
RRMDD168	578054	58807	1129	HQ DD	17.30	0	-90
RRMDD169	576623	57329	1150	HQ DD	16.30	0	-90
RRMDD170	578219	59071	1118	HQ DD	12.00	0	-90
RRMDD171	577794	58341	1140	HQ DD	21.10	0	-90
RRMDD172	577607	58753	1135	HQ DD	18.00	0	-90
RRMDD173	577016	57371	1148	HQ DD	20.50	0	-90

Authorised for release by Brett Dickson, Company Secretary.

***** ENDS *****

For enquiries, contact: Tim Harrison

Chief Executive Officer

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Competent Person Statements

The information in this Report that relates to Exploration Results for the Makuutu Project is based on information compiled by Mr. Geoff Chapman, who is a Fellow of the Australian Institute of Mining and Metallurgy (AusIMM). Mr. Chapman is a Director of geological consultancy GJ Exploration Pty Ltd that is engaged by Ionic Rare Earths Ltd. Mr. Chapman has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). Mr. Chapman consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Information in this report that relates to previously reported Exploration Targets and Exploration Results has been crossed-referenced in this report to the date that it was originally reported to ASX. Ionic Rare Earths Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcements.

The information in this report that relates to Mineral Resources for the Makuutu Rare Earths deposit was first released to the ASX on 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.

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Appendix 1: Diamond Core Drilling Analytical Results RRMDD151 to RRMDD173 Including Highlighted Intersections >300 ppm TREO-Ce_2O_3 (Note: Rounding will cause minor value differences)

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
RRMDD151	0.0	1.0	1.0	85.7	131.2	18.0	68.1	13.5	2.0	11.2	1.7	11.1	2.1	6.6	0.9	1.7	1.0	62.0	417	Soil		
RRMDD151	1.0	2.0	1.0	88.0	130.6	18.6	68.6	13.6	2.1	11.0	1.7	11.6	2.2	7.1	1.0	1.7	1.0	62.5	421	Soil		
RRMDD151	2.0	2.5	0.6	86.0	176.9	17.4	65.0	11.9	1.8	10.2	1.6	10.2	2.0	6.2	1.0	1.6	1.0	54.4	447	Soil		
RRMDD151	2.5	3.5	1.0	60.3	235.4	11.3	40.1	8.0	1.1	5.6	1.0	5.8	1.2	3.9	0.6	0.9	0.6	31.0	407	Hardcap		
RRMDD151	3.5	4.4	0.9	58.3	119.5	11.6	42.3	7.9	1.2	6.4	1.0	6.0	1.2	3.6	0.5	1.0	0.5	31.4	292	Hardcap		
RRMDD151	4.4	5.3	0.9	72.4	203.2	15.6	56.6	10.8	1.9	9.1	1.5	9.3	1.8	5.6	0.9	1.5	0.8	46.9	438	Hardcap		
RRMDD151	5.3	6.3	1.0	82.0	213.8	17.8	63.6	11.9	2.0	9.9	1.6	10.2	1.9	6.2	0.9	1.6	1.0	47.4	472	Hardcap		
RRMDD151	6.3	7.4	1.1	86.3	174.5	21.9	89.3	18.2	3.5	16.5	2.5	15.1	2.9	8.4	1.2	2.5	1.0	81.4	525	Upper Saprolite		
RRMDD151	7.4	8.5	1.1	93.5	205.6	30.2	137.6	23.2	4.3	25.7	4.0	27.2	7.3	23.6	3.4	4.0	3.2	336.5	929	Upper Saprolite		
RRMDD151	8.5	9.4	0.9	95.5	209.7	22.3	86.2	15.3	2.8	11.7	1.7	9.6	2.0	5.8	0.8	1.7	0.8	90.8	557	Lower Saprolite	**3.1**	**679**
RRMDD151	9.4	10.3	0.9	71.1	155.8	16.9	66.0	11.9	2.4	8.8	1.3	7.5	1.5	4.3	0.6	1.3	0.6	47.5	397	Saprock		
RRMDD151	10.3	11.5	1.2	74.1	162.8	17.2	65.7	11.8	2.2	8.6	1.2	6.9	1.3	3.6	0.6	1.2	0.5	42.0	400	Saprock		
RRMDD152	0.0	1.0	1.0	106.0	171.0	23.8	88.6	17.0	2.8	15.6	2.3	14.5	2.9	8.8	1.4	2.3	1.2	86.2	544	Soil		
RRMDD152	1.0	2.1	1.0	116.3	184.5	24.6	96.2	17.9	2.8	15.6	2.5	15.3	3.0	8.9	1.3	2.4	1.4	90.2	583	Soil		
RRMDD152	2.1	2.9	0.8	79.0	181.0	15.6	55.5	10.4	1.6	8.5	1.4	8.7	1.7	5.0	0.8	1.4	0.8	47.4	419	Hardcap		
RRMDD152	2.9	3.8	0.9	61.5	132.9	11.8	44.0	8.3	1.2	6.5	1.1	6.7	1.3	4.3	0.7	1.1	0.7	36.4	318	Hardcap		
RRMDD152	3.8	4.6	0.8	158.9	429.9	27.5	91.4	16.2	2.7	12.9	2.2	13.0	2.6	7.7	1.2	2.1	1.2	62.7	832	Hardcap		
RRMDD152	4.6	5.5	0.9	380.0	648.9	65.8	191.9	24.9	3.6	17.2	2.7	16.0	3.0	9.2	1.4	2.7	1.4	76.3	1445	Hardcap		
RRMDD152	5.5	6.3	0.8	348.3	493.1	78.3	290.4	43.4	5.7	23.6	3.3	18.2	3.3	9.5	1.4	3.2	1.3	78.5	1402	Hardcap		
RRMDD152	6.3	7.1	0.8	254.5	486.1	57.3	214.0	35.9	5.4	22.5	3.3	18.8	3.4	9.7	1.4	3.3	1.3	88.5	1206	Transition		
RRMDD152	7.1	8.0	0.9	122.6	230.7	29.4	120.7	23.4	4.0	18.7	2.8	15.6	3.0	8.1	1.2	2.8	1.1	84.7	669	Clay		
RRMDD152	8.0	9.0	1.0	86.6	186.2	20.7	79.8	15.3	2.9	13.0	2.1	12.5	2.5	7.1	1.0	2.0	0.9	75.6	508	Clay		
RRMDD152	9.0	10.1	1.1	86.2	186.8	19.3	73.7	13.5	2.4	10.4	1.5	9.5	2.0	6.2	0.9	1.5	0.9	89.5	505	Upper Saprolite	**3.0**	**554**
RRMDD152	10.1	11.2	1.1	72.9	159.9	16.9	64.7	12.2	2.2	9.2	1.4	7.7	1.6	4.3	0.6	1.4	0.6	56.5	412	Lower Saprolite		
RRMDD152	11.2	12.0	0.8	67.9	148.8	15.9	60.5	10.7	2.0	7.8	1.2	6.9	1.4	4.0	0.6	1.1	0.6	45.8	375	Saprock		
RRMDD152	12.0	12.8	0.8	77.8	173.9	18.3	69.2	12.5	2.4	9.5	1.3	7.5	1.4	3.8	0.6	1.3	0.5	41.9	422	Saprock		
RRMDD153	0.0	0.9	0.9	119.0	193.3	21.9	72.0	12.4	1.8	9.1	1.5	8.9	1.8	5.1	0.8	1.5	0.8	51.7	501	Soil		
RRMDD153	0.9	1.8	0.9	121.4	181.6	20.2	66.7	10.8	1.6	7.9	1.3	7.6	1.5	4.6	0.7	1.3	0.7	40.6	468	Soil		
RRMDD153	1.8	2.8	1.1	116.3	364.3	22.6	77.8	13.6	2.0	9.5	1.5	9.2	1.8	5.5	0.8	1.5	0.8	49.0	676	Hardcap		
RRMDD153	2.8	3.9	1.1	122.0	456.8	25.4	92.3	15.8	2.4	11.8	1.8	10.8	2.0	6.0	0.9	1.7	0.9	58.2	809	Transition		
RRMDD153	3.9	5.0	1.1	137.8	242.5	32.2	118.4	20.4	3.3	13.6	2.0	11.6	2.1	5.3	0.8	2.0	0.8	60.2	653	Clay		
RRMDD153	5.0	6.1	1.1	84.6	164.6	19.6	75.9	13.2	2.5	10.6	1.6	8.8	1.7	4.7	0.7	1.5	0.6	49.8	440	Clay		
RRMDD153	6.1	7.1	1.0	81.4	179.8	19.2	77.7	14.7	2.7	11.2	1.6	10.2	2.3	6.8	1.1	1.6	1.0	83.4	495	Upper Saprolite	**3.2**	**530**
RRMDD153	7.1	8.1	1.0	73.1	158.7	17.4	64.7	12.0	2.5	10.1	1.5	8.5	1.8	5.7	0.9	1.4	0.9	76.6	436	Upper Saprolite		
RRMDD153	8.1	9.1	1.0	73.1	159.9	17.2	63.5	12.2	2.3	9.8	1.5	8.9	1.7	4.8	0.7	1.4	0.7	57.5	415	Upper Saprolite		
RRMDD153	9.1	10.1	1.0	81.5	182.7	19.4	70.5	13.5	2.5	10.6	1.5	8.6	1.5	4.4	0.6	1.5	0.6	48.1	447	Lower Saprolite		
RRMDD153	10.1	11.0	0.9	94.3	208.5	21.3	77.1	14.1	2.7	11.0	1.5	8.8	1.7	4.7	0.7	1.5	0.6	50.5	499	Lower Saprolite		
RRMDD153	11.0	11.9	0.9	87.4	196.8	19.7	72.3	13.7	2.6	11.3	1.6	8.9	1.6	4.4	0.6	1.6	0.6	48.8	472	Lower Saprolite		
RRMDD153	11.9	12.8	0.9	91.4	200.9	20.7	76.6	14.4	2.5	10.7	1.5	8.6	1.5	4.1	0.6	1.5	0.6	44.7	480	Lower Saprolite		
RRMDD153	12.8	13.7	0.9	74.8	165.2	17.6	67.1	12.8	2.6	10.8	1.6	8.8	1.6	4.6	0.7	1.5	0.7	48.6	419	Lower Saprolite		
RRMDD153	13.7	14.6	0.9	75.3	162.2	17.6	64.7	12.6	2.5	9.9	1.4	7.9	1.4	3.9	0.6	1.4	0.6	44.3	406	Lower Saprolite		

																					>300ppm TREO-Ce_2O_3 Interval	
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	Length (m)	TREO ppm
RRMDD153	14.6	15.5	0.9	82.2	178.6	19.0	68.7	12.9	2.5	10.3	1.5	8.4	1.5	4.0	0.5	1.5	0.6	43.6	436	Lower Saprolite		
RRMDD153	15.5	16.4	0.9	88.5	200.9	20.3	74.6	14.0	2.5	11.1	1.6	9.9	1.8	5.0	0.7	1.6	0.7	56.3	490	Saprock		
RRMDD153	16.4	17.4	1.0	75.4	166.3	17.0	63.3	12.1	2.2	8.9	1.3	7.9	1.5	4.2	0.6	1.3	0.6	44.7	407	Saprock		
RRMDD153	17.4	18.5	1.1	81.3	188.6	19.0	69.2	12.6	2.4	10.1	1.4	8.1	1.4	3.6	0.5	1.4	0.5	41.4	442	Saprock		
RRMDD154	0.0	0.7	0.7	109.7	186.8	23.6	90.6	16.9	2.6	14.2	2.2	14.0	2.7	8.6	1.3	2.2	1.2	82.7	559	Soil		
RRMDD154	0.7	1.4	0.7	95.0	193.9	20.5	76.3	14.9	2.2	11.9	1.9	12.4	2.4	7.7	1.2	1.9	1.2	69.5	513	Soil		
RRMDD154	1.4	2.2	0.8	77.1	238.9	15.6	56.5	9.7	1.6	7.6	1.2	8.3	1.6	5.0	0.8	1.2	0.8	40.5	466	Hardcap		
RRMDD154	2.2	3.0	0.8	84.6	342.0	16.5	61.0	11.4	1.6	8.0	1.4	8.4	1.7	5.3	0.8	1.3	0.8	46.6	591	Hardcap		
RRMDD154	3.0	3.9	0.9	85.8	237.8	17.7	64.4	11.8	1.8	8.8	1.4	8.5	1.6	5.1	0.7	1.4	0.8	49.0	497	Hardcap		
RRMDD154	3.9	4.8	0.9	83.7	219.0	18.7	71.9	12.9	2.0	10.1	1.6	9.5	1.8	5.7	0.8	1.5	0.8	51.6	492	Hardcap		
RRMDD154	4.8	5.7	0.9	94.3	237.8	20.8	80.8	14.8	2.3	11.3	1.8	11.0	2.1	6.2	1.0	1.8	0.9	58.4	545	Hardcap		
RRMDD154	5.7	6.6	0.9	86.9	220.2	19.9	78.0	14.3	2.4	11.1	1.8	11.1	2.1	6.4	1.1	1.8	1.0	57.1	515	Hardcap		
RRMDD154	6.6	7.4	0.8	116.3	344.4	23.8	88.9	16.1	2.8	13.7	2.1	13.0	2.5	8.0	1.1	2.1	1.1	70.1	706	Transition		
RRMDD154	7.4	8.4	1.0	183.5	213.8	38.3	136.5	22.2	3.6	15.6	2.4	13.5	2.7	7.7	1.1	2.3	1.1	82.9	727	Clay		
RRMDD154	8.4	9.4	1.0	124.3	210.8	32.9	128.3	22.6	4.0	16.8	2.5	14.1	2.7	7.7	1.1	2.5	1.0	85.5	657	Clay		
RRMDD154	9.4	10.4	1.0	103.2	186.8	28.0	112.8	20.4	3.7	16.0	2.4	13.4	2.6	7.1	1.0	2.4	1.0	81.8	582	Clay		
RRMDD154	10.4	11.5	1.1	107.4	203.8	28.1	114.1	20.5	3.8	16.5	2.5	13.8	2.7	7.2	1.0	2.5	0.9	79.2	604	Clay		
RRMDD154	11.5	12.3	0.9	110.0	223.7	26.2	105.8	19.0	3.4	14.8	2.2	12.8	2.5	6.8	0.9	2.2	0.8	73.0	604	Upper Saprolite		
RRMDD154	12.3	13.2	0.9	79.6	172.8	18.4	71.7	12.9	2.5	10.2	1.5	9.1	1.9	5.7	0.8	1.5	0.8	61.2	451	Upper Saprolite		
RRMDD154	13.2	14.1	0.9	91.8	199.7	21.7	84.2	14.8	2.9	11.6	1.7	10.8	2.3	7.1	1.1	1.7	1.0	84.6	537	Upper Saprolite		
RRMDD154	14.1	15.1	1.0	100.9	217.9	23.2	89.1	15.9	2.8	12.3	1.8	10.9	2.4	7.7	1.2	1.8	1.2	109.0	598	Upper Saprolite	**7.7**	**598**
RRMDD154	15.1	16.0	0.9	84.9	192.1	20.3	76.2	13.5	2.5	10.1	1.5	8.3	1.6	4.5	0.7	1.4	0.6	50.7	469	Lower Saprolite		
RRMDD154	16.0	17.0	1.0	62.3	139.4	15.1	58.2	10.7	2.2	8.2	1.2	7.5	1.5	4.0	0.6	1.2	0.6	45.0	358	Lower Saprolite		
RRMDD154	17.0	18.0	1.0	65.7	143.5	15.6	60.1	11.4	2.2	8.6	1.3	6.9	1.4	4.2	0.6	1.3	0.6	45.0	368	Lower Saprolite		
RRMDD154	18.0	19.0	1.0	80.2	167.5	18.8	73.8	13.3	2.6	9.6	1.4	7.9	1.5	4.4	0.7	1.4	0.7	50.8	435	Lower Saprolite		
RRMDD154	19.0	19.9	0.9	64.4	140.0	15.5	59.3	10.9	2.1	8.1	1.2	6.9	1.3	3.7	0.5	1.2	0.5	39.0	355	Saprock		
RRMDD154	19.9	20.7	0.8	66.3	137.6	15.0	58.9	10.3	2.0	7.8	1.1	6.9	1.4	4.2	0.6	1.1	0.6	45.2	359	Saprock		
RRMDD155	0.0	0.9	0.9	127.2	233.1	23.0	80.4	13.2	2.0	9.8	1.4	9.2	1.7	5.4	0.8	1.4	0.8	51.4	561	Soil		
RRMDD155	0.9	1.7	0.9	140.7	271.7	25.4	89.8	15.4	2.2	10.7	1.6	9.4	1.8	5.6	0.9	1.6	0.9	55.2	633	Soil		
RRMDD155	1.7	2.6	0.0	157.7	351.4	29.3	98.9	15.2	2.1	8.9	1.4	8.2	1.5	4.4	0.7	1.4	0.7	38.1	720	Hardcap		
RRMDD155	2.6	3.6	0.9	211.7	284.6	41.2	134.1	21.2	3.1	12.4	1.7	10.0	1.9	4.9	0.8	1.7	0.8	43.4	774	Hardcap		
RRMDD155	3.6	4.5	1.0	146.0	208.5	27.4	88.6	15.5	2.5	10.9	1.7	10.5	2.1	5.8	0.9	1.7	0.9	53.3	576	Hardcap		
RRMDD155	4.5	5.4	0.9	119.6	326.8	23.6	82.8	14.7	2.5	11.6	1.7	10.7	2.2	6.2	0.9	1.7	1.0	62.9	669	Hardcap		
RRMDD155	5.4	6.3	0.9	116.0	173.9	23.6	83.9	15.1	2.5	11.0	1.6	9.3	1.8	5.0	0.8	1.6	0.8	55.0	502	Clay		
RRMDD155	6.3	7.3	1.0	114.9	177.5	25.5	90.3	16.5	2.9	12.7	1.9	10.2	1.9	5.3	0.8	1.8	0.7	59.2	522	Clay		
RRMDD155	7.3	8.2	0.9	91.7	167.5	21.4	75.6	14.3	2.5	11.6	1.6	9.5	1.7	5.1	0.7	1.6	0.7	52.4	458	Clay		
RRMDD155	8.2	9.2	1.0	97.6	186.8	22.5	84.7	15.8	2.6	12.9	1.9	11.1	2.0	5.9	0.8	1.9	0.8	65.8	513	Clay		
RRMDD155	9.2	10.1	0.9	100.7	217.3	24.6	91.3	18.0	3.2	15.0	2.2	13.6	2.5	7.0	1.0	2.2	0.9	79.0	579	Clay	**4.7**	**515**
RRMDD155	10.1	11.1	1.0	80.7	172.2	19.3	71.3	14.2	2.5	11.8	1.7	10.4	2.0	5.8	0.9	1.7	0.8	66.2	461	Clay		
RRMDD155	11.1	12.1	1.0	86.9	198.5	20.7	76.2	15.0	2.8	12.5	1.8	10.6	2.0	5.7	0.8	1.8	0.8	62.0	498	Upper Saprolite		
RRMDD155	12.1	13.2	1.1	75.5	165.7	18.0	67.0	12.9	2.6	11.0	1.6	9.2	1.8	5.0	0.7	1.6	0.8	58.7	432	Upper Saprolite		
RRMDD155	13.2	14.2	1.1	79.4	167.5	18.9	70.2	13.4	2.6	10.6	1.5	9.1	1.7	5.0	0.7	1.5	0.8	59.4	442	Upper Saprolite		
RRMDD155	14.2	15.3	1.1	69.5	150.5	16.6	61.7	12.1	2.5	10.2	1.5	8.6	1.6	4.5	0.7	1.5	0.6	50.7	393	Upper Saprolite		
RRMDD155	15.3	16.3	1.0	73.3	157.5	17.1	65.4	12.9	2.5	10.9	1.6	9.3	1.8	4.9	0.8	1.6	0.7	58.3	419	Lower Saprolite		
RRMDD155	16.3	17.3	1.0	83.2	178.0	19.4	71.5	13.3	2.4	10.6	1.5	9.0	1.6	4.7	0.7	1.5	0.7	51.9	450	Lower Saprolite		
RRMDD155	17.3	18.3	1.0	70.3	151.1	16.6	61.5	11.7	2.2	10.0	1.5	8.4	1.5	4.2	0.6	1.5	0.6	46.1	388	Lower Saprolite		

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
RRMDD155	18.3	19.3	1.0	86.2	180.4	19.3	71.4	13.5	2.4	10.7	1.5	8.9	1.7	4.7	0.7	1.5	0.7	52.2	456	Lower Saprolite		
RRMDD155	19.3	20.3	1.0	85.1	181.0	19.4	71.6	13.5	2.4	10.7	1.5	8.7	1.5	4.3	0.6	1.4	0.6	46.1	448	Lower Saprolite		
RRMDD155	20.3	21.2	0.9	96.1	207.9	21.6	78.1	14.2	2.4	11.0	1.5	8.7	1.6	4.4	0.7	1.5	0.6	49.3	500	Lower Saprolite		
RRMDD155	21.2	22.6	1.3	86.4	192.7	19.6	71.4	13.1	2.2	10.2	1.4	7.8	1.4	3.6	0.5	1.4	0.5	41.7	454	Saprock		
RRMDD155	22.6	23.0	0.4	80.6	165.2	18.7	65.9	12.6	2.3	9.6	1.3	8.7	1.7	4.9	0.6	1.3	0.7	50.4	425	Saprock		
RRMDD155	23.0	24.0	1.0	69.0	138.8	15.6	55.3	9.7	2.0	8.9	1.2	7.4	1.5	4.3	0.6	1.2	0.6	43.2	359	Saprock		
RRMDD156	0.0	0.9	0.9	80.1	178.0	15.5	53.1	10.4	1.6	8.7	1.4	8.6	1.8	5.0	0.8	1.4	0.8	50.4	418	Soil		
RRMDD156	0.9	1.7	0.9	72.4	197.4	13.2	44.6	8.7	1.4	7.2	1.2	7.1	1.5	4.3	0.7	1.1	0.7	39.5	401	Soil		
RRMDD156	1.7	2.6	0.9	96.8	377.2	15.2	47.8	8.8	1.4	6.4	1.0	6.2	1.2	3.6	0.6	1.0	0.6	31.9	600	Hardcap		
RRMDD156	2.6	3.5	0.9	102.3	295.2	17.2	54.2	10.2	1.6	7.3	1.2	6.9	1.4	4.0	0.6	1.2	0.6	35.3	539	Hardcap		
RRMDD156	3.5	4.4	0.9	91.2	237.8	18.3	61.9	11.4	1.8	8.2	1.3	7.7	1.5	4.4	0.7	1.3	0.7	40.1	488	Hardcap		
RRMDD156	4.4	5.3	0.9	107.7	476.7	22.8	80.8	14.7	2.2	10.9	1.6	9.5	1.9	5.4	0.9	1.6	0.8	52.2	790	Hardcap		
RRMDD156	5.3	5.7	0.4	106.1	251.8	22.3	76.2	14.0	2.1	10.4	1.5	10.1	1.9	5.8	0.8	1.5	0.8	56.8	562	Transition		
RRMDD156	5.7	6.6	0.9	156.0	218.4	38.2	134.7	23.0	3.8	16.5	2.3	13.0	2.4	6.6	0.9	2.3	0.9	64.9	684	Clay		
RRMDD156	6.6	7.5	0.9	122.0	211.4	31.5	117.8	24.0	4.7	20.7	3.0	17.0	3.1	8.3	1.1	3.0	1.0	86.4	655	Clay		
RRMDD156	7.5	8.4	0.9	99.6	200.3	24.2	92.3	18.4	3.6	16.5	2.5	15.1	3.0	8.4	1.1	2.5	1.0	82.0	571	Clay		
RRMDD156	8.4	9.3	0.9	88.3	192.7	22.2	82.2	15.4	3.2	14.7	2.2	13.3	2.9	8.6	1.2	2.1	1.1	96.1	546	Clay		
RRMDD156	9.3	10.2	0.9	90.9	205.6	22.8	83.6	15.7	3.2	13.8	2.0	12.7	3.0	9.1	1.3	2.0	1.3	121.1	588	Clay		
RRMDD156	10.2	11.0	0.8	101.7	229.6	24.0	87.2	15.7	3.0	13.0	1.9	11.4	2.6	8.0	1.2	1.9	1.1	127.0	629	Clay		
RRMDD156	11.0	11.9	0.9	86.0	190.3	19.9	71.7	13.3	2.5	10.1	1.5	8.5	1.7	5.1	0.7	1.5	0.7	56.9	471	Clay		
RRMDD156	11.9	12.7	0.8	92.5	221.4	21.7	77.8	15.0	2.9	11.8	1.7	9.6	1.8	5.1	0.7	1.7	0.7	55.5	520	Upper Saprolite		
RRMDD156	12.7	13.5	0.8	109.4	261.2	25.2	88.5	16.4	2.8	11.9	1.7	9.3	1.7	4.9	0.7	1.7	0.7	55.0	591	Upper Saprolite		
RRMDD156	13.5	14.4	0.8	96.9	235.4	23.0	81.5	15.3	2.7	11.8	1.7	9.9	2.0	5.8	0.8	1.7	0.7	59.7	549	Upper Saprolite		
RRMDD156	14.4	15.2	0.9	105.6	244.8	24.2	85.3	15.2	2.7	11.2	1.6	9.1	1.7	5.1	0.7	1.6	0.7	53.2	563	Lower Saprolite	9.5	579
RRMDD156	15.2	16.0	0.8	90.5	188.6	19.8	72.0	13.7	2.5	10.7	1.5	8.3	1.4	4.2	0.5	1.5	0.5	43.0	459	Lower Saprolite		
RRMDD156	16.0	17.2	1.2	92.7	192.7	21.1	72.7	13.9	2.4	10.0	1.4	8.0	1.5	4.6	0.5	1.4	0.6	44.7	468	Saprock		
RRMDD157	0.0	0.9	0.9	121.4	212.6	23.1	77.1	13.4	2.1	9.9	1.5	8.9	1.8	5.2	0.8	1.5	0.8	48.3	528	Soil		
RRMDD157	0.9	1.7	0.9	121.4	189.8	22.5	72.9	12.4	2.0	8.9	1.3	8.2	1.6	4.5	0.7	1.3	0.7	41.3	490	Soil		
RRMDD157	1.7	2.3	0.6	121.4	233.1	22.8	74.5	13.3	2.3	9.5	1.4	8.5	1.7	4.8	0.7	1.4	0.8	42.2	538	Hardcap		
RRMDD157	2.3	2.9	0.6	115.3	265.9	21.7	74.6	13.2	2.2	9.7	1.4	8.8	1.7	5.0	0.8	1.4	0.8	45.6	568	Hardcap		
RRMDD157	2.9	3.3	0.4	127.8	224.9	24.9	87.1	15.2	2.5	11.3	1.7	9.5	1.9	5.2	0.8	1.6	0.8	52.1	567	Transition		
RRMDD157	3.3	4.0	0.8	147.2	226.1	28.6	93.5	16.0	2.8	11.6	1.7	9.4	1.8	5.1	0.8	1.6	0.7	52.2	599	Clay		
RRMDD157	4.0	4.8	0.8	134.3	214.9	30.5	104.3	18.4	3.0	12.8	1.8	10.1	2.0	5.2	0.8	1.8	0.8	54.9	596	Clay		
RRMDD157	4.8	5.6	0.8	111.5	207.9	27.9	99.6	18.5	3.0	13.8	1.9	11.1	2.1	5.7	0.8	1.9	0.8	60.2	567	Clay		
RRMDD157	5.6	6.2	0.7	105.1	225.5	27.2	101.2	20.9	3.7	18.4	2.7	15.8	3.0	7.5	1.0	2.7	0.8	82.7	618	Pallid		
RRMDD157	6.2	6.9	0.7	91.5	195.6	23.5	89.7	18.4	3.0	14.3	2.0	12.3	2.4	6.4	0.9	2.0	0.8	71.7	535	Pallid		
RRMDD157	6.9	7.8	0.9	79.4	170.4	19.8	71.7	14.3	2.5	11.5	1.6	9.6	1.9	5.4	0.8	1.6	0.7	60.6	452	Clay		
RRMDD157	7.8	8.7	0.9	76.8	166.9	18.5	66.1	12.6	2.3	9.8	1.4	8.8	1.8	4.9	0.7	1.4	0.7	56.0	429	Clay		
RRMDD157	8.7	9.7	1.0	94.3	209.7	22.4	79.8	15.1	2.7	11.5	1.6	9.8	2.1	5.6	0.8	1.6	0.8	69.3	527	Clay		
RRMDD157	9.7	10.8	1.1	94.3	206.1	22.2	79.7	15.7	2.8	11.6	1.7	9.6	1.9	5.0	0.7	1.6	0.7	60.2	514	Clay	7.5	531
RRMDD157	10.8	11.6	0.8	91.1	192.1	20.2	71.2	12.8	2.5	10.3	1.5	8.8	1.7	5.1	0.7	1.5	0.7	51.3	472	Upper Saprolite		
RRMDD157	11.6	12.4	0.8	72.0	155.2	17.2	63.6	11.9	2.4	9.5	1.4	8.1	1.6	4.5	0.7	1.4	0.6	50.2	400	Upper Saprolite		
RRMDD157	12.4	13.3	0.9	79.6	174.5	18.8	67.0	12.5	2.4	9.7	1.4	7.9	1.6	4.4	0.6	1.4	0.6	48.9	431	Upper Saprolite		
RRMDD157	13.3	14.1	0.8	76.6	166.3	18.0	67.9	13.7	2.5	9.7	1.5	8.1	1.7	4.7	0.7	1.5	0.6	50.4	424	Upper Saprolite		
RRMDD157	14.1	15.0	0.9	64.4	139.4	15.6	57.0	11.3	2.2	8.2	1.2	6.7	1.3	3.7	0.6	1.2	0.5	38.9	352	Lower Saprolite		
RRMDD157	15.0	15.8	0.8	70.8	153.4	16.9	61.8	12.0	2.3	8.9	1.3	7.2	1.4	3.9	0.6	1.3	0.6	44.4	387	Lower Saprolite		

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
RRMDD157	15.8	16.7	0.9	79.9	173.4	19.0	69.4	13.3	2.5	9.9	1.4	7.9	1.5	4.0	0.6	1.4	0.6	45.0	430	Lower Saprolite		
RRMDD157	16.7	17.5	0.8	74.6	165.7	17.8	64.3	12.4	2.2	9.4	1.3	7.7	1.5	4.2	0.6	1.3	0.6	45.8	410	Lower Saprolite		
RRMDD157	17.5	18.4	0.9	72.9	162.2	17.7	63.2	11.9	2.2	9.1	1.3	7.6	1.5	4.3	0.7	1.3	0.6	44.3	401	Saprock		
RRMDD157	18.4	19.2	0.8	76.3	165.7	18.1	65.3	12.9	2.4	9.8	1.4	8.0	1.5	4.2	0.6	1.4	0.5	43.8	412	Saprock		
RRMDD157	19.2	20.1	0.8	60.5	131.2	14.2	52.3	10.3	1.9	7.8	1.2	6.2	1.2	3.5	0.5	1.2	0.5	36.7	329	Saprock		
RRMDD157	20.1	20.7	0.7	76.1	173.9	18.3	66.0	12.3	2.2	9.1	1.3	7.1	1.3	3.5	0.5	1.3	0.5	39.4	413	Fresh Rock		
RRMDD157	20.7	21.4	0.7	59.3	133.5	14.1	52.3	10.3	1.9	7.7	1.2	6.6	1.3	3.7	0.5	1.2	0.5	38.5	333	Fresh Rock		
RRMDD158	0.0	1.0	1.0	95.7	357.2	19.5	68.0	12.6	2.1	10.5	1.6	9.6	2.0	5.5	0.9	1.6	0.9	56.0	644	Soil		
RRMDD158	1.0	2.0	1.0	90.8	374.8	18.2	63.9	11.8	1.9	9.7	1.5	8.9	1.8	5.3	0.8	1.5	0.8	51.4	643	Soil		
RRMDD158	2.0	2.8	0.9	92.5	808.2	18.6	63.2	11.9	1.9	9.0	1.4	8.4	1.6	4.7	0.7	1.4	0.8	41.7	1066	Hardcap		
RRMDD158	2.8	3.6	0.8	158.9	469.7	32.2	111.2	19.9	3.2	15.0	2.3	13.3	2.5	7.2	1.1	2.3	1.0	66.9	907	Hardcap		
RRMDD158	3.6	4.0	0.4	156.0	199.1	34.8	124.2	21.8	3.5	15.8	2.2	12.5	2.4	6.4	1.0	2.2	0.9	63.6	646	Transition		
RRMDD158	4.0	4.8	0.8	139.0	176.3	33.1	120.7	21.2	3.3	14.2	2.1	11.1	2.1	5.3	0.8	2.1	0.8	56.0	588	Clay		
RRMDD158	4.8	5.6	0.8	108.0	206.7	29.3	108.4	22.2	3.9	18.0	2.8	16.0	3.0	7.9	1.1	2.7	1.1	80.4	611	Clay		
RRMDD158	5.6	6.6	1.0	106.0	206.7	27.2	110.2	23.9	4.2	20.9	3.3	18.6	3.6	9.6	1.3	3.2	1.2	101.8	642	Clay		
RRMDD158	6.6	7.4	0.7	69.3	144.7	17.3	67.3	13.6	2.4	11.7	1.9	11.8	2.7	7.9	1.2	1.9	1.1	88.6	443	Clay		
RRMDD158	7.4	8.2	0.9	99.1	215.5	24.8	98.1	18.9	3.3	17.2	2.6	16.9	4.3	13.3	2.0	2.6	1.9	190.5	711	Clay		
RRMDD158	8.2	9.1	0.9	90.2	191.5	20.9	79.0	14.7	2.6	11.2	1.7	10.1	2.3	6.9	1.0	1.7	1.0	123.8	559	Clay		
RRMDD158	9.1	10.0	0.9	83.9	181.6	20.0	74.4	13.9	2.7	10.4	1.5	8.5	1.6	4.4	0.7	1.5	0.6	51.8	457	Upper Saprolite		
RRMDD158	10.0	10.5	0.6	86.8	198.5	20.6	73.9	14.3	2.5	10.2	1.5	8.4	1.6	4.8	0.7	1.4	0.7	52.3	478	Upper Saprolite		
RRMDD158	10.5	11.1	0.6	113.4	276.4	26.4	94.5	17.3	2.8	12.6	1.9	10.4	2.0	5.3	0.7	1.9	0.7	56.6	623	Lower Saprolite	**7.1**	**573**
RRMDD158	11.1	11.7	0.6	89.6	192.7	20.6	75.1	13.8	2.0	9.1	1.3	7.4	1.5	4.1	0.6	1.3	0.6	44.3	464	Lower Saprolite		
RRMDD158	11.7	12.3	0.6	114.6	269.4	26.3	94.4	17.2	2.8	12.7	1.8	10.0	1.8	5.0	0.7	1.8	0.7	54.9	614	Saprock		
RRMDD158	12.3	13.4	1.1	76.6	172.2	17.5	63.6	12.5	2.2	9.3	1.3	7.3	1.5	3.9	0.6	1.3	0.6	43.4	414	Saprock		
RRMDD158	13.4	14.5	1.1	80.2	178.0	18.3	67.2	12.8	2.2	9.6	1.4	7.6	1.4	3.9	0.6	1.4	0.5	42.8	428	Saprock		
RRMDD159	0.0	1.0	1.0	130.2	254.2	24.2	80.5	13.2	2.0	9.2	1.5	8.6	1.6	4.8	0.8	1.5	0.8	46.1	579	Hardcap		
RRMDD159	1.0	2.0	1.0	126.7	257.7	23.1	77.8	13.2	2.1	9.9	1.5	8.8	1.7	4.8	0.8	1.4	0.7	44.2	574	Hardcap		
RRMDD159	2.0	3.0	1.0	103.4	209.1	20.5	68.2	12.1	2.0	9.4	1.4	8.6	1.7	4.6	0.7	1.4	0.8	43.7	488	Hardcap		
RRMDD159	3.0	3.8	0.8	145.4	270.6	34.5	119.0	20.6	3.3	15.1	2.0	11.2	2.1	5.6	0.8	2.0	0.8	59.4	693	Clay		
RRMDD159	3.8	4.5	0.8	103.9	201.5	25.2	93.9	17.8	3.0	13.4	2.1	11.7	2.1	5.8	0.8	2.1	0.8	58.9	543	Clay		
RRMDD159	4.5	5.4	0.9	103.0	222.0	24.3	92.5	18.2	3.3	14.1	2.2	12.7	2.5	6.7	0.9	2.1	0.8	75.4	581	Clay		
RRMDD159	5.4	6.3	0.9	97.9	208.5	22.0	81.6	15.2	2.7	11.8	1.8	9.7	1.9	5.3	0.8	1.8	0.8	61.2	523	Clay	**3.3**	**582**
RRMDD159	6.3	7.2	0.9	84.2	184.5	19.8	72.4	14.3	2.5	11.0	1.7	9.3	1.9	5.4	0.8	1.7	0.8	58.8	469	Clay		
RRMDD159	7.2	8.0	0.8	80.9	178.0	18.9	68.5	13.2	2.3	10.4	1.5	8.9	1.8	5.0	0.7	1.5	0.7	58.4	451	Clay		
RRMDD159	8.0	8.9	0.9	71.5	156.4	16.3	61.5	12.0	2.2	9.3	1.4	7.6	1.5	4.3	0.7	1.3	0.7	49.8	396	Clay		
RRMDD159	8.9	9.7	0.8	75.6	166.9	17.2	65.0	12.5	2.4	10.5	1.6	9.4	2.0	5.6	0.8	1.6	0.8	62.2	434	Upper Saprolite		
RRMDD159	9.7	10.5	0.8	60.5	133.5	14.0	52.0	10.4	1.9	8.0	1.2	7.1	1.4	4.0	0.6	1.2	0.6	41.9	338	Upper Saprolite		
RRMDD159	10.5	11.3	0.8	78.0	171.0	17.8	66.4	12.6	2.3	9.8	1.4	8.2	1.6	4.4	0.6	1.4	0.6	44.6	421	Upper Saprolite		
RRMDD159	11.3	12.3	1.0	70.3	157.0	16.3	60.8	11.7	2.2	9.3	1.3	7.7	1.5	4.0	0.6	1.3	0.6	43.8	388	Lower Saprolite		
RRMDD159	12.3	13.3	1.0	83.0	181.0	18.5	70.3	13.3	2.5	10.7	1.5	8.9	1.7	4.7	0.7	1.5	0.6	49.3	448	Lower Saprolite		
RRMDD159	13.3	14.4	1.1	76.2	166.3	17.5	65.3	12.5	2.2	9.5	1.4	8.1	1.7	4.6	0.7	1.4	0.6	48.3	416	Lower Saprolite		
RRMDD159	14.4	15.2	0.8	68.1	146.4	15.9	59.0	11.7	2.1	9.0	1.3	7.6	1.5	4.1	0.6	1.3	0.5	40.8	370	Saprock		
RRMDD159	15.2	16.0	0.8	61.8	134.1	14.3	53.8	10.2	2.1	8.3	1.2	7.1	1.4	3.8	0.6	1.2	0.5	38.7	339	Saprock		
RRMDD159	16.0	16.7	0.7	72.2	158.1	17.0	63.5	12.2	2.3	9.5	1.4	7.8	1.5	4.2	0.6	1.4	0.6	45.3	398	Saprock		
RRMDD160	0.0	0.7	0.7	100.9	165.7	20.4	71.5	13.0	2.2	11.8	1.8	10.9	2.2	6.1	1.0	1.8	0.9	64.8	475	Soil		
RRMDD160	0.7	1.3	0.7	77.6	145.8	14.9	51.3	9.6	1.7	8.7	1.3	8.0	1.6	4.8	0.7	1.3	0.7	46.2	374	Soil		

Hole ID	From	To	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
RRMDD160	1.3	2.3	1.0	69.2	200.9	13.2	45.4	8.6	1.4	7.2	1.1	7.1	1.4	4.3	0.7	1.1	0.7	39.4	401	Hardcap		
RRMDD160	2.3	3.2	0.9	68.3	347.9	12.1	39.5	7.6	1.3	6.0	1.0	5.8	1.2	3.6	0.6	1.0	0.6	33.0	530	Hardcap		
RRMDD160	3.2	4.2	1.0	115.1	592.7	19.1	62.8	11.3	1.7	8.7	1.3	8.3	1.6	4.6	0.7	1.3	0.7	44.3	874	Hardcap		
RRMDD160	4.2	5.1	0.9	133.1	448.6	26.2	89.6	16.6	2.8	12.0	1.9	11.1	2.1	6.0	0.9	1.9	0.9	50.4	804	Transition		
RRMDD160	5.1	5.8	0.7	127.2	255.3	34.1	132.4	24.7	4.1	18.3	2.7	15.0	2.7	7.0	1.0	2.7	0.9	74.8	703	Clay		
RRMDD160	5.8	6.7	0.9	96.3	209.7	25.0	99.8	19.7	3.6	16.6	2.4	14.6	2.7	7.5	1.0	2.4	1.0	80.4	583	Clay		
RRMDD160	6.7	7.6	0.9	95.1	206.7	21.7	82.3	15.3	2.7	12.4	1.9	11.9	2.5	6.9	1.1	1.9	1.0	81.8	545	Clay		
RRMDD160	7.6	8.6	1.0	96.5	196.8	22.5	85.4	15.1	2.6	12.5	1.8	11.0	2.5	7.2	1.1	1.8	1.1	85.2	543	Clay		
RRMDD160	8.6	9.4	0.8	114.3	270.6	32.4	140.6	25.4	4.7	27.3	4.3	28.8	7.4	22.8	3.4	4.2	3.4	322.6	1012	Clay		
RRMDD160	9.4	10.2	0.8	112.1	257.7	31.0	129.5	23.2	4.2	23.2	3.7	24.0	6.2	19.0	2.9	3.6	2.8	275.6	919	Clay		
RRMDD160	10.2	11.1	0.9	84.7	197.4	23.8	98.4	17.0	3.4	19.2	3.0	19.3	5.0	16.4	2.5	3.0	2.3	252.7	748	Upper Saprolite		
RRMDD160	11.1	11.8	0.7	80.0	178.0	20.9	82.1	13.6	2.8	15.3	2.3	14.9	4.1	13.6	2.0	2.3	1.9	231.8	666	Upper Saprolite		
RRMDD160	11.8	12.5	0.7	104.4	242.5	25.3	100.1	17.2	3.2	15.8	2.3	15.1	3.8	11.5	1.7	2.2	1.7	230.5	777	Upper Saprolite		
RRMDD160	12.5	13.3	0.8	96.1	227.2	23.2	86.4	15.9	3.1	14.5	2.1	12.3	2.9	8.7	1.3	2.1	1.2	204.5	701	Lower Saprolite		
RRMDD160	13.3	14.0	0.7	90.9	207.3	21.1	79.2	14.1	2.6	11.2	1.6	9.2	1.8	5.1	0.7	1.6	0.7	89.8	537	Lower Saprolite	**8.9**	**699**
RRMDD160	14.0	14.8	0.8	93.9	211.4	21.7	78.5	13.6	2.4	10.6	1.5	7.4	1.5	4.0	0.6	1.4	0.6	56.3	505	Saprock		
RRMDD161	0.0	0.3	0.3	109.9	241.3	24.2	87.8	16.9	2.8	14.7	2.3	14.0	2.9	8.2	1.2	2.2	1.2	86.6	616	Soil		
RRMDD161	0.3	1.1	0.8	68.3	183.3	12.6	41.4	7.6	1.3	5.8	1.0	6.0	1.2	3.8	0.6	1.0	0.6	33.3	368	Hardcap		
RRMDD161	1.1	2.2	1.1	77.9	420.5	18.4	66.3	12.4	2.2	9.5	1.6	9.4	1.8	5.5	0.8	1.5	0.8	50.3	679	Hardcap		
RRMDD161	2.2	3.4	1.2	197.0	503.7	34.9	106.0	16.5	2.8	12.7	2.0	12.0	2.3	7.2	1.1	2.0	1.1	63.7	965	Hardcap		
RRMDD161	3.4	4.0	0.6	216.4	325.6	44.2	148.1	22.8	3.7	16.4	2.4	14.2	2.8	8.3	1.2	2.4	1.2	81.7	891	Transition		
RRMDD161	4.0	4.8	0.9	210.5	292.8	43.9	145.8	22.9	3.6	16.1	2.5	14.9	2.9	8.1	1.1	2.5	1.1	78.4	847	Transition		
RRMDD161	4.8	5.6	0.8	139.6	220.2	36.7	135.3	23.9	4.0	16.8	2.5	14.6	2.7	7.2	1.1	2.5	0.9	71.7	680	Clay		
RRMDD161	5.6	6.5	0.9	69.3	130.0	19.5	79.3	15.7	3.0	13.1	1.9	12.0	2.3	6.4	0.9	1.9	0.8	61.6	418	Clay		
RRMDD161	6.5	7.4	0.9	88.8	186.8	21.3	82.2	17.0	3.3	15.6	2.3	14.6	2.9	7.5	1.0	2.3	0.9	77.1	524	Clay		
RRMDD161	7.4	8.3	0.9	97.3	215.5	23.0	89.2	18.7	3.5	17.3	2.6	16.3	3.5	9.7	1.2	2.6	1.0	95.6	597	Clay		
RRMDD161	8.3	8.9	0.6	67.7	149.9	15.9	57.6	10.9	2.3	9.8	1.5	9.4	2.1	6.2	0.9	1.5	0.9	61.6	398	Clay		
RRMDD161	8.9	9.6	0.7	76.9	170.4	17.3	64.3	12.2	2.2	9.6	1.3	8.4	1.8	5.6	0.9	1.3	0.8	62.7	436	Clay		
RRMDD161	9.6	10.4	0.9	100.3	241.3	22.8	84.2	15.8	2.7	12.7	1.9	11.3	2.5	7.4	1.2	1.9	1.2	88.9	596	Clay		
RRMDD161	10.4	11.3	0.9	100.9	236.6	23.5	86.3	15.9	3.1	13.9	2.1	12.4	2.7	8.6	1.3	2.0	1.4	128.3	639	Clay	**6.5**	**543**
RRMDD161	11.3	12.2	0.9	84.3	185.1	19.3	71.2	13.9	2.4	10.5	1.5	9.2	1.8	5.2	0.8	1.5	0.7	57.4	465	Upper Saprolite		
RRMDD161	12.2	13.1	0.9	84.1	188.0	19.5	71.0	13.2	2.5	10.3	1.5	8.4	1.6	4.7	0.7	1.5	0.7	50.0	458	Upper Saprolite		
RRMDD161	13.1	14.1	1.0	94.9	209.7	21.4	79.3	14.8	2.7	10.9	1.5	8.7	1.6	4.6	0.6	1.5	0.6	47.4	500	Lower Saprolite		
RRMDD161	14.1	15.0	0.9	78.0	172.2	17.7	65.3	12.4	2.2	9.2	1.3	7.3	1.5	3.9	0.6	1.3	0.5	42.7	416	Lower Saprolite		
RRMDD161	15.0	15.9	0.9	70.0	158.1	16.2	59.4	11.1	2.1	8.8	1.2	7.5	1.4	4.0	0.5	1.2	0.5	42.3	385	Saprock		
RRMDD161	15.9	16.9	1.0	80.5	186.8	18.4	68.1	12.5	2.2	9.8	1.4	8.0	1.5	4.3	0.6	1.4	0.6	45.1	441	Saprock		
RRMDD161	16.9	17.9	1.0	73.4	165.2	16.7	61.8	11.9	2.1	9.1	1.3	7.2	1.4	3.9	0.6	1.2	0.5	41.3	398	Saprock		
RRMDD161	17.9	18.8	1.0	73.7	164.6	17.0	63.2	12.2	2.2	9.5	1.3	7.9	1.5	4.1	0.6	1.3	0.6	41.7	401	Saprock		
RRMDD161	18.8	19.9	1.1	80.9	184.5	18.4	68.4	12.7	2.2	9.8	1.4	7.9	1.6	4.2	0.6	1.4	0.6	44.1	438	Saprock		
RRMDD161	19.9	20.8	0.9	91.5	212.6	20.9	78.3	14.5	2.5	10.9	1.5	8.5	1.6	4.2	0.6	1.5	0.6	44.6	494	Saprock		
RRMDD162	0.0	0.9	0.9	138.4	303.4	27.3	91.6	15.3	2.5	12.0	1.9	11.5	2.3	6.8	1.0	1.9	1.0	64.4	681	Soil		
RRMDD162	0.9	1.8	0.9	137.8	290.5	27.3	92.8	16.1	2.6	12.6	2.0	11.9	2.4	7.1	1.1	2.0	1.0	68.7	676	Hardcap		
RRMDD162	1.8	2.7	0.9	188.2	441.6	32.7	96.6	14.4	2.2	9.5	1.5	8.7	1.6	5.1	0.8	1.5	0.7	41.9	847	Hardcap		
RRMDD162	2.7	3.6	0.9	254.5	627.8	44.5	134.7	20.2	3.1	12.3	1.9	10.6	2.0	5.8	0.9	1.9	0.9	48.6	1170	Hardcap		
RRMDD162	3.6	4.6	0.9	139.6	678.2	29.1	100.2	16.8	2.7	11.8	1.9	10.2	2.0	6.1	0.9	1.8	0.9	54.0	1056	Hardcap		
RRMDD162	4.6	5.5	0.9	113.2	504.8	24.3	87.1	15.1	2.6	11.6	1.8	10.2	2.0	5.8	0.9	1.8	0.8	53.7	836	Hardcap		

Hole ID	From	To	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
RRMDD162	5.5	6.1	0.6	94.2	235.4	20.7	74.4	13.7	2.6	11.4	1.8	10.0	2.0	5.5	0.9	1.8	0.8	57.9	533	Transition		
RRMDD162	6.1	7.1	1.0	122.0	228.4	29.7	106.8	19.8	3.8	16.0	2.4	13.5	2.6	6.7	0.9	2.4	0.9	73.8	630	Clay		
RRMDD162	7.1	8.1	1.0	105.4	192.7	25.7	96.8	17.7	3.5	14.8	2.2	12.2	2.3	6.2	0.9	2.2	0.8	65.9	549	Clay		
RRMDD162	8.1	9.0	0.9	99.8	210.2	23.6	91.9	18.3	3.4	15.2	2.3	13.8	2.6	6.6	0.9	2.3	0.8	72.9	565	Clay		
RRMDD162	9.0	9.8	0.8	120.8	279.9	28.9	105.8	20.2	3.7	16.8	2.5	14.1	2.9	7.2	1.0	2.5	0.9	84.8	692	Clay		
RRMDD162	9.8	10.7	0.8	83.6	183.3	19.3	68.5	13.0	2.7	11.7	1.8	10.6	2.4	7.2	1.1	1.8	1.1	86.7	495	Clay		
RRMDD162	10.7	11.5	0.8	94.1	211.4	21.9	79.7	15.2	3.2	13.9	2.2	13.3	3.0	9.6	1.5	2.1	1.5	121.0	594	Clay		
RRMDD162	11.5	12.3	0.8	103.7	236.6	23.2	89.2	16.6	3.1	13.7	2.1	12.9	3.2	10.1	1.7	2.1	1.8	148.6	669	Clay		
RRMDD162	12.3	13.2	0.9	78.2	175.7	18.7	71.3	13.0	2.6	11.6	1.7	10.9	2.6	8.7	1.4	1.7	1.5	153.0	553	Upper Saprolite		
RRMDD162	13.2	14.0	0.8	72.2	158.7	16.6	62.2	12.2	2.3	8.9	1.3	8.6	1.8	5.5	0.8	1.3	0.8	67.9	421	Upper Saprolite		
RRMDD162	14.0	14.9	0.9	101.0	237.8	23.1	83.5	15.0	2.9	11.9	1.7	8.9	1.8	4.7	0.7	1.7	0.6	55.0	550	Lower Saprolite	8.8	573
RRMDD162	14.9	15.7	0.9	83.3	186.2	19.0	71.5	13.6	2.4	10.1	1.5	8.9	1.8	5.2	0.8	1.5	0.7	54.7	461	Saprock		
RRMDD162	15.7	16.7	1.0	98.6	225.5	21.9	81.3	14.7	2.7	10.9	1.5	8.9	1.6	4.3	0.6	1.5	0.6	47.4	522	Saprock		
RRMDD162	16.7	17.6	0.9	77.3	173.4	17.4	64.0	12.2	2.3	9.3	1.4	7.7	1.5	4.1	0.6	1.4	0.6	44.6	418	Saprock		
RRMDD162	17.6	18.6	1.0	71.3	156.4	16.3	62.3	11.5	2.1	8.6	1.3	7.4	1.5	3.7	0.6	1.3	0.5	45.0	390	Saprock		
RRMDD162	18.6	19.6	1.0	105.8	249.5	23.9	85.7	15.1	2.6	10.7	1.5	8.0	1.4	3.6	0.5	1.5	0.5	41.9	552	Saprock		
RRMDD162	19.6	20.6	1.0	82.0	193.3	18.7	68.8	12.4	2.3	9.3	1.3	6.9	1.3	3.3	0.4	1.3	0.5	37.0	439	Saprock		
RRMDD162	20.6	21.6	1.0	64.0	144.7	16.2	58.9	11.1	2.0	9.1	1.3	8.4	1.6	5.1	0.7	1.3	0.7	53.2	378	Saprock		
RRMDD162	21.6	22.5	0.9	78.6	173.4	19.1	68.9	13.0	2.2	9.9	1.4	7.8	1.4	4.3	0.6	1.4	0.6	45.3	428	Saprock		
RRMDD163	0.0	0.8	0.8	72.2	284.6	14.4	51.3	9.1	1.6	7.9	1.3	8.2	1.7	5.3	0.8	1.3	0.8	50.5	511	Soil		
RRMDD163	0.8	1.7	0.8	81.9	276.4	16.5	57.7	10.5	1.9	9.1	1.5	9.1	1.9	5.8	0.9	1.5	0.9	56.6	532	Soil		
RRMDD163	1.7	2.2	0.5	61.1	260.0	12.1	41.9	7.9	1.4	6.7	1.1	6.7	1.4	4.2	0.6	1.1	0.7	38.4	445	Soil		
RRMDD163	2.2	2.8	0.6	56.3	603.2	10.9	37.3	6.9	1.2	5.5	1.0	5.8	1.2	3.6	0.6	1.0	0.6	29.7	765	Hardcap		
RRMDD163	2.8	3.7	1.0	100.3	402.9	16.4	53.7	9.7	1.7	7.9	1.4	8.3	1.7	5.3	0.8	1.4	0.8	48.5	661	Transition		
RRMDD163	3.7	4.6	0.9	117.0	192.7	24.7	86.1	15.0	2.4	10.9	1.7	10.5	2.0	6.1	0.9	1.6	0.8	60.1	533	Mottled		
RRMDD163	4.6	5.5	0.9	274.4	336.2	92.7	344.1	62.2	10.0	47.3	6.2	35.0	6.3	17.5	2.4	6.2	2.1	188.6	1431	Clay		
RRMDD163	5.5	6.4	0.9	108.5	127.7	24.0	93.8	17.7	3.7	22.8	3.1	18.5	3.9	11.5	1.5	3.1	1.4	160.6	602	Upper Saprolite	2.7	854
RRMDD163	6.4	7.2	0.8	66.8	121.2	15.2	54.7	10.4	2.0	9.2	1.3	7.4	1.4	4.2	0.6	1.3	0.6	65.3	362	Lower Saprolite		
RRMDD163	7.2	8.0	0.8	53.5	105.9	13.8	50.5	9.7	1.8	7.5	1.1	6.6	1.3	4.0	0.6	1.1	0.5	43.6	302	Lower Saprolite		
RRMDD163	8.0	8.9	0.9	44.9	93.2	11.2	41.6	8.4	1.6	7.0	1.1	7.2	1.4	4.2	0.7	1.1	0.6	41.9	266	Saprock		
RRMDD163	8.9	9.8	0.9	78.3	176.3	19.4	71.3	13.8	2.4	11.1	1.5	9.1	1.7	4.7	0.7	1.5	0.7	53.8	446	Saprock		
RRMDD163	9.8	10.7	0.9	57.0	126.5	14.2	51.9	10.1	1.8	7.3	1.2	6.5	1.2	3.7	0.5	1.2	0.5	37.6	321	Saprock		
RRMDD163	10.7	11.6	0.9	62.9	138.2	15.8	58.1	10.6	1.9	8.0	1.2	7.2	1.4	4.2	0.6	1.2	0.6	42.3	354	Saprock		
RRMDD163	11.6	12.5	0.9	60.2	126.5	14.7	52.1	9.6	1.7	7.3	1.0	6.1	1.3	3.5	0.5	1.0	0.5	36.3	323	Saprock		
RRMDD164	0.0	0.8	0.8	125.5	274.1	29.1	105.0	20.5	3.3	17.5	2.8	16.7	3.3	9.9	1.5	2.7	1.3	101.1	714	Soil		
RRMDD164	0.8	1.6	0.8	126.1	269.4	29.3	107.4	20.5	3.5	18.2	2.9	17.0	3.4	10.4	1.5	2.9	1.4	103.9	718	Soil		
RRMDD164	1.6	2.4	0.8	122.6	288.1	27.4	99.5	18.7	3.2	16.1	2.6	15.1	3.2	9.5	1.4	2.6	1.3	94.7	706	Soil		
RRMDD164	2.4	3.3	1.0	141.9	793.0	22.7	69.1	11.9	1.9	8.6	1.5	8.6	1.7	5.0	0.8	1.5	0.8	41.9	1111	Hardcap		
RRMDD164	3.3	4.4	1.1	156.0	462.7	24.7	73.8	12.0	2.0	9.0	1.5	8.7	1.6	5.0	0.8	1.4	0.8	43.8	804	Hardcap		
RRMDD164	4.4	5.1	0.7	132.5	316.3	28.3	94.2	16.6	2.6	12.5	2.0	11.6	2.2	6.6	1.0	2.0	1.0	65.0	694	Transition		
RRMDD164	5.1	6.1	1.0	139.0	199.1	31.9	111.2	19.5	3.1	14.5	2.1	12.3	2.2	6.7	0.9	2.0	0.9	69.8	615	Clay		
RRMDD164	6.1	7.1	1.0	77.3	144.1	19.1	70.6	13.7	2.4	11.0	1.6	10.2	2.0	6.0	0.9	1.6	0.8	66.2	427	Clay		
RRMDD164	7.1	8.0	0.9	80.1	177.5	19.7	71.7	14.1	2.4	10.9	1.6	10.0	1.9	5.6	0.8	1.5	0.8	61.6	460	Clay		
RRMDD164	8.0	9.0	1.0	92.9	201.5	29.0	116.2	23.5	4.9	26.4	4.1	29.7	7.1	25.0	3.5	4.1	3.5	340.3	912	Clay		
RRMDD164	9.0	10.0	1.0	78.6	176.3	20.2	71.5	13.5	2.6	11.8	1.7	10.2	2.2	6.5	1.0	1.6	0.9	109.5	508	Clay		
RRMDD164	10.0	11.0	1.0	84.9	184.5	20.7	76.4	14.6	2.5	10.8	1.5	9.0	1.6	4.6	0.7	1.5	0.6	55.7	470	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)	>300ppm TREO-Ce_2O_3 Interval TREO ppm
RRMDD164	11.0	12.0	1.0	90.3	202.6	22.5	78.7	14.5	2.6	11.5	1.6	9.4	1.8	5.4	0.8	1.6	0.7	65.0	509	Clay	6.9	559
RRMDD164	12.0	12.8	0.8	66.1	148.2	17.1	59.0	10.7	2.3	9.3	1.3	7.4	1.5	4.5	0.6	1.3	0.6	45.1	375	Upper Saprolite		
RRMDD164	12.8	13.5	0.8	61.0	130.6	15.3	56.9	11.1	2.3	8.9	1.3	7.4	1.4	4.4	0.5	1.3	0.5	41.7	345	Upper Saprolite		
RRMDD164	13.5	14.5	1.0	73.8	159.9	18.1	66.6	12.5	2.4	9.9	1.4	8.2	1.6	4.5	0.6	1.4	0.6	48.3	410	Lower Saprolite		
RRMDD164	14.5	15.5	1.0	60.2	127.7	15.4	56.3	11.1	2.3	9.2	1.3	7.4	1.4	3.9	0.6	1.3	0.5	39.6	338	Lower Saprolite		
RRMDD164	15.5	16.5	1.0	66.6	141.7	17.1	59.8	11.7	2.3	9.5	1.3	7.6	1.4	3.9	0.6	1.3	0.5	40.8	366	Saprock		
RRMDD164	16.5	17.5	1.0	74.0	161.1	18.5	65.8	11.8	2.4	9.8	1.3	7.7	1.4	4.1	0.6	1.3	0.5	42.4	403	Saprock		
RRMDD164	17.5	18.5	1.0	75.8	166.9	18.4	65.8	12.6	2.4	10.2	1.4	7.8	1.5	4.3	0.6	1.4	0.6	45.7	415	Saprock		
RRMDD164	18.5	19.2	0.7	62.0	135.9	15.3	54.4	10.3	1.9	7.7	1.1	6.3	1.2	3.5	0.5	1.1	0.5	37.3	339	Saprock		
RRMDD165	0.0	0.9	0.9	68.8	197.4	12.0	38.0	6.6	1.2	5.4	0.9	5.5	1.1	3.5	0.5	0.9	0.6	29.6	372	Hardcap		
RRMDD165	0.9	1.8	0.9	78.7	291.7	14.4	46.9	8.4	1.4	6.6	1.1	6.5	1.3	3.9	0.6	1.1	0.6	34.5	498	Hardcap		
RRMDD165	1.8	2.7	0.9	91.0	657.1	17.6	59.0	10.4	1.7	8.0	1.3	7.7	1.5	4.6	0.7	1.3	0.7	43.4	906	Hardcap		
RRMDD165	2.7	3.6	0.9	91.0	449.8	18.3	63.8	11.5	1.9	9.0	1.5	8.4	1.7	5.2	0.8	1.5	0.8	46.7	712	Hardcap		
RRMDD165	3.6	4.4	0.9	133.1	246.0	29.5	96.9	16.0	2.5	11.0	1.8	10.4	2.0	5.8	0.9	1.8	0.9	53.0	612	Transition		
RRMDD165	4.4	5.3	0.9	118.5	208.5	28.9	97.3	16.1	2.8	12.2	2.0	12.0	2.2	6.5	1.0	2.0	1.0	55.5	566	Transition		
RRMDD165	5.3	6.0	0.7	124.9	200.3	33.9	119.6	20.5	3.3	15.4	2.2	13.4	2.4	7.5	1.0	2.2	0.9	74.8	622	Clay		
RRMDD165	6.0	6.8	0.8	110.0	214.3	28.8	121.3	23.1	4.0	16.6	2.6	15.5	2.6	7.8	1.0	2.5	1.0	88.0	639	Clay		
RRMDD165	6.8	7.7	0.8	105.2	207.9	25.5	114.0	22.3	4.1	18.2	2.8	16.3	3.0	8.5	1.1	2.8	1.0	95.2	628	Clay		
RRMDD165	7.7	8.5	0.9	80.6	181.0	19.1	84.6	16.9	3.4	15.0	2.3	14.1	2.6	7.2	1.0	2.3	0.9	80.8	512	Clay	3.2	599
RRMDD165	8.5	9.4	0.8	66.4	144.1	15.3	63.3	12.5	2.6	10.7	1.7	10.2	2.1	5.9	0.8	1.7	0.8	66.9	405	Upper Saprolite		
RRMDD165	9.4	10.4	1.0	43.4	99.9	9.8	40.2	8.6	2.0	7.9	1.3	8.0	1.6	5.1	0.7	1.3	0.7	56.3	287	Upper Saprolite		
RRMDD165	10.4	11.4	1.0	37.3	87.1	8.3	34.4	7.4	1.6	6.4	1.0	5.8	1.3	3.9	0.6	1.0	0.6	43.6	240	Upper Saprolite		
RRMDD165	11.4	12.6	1.2	48.6	109.0	10.7	45.0	10.1	2.0	7.9	1.2	7.3	1.5	4.7	0.6	1.2	0.6	49.1	300	Upper Saprolite		
RRMDD165	12.6	13.4	0.8	38.4	88.4	8.6	35.1	7.6	1.7	6.2	1.0	5.9	1.1	3.6	0.6	1.0	0.5	37.8	238	Upper Saprolite		
RRMDD165	13.4	14.2	0.8	66.6	147.0	14.7	59.0	12.3	2.6	10.2	1.4	9.1	1.9	5.2	0.7	1.4	0.7	56.6	390	Upper Saprolite		
RRMDD165	14.2	15.1	0.9	73.4	157.0	16.5	68.5	13.6	3.1	11.4	1.7	10.4	2.2	6.6	1.0	1.7	1.0	70.6	439	Upper Saprolite		
RRMDD165	15.1	15.7	0.6	59.8	131.2	14.3	60.1	11.5	2.3	10.1	1.6	10.2	2.4	7.9	1.2	1.6	1.4	107.6	423	Lower Saprolite		
RRMDD165	15.7	16.2	0.5	69.9	151.7	16.2	62.2	11.7	2.3	8.5	1.3	7.1	1.4	4.0	0.6	1.3	0.6	46.1	385	Saprock		
RRMDD165	16.2	16.8	0.6	75.5	162.8	16.8	67.8	13.4	2.5	9.4	1.4	7.8	1.4	3.8	0.6	1.4	0.6	44.4	409	Saprock		
RRMDD165	16.8	17.4	0.6	63.6	132.9	13.6	55.1	10.1	2.0	8.0	1.2	7.2	1.4	4.2	0.6	1.2	0.6	48.9	351	Saprock		
RRMDD166	0.0	0.6	0.6	85.5	188.0	20.1	73.4	14.5	2.5	12.9	2.1	12.9	2.6	8.0	1.2	2.1	1.1	77.8	505	Soil		
RRMDD166	0.6	1.2	0.6	87.6	193.9	20.2	74.6	14.6	2.6	13.1	2.1	13.0	2.7	7.9	1.2	2.1	1.2	76.3	513	Soil		
RRMDD166	1.2	2.1	0.9	68.7	281.1	12.4	41.5	7.5	1.3	5.9	1.1	6.4	1.3	3.9	0.7	1.1	0.7	36.3	470	Hardcap		
RRMDD166	2.1	3.0	0.9	81.6	329.1	14.5	48.4	8.6	1.5	7.1	1.2	7.3	1.5	4.7	0.7	1.2	0.7	40.1	548	Hardcap		
RRMDD166	3.0	3.8	0.8	184.1	527.1	35.8	110.6	18.5	2.8	13.1	2.1	12.7	2.3	6.8	1.0	2.1	1.0	60.6	981	Hardcap		
RRMDD166	3.8	4.5	0.8	238.1	722.7	50.0	155.1	25.6	3.9	18.1	2.8	16.6	3.1	8.5	1.3	2.7	1.2	78.5	1328	Hardcap		
RRMDD166	4.5	5.3	0.8	180.6	351.4	42.6	163.3	25.7	3.9	16.6	2.6	15.4	2.8	7.5	1.1	2.6	1.0	75.2	892	Transition		
RRMDD166	5.3	6.3	1.0	109.9	205.6	27.7	117.8	23.5	4.1	20.7	3.1	17.8	3.4	9.7	1.3	3.1	1.2	104.8	654	Clay		
RRMDD166	6.3	7.4	1.1	94.8	190.3	22.5	98.4	19.3	3.8	18.4	2.8	17.8	3.1	9.0	1.1	2.7	1.1	102.9	588	Clay		
RRMDD166	7.4	8.1	0.7	89.6	183.3	19.6	79.3	15.4	2.8	13.9	2.2	13.0	2.5	7.6	1.0	2.2	0.9	78.7	512	Clay		
RRMDD166	8.1	9.2	1.1	81.3	169.8	17.4	68.7	13.7	2.7	11.8	1.9	11.3	2.2	6.6	0.9	1.8	0.9	77.1	468	Clay		
RRMDD166	9.2	10.2	1.0	87.3	188.6	19.1	77.9	16.1	3.1	13.4	2.2	13.7	3.1	10.0	1.5	2.2	1.6	119.9	560	Clay		
RRMDD166	10.2	11.2	1.0	77.1	163.4	16.4	67.2	12.7	2.4	10.7	1.7	11.5	2.7	8.9	1.3	1.7	1.5	113.4	492	Clay		
RRMDD166	11.2	11.9	0.7	112.7	258.9	26.8	111.9	20.5	3.8	19.9	3.3	22.3	6.1	22.0	3.4	3.3	3.9	405.1	1024	Clay		
RRMDD166	11.9	12.6	0.7	91.5	206.7	21.1	79.2	14.7	2.8	12.0	1.8	10.6	2.3	7.5	1.1	1.7	1.1	143.5	598	Clay	7.3	599
RRMDD166	12.6	13.6	1.0	86.1	187.4	18.5	74.3	14.3	2.5	10.2	1.5	9.4	1.8	5.4	0.7	1.5	0.7	61.3	476	Upper Saprolite		

																					>300ppm TREO-Ce_2O_3 Interval	
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	Length (m)	TREO ppm
RRMDD166	13.6	14.7	1.0	67.8	145.8	14.9	58.9	10.6	2.1	8.1	1.1	7.2	1.3	4.2	0.6	1.1	0.6	44.8	369	Upper Saprolite		
RRMDD166	14.7	15.6	0.9	77.1	175.1	16.8	65.8	11.4	2.2	8.6	1.3	7.4	1.4	3.9	0.5	1.3	0.6	46.1	419	Lower Saprolite		
RRMDD166	15.6	16.5	0.9	78.5	174.5	16.6	67.0	12.3	2.2	9.1	1.3	7.2	1.3	3.9	0.5	1.3	0.5	43.6	420	Lower Saprolite		
RRMDD166	16.5	17.4	0.9	79.3	172.2	17.0	68.5	12.5	2.2	8.7	1.4	7.3	1.3	3.8	0.5	1.4	0.5	44.8	421	Lower Saprolite		
RRMDD166	17.4	18.3	0.9	67.1	150.5	14.7	58.3	10.4	1.9	7.5	1.1	6.9	1.2	3.5	0.5	1.1	0.5	40.5	366	Lower Saprolite		
RRMDD166	18.3	19.2	0.9	75.6	171.0	18.7	67.1	11.5	2.2	9.1	1.3	7.4	1.3	3.8	0.5	1.2	0.5	40.1	411	Lower Saprolite		
RRMDD167	0.0	0.8	0.8	102.9	226.6	22.4	76.7	14.0	2.3	11.6	1.7	10.9	2.2	6.3	1.0	1.7	1.0	69.0	550	Soil		
RRMDD167	0.8	1.8	1.0	105.6	274.1	21.8	73.6	13.3	2.2	10.8	1.6	10.3	2.0	5.8	0.9	1.6	0.9	61.0	586	Soil		
RRMDD167	1.8	2.7	0.9	93.1	411.1	16.6	51.6	9.4	1.5	6.7	1.1	6.5	1.2	3.6	0.6	1.1	0.6	35.6	640	Hardcap		
RRMDD167	2.7	3.6	0.9	114.3	381.8	19.8	60.3	10.3	1.7	7.3	1.2	7.1	1.3	4.0	0.6	1.1	0.7	36.4	648	Hardcap		
RRMDD167	3.6	4.6	1.0	109.3	310.4	22.8	76.3	13.2	2.1	9.8	1.5	9.1	1.8	5.0	0.8	1.5	0.8	49.3	614	Hardcap		
RRMDD167	4.6	5.6	1.0	133.7	219.0	28.9	96.6	14.6	2.5	9.5	1.3	8.0	1.4	4.4	0.7	1.3	0.7	43.3	566	Transition		
RRMDD167	5.6	6.1	0.5	119.6	244.8	25.7	87.5	14.7	2.2	9.3	1.4	8.7	1.6	5.0	0.7	1.4	0.7	48.0	572	Transition		
RRMDD167	6.1	6.9	0.8	108.8	265.9	23.2	77.0	12.9	2.0	9.6	1.4	8.7	1.6	5.2	0.8	1.4	0.8	47.6	567	Mottled		
RRMDD167	6.9	7.8	0.9	110.0	192.7	21.8	71.4	11.8	1.8	8.0	1.2	7.2	1.4	4.4	0.7	1.2	0.6	43.9	478	Mottled		
RRMDD167	7.8	8.7	0.9	87.7	159.9	16.9	54.7	8.9	1.5	6.9	1.0	6.7	1.3	4.3	0.6	1.0	0.6	43.6	396	Mottled		
RRMDD167	8.7	9.6	0.9	111.7	214.3	19.3	58.9	8.9	1.5	7.0	1.1	7.3	1.4	4.6	0.7	1.1	0.7	42.9	481	Mottled		
RRMDD167	9.6	10.4	0.8	54.2	85.4	15.3	59.8	11.8	2.0	10.2	1.6	9.6	2.0	6.3	0.9	1.5	0.9	63.5	325	Mottled		
RRMDD167	10.4	10.9	0.5	42.3	484.9	14.2	59.1	12.3	2.1	11.2	1.9	11.0	2.3	6.6	1.0	1.9	1.1	75.4	727	Clay		
RRMDD167	10.9	11.8	0.9	251.0	353.7	52.7	190.7	34.0	5.2	22.6	3.2	16.6	2.9	7.8	1.2	3.1	1.1	87.4	1033	Clay		
RRMDD167	11.8	12.6	0.9	131.4	176.9	32.2	126.6	24.1	4.1	20.0	3.0	16.9	3.3	9.3	1.4	3.0	1.3	109.6	663	Clay		
RRMDD167	12.6	13.4	0.8	164.2	328.0	48.9	197.1	38.5	6.1	30.5	4.3	23.8	4.6	12.5	1.8	4.3	1.7	146.7	1013	Clay		
RRMDD167	13.4	14.3	0.9	155.4	328.0	43.0	166.2	32.5	5.5	26.6	3.9	21.9	4.2	11.7	1.8	3.8	1.6	141.0	947	Clay		
RRMDD167	14.3	15.5	1.1	113.8	241.3	30.5	125.4	23.8	3.9	20.5	2.8	16.0	3.3	8.9	1.3	2.8	1.2	122.8	718	Upper Saprolite		
RRMDD167	15.5	16.4	0.9	109.0	256.5	24.6	91.3	15.9	2.3	10.6	1.4	8.0	1.6	4.7	0.7	1.4	0.7	54.1	583	Lower Saprolite	**5.4**	**817**
RRMDD167	16.4	17.3	0.9	72.0	167.5	16.7	63.1	11.7	2.0	9.2	1.3	7.6	1.5	4.1	0.6	1.3	0.7	46.0	405	Saprock		
RRMDD167	17.3	18.2	0.9	86.6	188.6	20.0	71.5	13.0	2.2	9.7	1.4	7.5	1.4	3.8	0.6	1.3	0.6	43.4	452	Saprock		
RRMDD167	18.2	19.0	0.8	70.6	150.5	16.7	60.4	10.7	2.0	8.5	1.3	7.2	1.6	4.4	0.7	1.2	0.7	51.2	388	Saprock		
RRMDD168	0.0	0.3	0.3	116.6	219.0	25.5	85.4	16.0	2.6	12.6	2.1	12.2	2.4	7.1	1.1	2.1	1.0	71.0	577	Soil		
RRMDD168	0.3	1.3	1.0	157.2	288.1	32.9	107.1	19.4	3.0	13.8	2.1	13.0	2.3	6.3	1.0	2.1	1.0	55.6	705	Soil		
RRMDD168	1.3	2.2	1.0	238.1	419.3	48.6	153.4	24.5	3.8	16.8	2.6	14.7	2.6	7.4	1.2	2.5	1.1	64.3	1001	Soil		
RRMDD168	2.2	3.2	1.0	167.1	617.3	37.8	120.7	19.8	2.9	13.2	2.0	12.3	2.3	6.5	1.0	2.0	1.0	59.1	1065	Hardcap		
RRMDD168	3.2	4.2	1.0	129.0	525.9	30.0	101.6	17.8	2.9	13.2	2.0	12.8	2.5	6.7	1.1	2.0	1.0	68.4	917	Hardcap		
RRMDD168	4.2	4.8	0.6	112.7	242.5	24.3	85.8	15.2	2.3	11.0	1.7	9.5	1.9	5.4	0.8	1.7	0.8	54.0	570	Transition		
RRMDD168	4.8	5.7	0.9	144.3	202.6	32.3	112.9	20.9	3.2	15.0	2.3	12.0	2.3	6.2	0.9	2.2	0.9	66.3	624	Clay		
RRMDD168	5.7	6.5	0.8	95.5	154.6	24.0	84.0	16.0	3.1	14.2	2.0	12.5	2.3	6.7	0.9	2.0	0.9	70.6	489	Clay		
RRMDD168	6.5	7.4	0.9	95.9	176.9	23.9	90.2	19.2	3.8	18.6	2.6	16.6	2.8	8.6	1.1	2.5	0.9	81.1	545	Clay		
RRMDD168	7.4	8.3	0.9	90.5	172.2	23.0	84.3	18.4	3.8	18.6	2.7	16.4	3.1	8.7	1.2	2.7	1.1	84.6	531	Clay		
RRMDD168	8.3	9.1	0.8	92.7	169.8	23.5	90.9	18.3	3.9	18.1	2.7	17.6	3.2	9.3	1.3	2.7	1.2	96.5	552	Clay		
RRMDD168	9.1	10.0	0.9	76.3	151.7	20.4	85.5	17.0	3.6	19.5	2.9	20.0	4.2	11.8	1.7	2.9	1.5	134.0	553	Clay		
RRMDD168	10.0	11.0	1.0	77.9	175.1	21.2	84.6	15.7	3.5	18.9	2.8	20.0	4.5	15.1	2.1	2.8	2.0	194.9	641	Clay	**6.2**	**565**
RRMDD168	11.0	12.0	1.0	64.9	147.0	16.4	61.1	11.1	2.4	10.5	1.6	10.2	2.2	6.7	1.0	1.6	0.9	99.3	437	Upper Saprolite		
RRMDD168	12.0	13.0	1.0	64.9	142.9	15.1	56.1	10.6	1.9	8.4	1.3	7.3	1.4	4.0	0.6	1.3	0.6	45.5	362	Upper Saprolite		
RRMDD168	13.0	13.8	0.8	82.7	188.0	19.4	71.7	12.9	2.3	10.2	1.5	8.5	1.7	4.7	0.7	1.5	0.7	55.2	462	Upper Saprolite		
RRMDD168	13.8	14.7	0.9	78.1	176.3	18.3	66.1	11.9	2.4	9.1	1.3	7.3	1.4	3.9	0.6	1.3	0.5	42.2	421	Lower Saprolite		
RRMDD168	14.7	15.6	0.9	68.4	151.1	16.0	58.2	10.7	2.0	8.1	1.2	6.6	1.3	3.9	0.6	1.2	0.5	40.9	371	Saprock		

																					>300ppm TREO-Ce_2O_3 Interval	
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	Length (m)	TREO ppm
RRMDD168	15.6	16.4	0.8	89.8	205.6	20.5	74.4	13.2	2.4	9.8	1.5	7.9	1.5	4.2	0.6	1.4	0.6	44.1	477	Saprock		
RRMDD168	16.4	17.3	0.9	64.3	140.6	15.3	56.3	10.6	2.1	8.3	1.2	7.2	1.4	4.0	0.6	1.2	0.6	44.2	358	Saprock		
RRMDD169	0.0	1.0	1.0	76.7	147.6	18.3	63.0	12.5	1.7	10.7	1.7	10.8	2.3	6.2	1.0	1.7	1.0	64.3	419	Soil		
RRMDD169	1.0	1.9	1.0	79.2	130.6	18.9	64.5	13.0	1.9	11.2	1.7	11.5	2.2	6.5	1.0	1.7	1.0	66.4	411	Soil		
RRMDD169	1.9	2.9	1.0	94.5	592.7	19.2	61.5	11.2	1.7	8.3	1.3	7.8	1.5	4.2	0.7	1.3	0.7	37.7	844	Hardcap		
RRMDD169	2.9	3.6	0.8	128.4	1311.9	27.4	88.8	16.7	2.2	11.9	1.9	11.4	2.1	6.0	0.9	1.9	0.9	53.8	1666	Transition		
RRMDD169	3.6	4.1	0.5	114.7	169.8	26.4	94.2	16.4	2.9	11.8	1.7	9.9	1.9	5.6	0.8	1.7	0.8	57.7	516	Mottled		
RRMDD169	4.1	5.0	0.9	188.2	279.9	39.2	124.8	19.0	2.9	12.7	1.8	10.0	1.9	5.5	0.8	1.8	0.8	55.9	746	Mottled		
RRMDD169	5.0	5.8	0.9	139.6	223.7	34.3	123.6	22.4	3.8	16.1	2.3	12.8	2.4	6.5	0.9	2.3	0.9	68.3	660	Clay		
RRMDD169	5.8	6.7	0.9	134.9	206.7	34.1	127.1	23.5	4.1	17.9	2.6	14.7	2.9	8.0	1.1	2.6	1.1	81.9	663	Clay		
RRMDD169	6.7	7.5	0.9	153.1	247.1	39.2	145.8	26.0	4.6	20.1	2.9	16.6	3.3	9.3	1.3	2.9	1.2	102.7	776	Clay		
RRMDD169	7.5	8.3	0.8	120.8	323.3	33.1	131.2	24.7	4.5	21.7	3.2	18.7	3.9	11.1	1.5	3.2	1.5	127.0	829	Clay		
RRMDD169	8.3	9.1	0.8	120.2	202.0	28.3	104.0	18.1	3.2	14.4	2.2	13.8	2.8	7.9	1.2	2.2	1.1	87.8	609	Clay		
RRMDD169	9.1	9.9	0.8	68.1	163.4	21.8	97.2	19.9	3.6	19.9	3.1	19.9	4.3	12.7	1.7	3.1	1.6	147.3	588	Clay		
RRMDD169	9.9	10.7	0.8	90.9	172.2	24.5	93.7	16.7	2.9	12.9	1.9	11.0	2.3	6.3	0.9	1.9	0.8	70.1	509	Upper Saprolite		
RRMDD169	10.7	11.5	0.8	85.1	176.3	26.1	105.3	20.2	3.6	16.1	2.2	12.6	2.5	6.8	0.9	2.2	0.8	71.0	532	Upper Saprolite		
RRMDD169	11.5	12.4	0.9	86.0	186.8	22.8	90.6	16.5	2.8	12.8	1.9	11.4	2.3	6.7	1.0	1.9	0.9	74.4	519	Upper Saprolite		
RRMDD169	12.4	13.4	1.0	71.9	155.2	21.4	90.4	17.7	3.1	15.9	2.4	15.0	3.1	8.9	1.3	2.4	1.1	103.2	513	Lower Saprolite		
RRMDD169	13.4	14.4	1.0	56.5	174.5	18.5	81.2	16.9	3.1	16.9	2.6	16.8	3.6	10.2	1.4	2.6	1.2	117.2	523	Lower Saprolite		
RRMDD169	14.4	15.5	1.1	81.2	170.4	23.1	95.3	19.0	3.4	17.5	2.6	16.2	3.5	9.4	1.3	2.6	1.2	119.5	566	Lower Saprolite	**11.9**	**610**
RRMDD169	15.5	16.3	0.9	72.9	181.0	18.8	73.1	15.9	3.0	14.4	2.3	14.4	2.9	7.8	1.1	2.3	0.9	92.4	503	Saprock		
RRMDD170	0.0	0.5	0.5	60.9	140.0	11.7	37.6	7.0	1.2	5.7	0.9	5.9	1.1	3.3	0.5	0.9	0.6	33.0	310	Soil		
RRMDD170	0.5	1.4	0.9	61.1	251.8	11.0	34.3	6.5	1.1	5.1	0.9	5.2	1.0	3.1	0.5	0.9	0.5	25.3	408	Hardcap		
RRMDD170	1.4	2.4	0.9	89.8	607.9	18.3	58.0	10.6	1.7	7.6	1.3	7.8	1.5	4.4	0.7	1.3	0.7	37.3	849	Hardcap		
RRMDD170	2.4	3.4	1.0	106.3	248.3	29.4	110.0	20.8	4.1	17.5	2.6	15.3	2.9	8.0	1.2	2.6	1.1	93.8	664	Clay		
RRMDD170	3.4	4.5	1.2	106.0	216.1	29.8	116.5	23.1	4.5	21.9	3.3	20.1	4.3	11.8	1.7	3.3	1.5	165.7	730	Clay		
RRMDD170	4.5	5.5	1.0	74.1	169.8	20.8	92.0	20.8	4.1	18.9	3.0	17.7	3.6	10.1	1.4	3.0	1.3	101.5	542	Clay		
RRMDD170	5.5	6.4	0.9	86.0	191.5	25.3	113.6	25.2	5.3	28.1	4.5	29.8	6.8	19.6	2.8	4.5	2.5	247.6	793	Clay		
RRMDD170	6.4	7.3	0.9	74.7	175.7	21.5	95.4	19.7	4.1	22.3	3.3	20.7	4.7	13.4	1.9	3.3	1.7	195.6	658	Upper Saprolite		
RRMDD170	7.3	8.2	0.9	71.8	166.9	18.4	73.7	13.0	2.7	13.4	1.9	11.3	2.6	7.4	1.1	1.8	0.9	129.5	516	Upper Saprolite	**5.8**	**653**
RRMDD170	8.2	9.2	1.0	63.6	154.0	15.8	58.1	11.1	2.2	8.9	1.4	8.4	1.8	5.4	0.8	1.4	0.8	60.1	394	Lower Saprolite		
RRMDD170	9.2	10.3	1.2	52.2	125.3	12.6	45.4	8.1	1.6	6.0	0.8	4.6	0.9	2.4	0.4	0.8	0.4	25.1	287	Lower Saprolite		
RRMDD170	10.3	11.2	0.9	77.6	181.6	19.4	74.3	14.5	2.9	11.8	1.7	10.2	2.1	5.8	0.8	1.7	0.8	63.0	468	Saprock		
RRMDD170	11.2	12.0	0.9	74.8	171.0	17.6	63.2	11.4	2.3	8.8	1.2	6.9	1.4	3.4	0.5	1.2	0.5	37.7	402	Saprock		
RRMDD171	0.0	0.8	0.8	131.9	203.2	25.6	81.2	14.1	2.3	11.6	1.8	11.1	2.1	5.9	1.0	1.7	0.9	60.2	555	Soil		
RRMDD171	0.8	1.6	0.8	131.4	219.0	25.9	82.7	14.5	2.4	11.8	1.9	11.2	2.2	6.1	1.0	1.8	0.9	63.7	577	Soil		
RRMDD171	1.6	2.6	1.0	167.7	448.6	32.1	99.1	16.6	2.6	11.6	1.8	10.7	2.0	5.6	0.8	1.8	0.8	49.4	851	Hardcap		
RRMDD171	2.6	3.6	1.0	160.7	623.1	36.2	123.1	21.9	3.4	16.3	2.4	13.9	2.6	7.0	1.1	2.4	1.0	64.3	1079	Hardcap		
RRMDD171	3.6	4.1	0.5	136.6	325.6	26.4	93.4	15.9	2.7	13.0	2.0	11.4	2.4	7.1	1.1	2.0	1.0	71.1	712	Transition		
RRMDD171	4.1	5.2	1.1	149.5	217.3	31.2	109.6	19.5	3.4	14.8	2.1	11.6	2.2	6.7	0.9	2.0	0.9	68.8	641	Clay		
RRMDD171	5.2	5.8	0.6	127.2	246.0	28.9	105.4	19.2	3.4	14.8	2.1	11.7	2.3	6.7	0.9	2.1	0.9	68.1	640	Clay		
RRMDD171	5.8	6.8	1.0	100.5	183.3	25.5	94.1	17.4	3.5	14.6	2.1	11.5	2.2	6.3	0.9	2.1	0.8	65.8	531	Clay	**2.7**	**600**
RRMDD171	6.8	7.1	0.3	47.3	92.2	11.3	44.6	8.8	1.9	7.8	1.2	7.1	1.5	4.6	0.7	1.2	0.7	47.0	278	Clay		
RRMDD171	7.1	7.8	0.8	90.5	200.3	20.0	75.2	13.9	2.8	11.8	1.7	9.7	1.8	5.6	0.8	1.7	0.7	58.0	494	Clay		
RRMDD171	7.8	8.6	0.8	90.4	183.9	20.8	74.9	13.0	2.8	11.5	1.7	9.7	2.0	5.7	0.8	1.6	0.8	62.0	482	Clay		
RRMDD171	8.6	9.3	0.7	75.2	154.0	17.0	63.0	11.8	2.4	10.4	1.5	8.2	1.7	5.2	0.8	1.5	0.7	56.5	410	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)	>300ppm TREO-Ce_2O_3 Interval TREO ppm
RRMDD171	9.3	10.1	0.8	86.9	175.7	19.0	69.3	12.5	2.4	10.2	1.5	8.6	1.7	5.3	0.8	1.4	0.8	55.6	452	Clay		
RRMDD171	10.1	10.8	0.7	83.0	171.0	18.8	69.5	13.0	2.6	10.9	1.6	8.7	1.8	5.2	0.8	1.5	0.8	59.6	449	Clay		
RRMDD171	10.8	11.6	0.8	93.9	198.5	21.2	78.0	14.1	2.7	11.3	1.6	9.5	1.9	5.5	0.8	1.6	0.8	64.9	506	Clay		
RRMDD171	11.6	12.6	1.0	101.6	222.5	22.8	83.7	15.0	2.9	12.2	1.8	10.1	2.0	5.9	0.9	1.7	0.8	71.0	555	Upper Saprolite	**1.8**	**534**
RRMDD171	12.6	13.7	1.0	67.1	141.1	15.4	57.5	10.9	2.2	9.1	1.3	7.3	1.5	4.2	0.6	1.3	0.6	47.6	368	Lower Saprolite		
RRMDD171	13.7	14.6	0.9	72.6	153.4	16.5	61.0	11.5	2.2	9.6	1.3	7.7	1.5	4.5	0.7	1.3	0.6	47.0	392	Lower Saprolite		
RRMDD171	14.6	15.5	0.9	66.7	141.1	15.3	55.1	10.2	2.0	8.8	1.3	7.9	1.6	4.9	0.7	1.3	0.7	51.4	369	Saprock		
RRMDD171	15.5	16.4	0.9	73.7	151.7	16.7	62.3	11.5	2.4	9.4	1.3	7.7	1.5	4.1	0.6	1.3	0.6	43.7	388	Saprock		
RRMDD171	16.4	17.3	0.9	68.0	139.4	15.0	55.6	10.2	2.1	8.6	1.3	7.2	1.5	4.3	0.6	1.3	0.6	45.2	361	Saprock		
RRMDD171	17.3	18.0	0.7	70.5	154.0	15.8	57.9	10.9	2.1	8.9	1.3	7.1	1.4	4.0	0.6	1.3	0.5	41.8	378	Saprock		
RRMDD171	18.0	19.0	1.0	71.0	149.3	15.8	57.7	10.7	2.1	8.9	1.3	7.1	1.4	4.1	0.6	1.3	0.6	43.2	375	Saprock		
RRMDD171	19.0	20.1	1.0	72.9	157.0	16.2	58.8	10.8	2.1	9.1	1.3	7.2	1.4	4.2	0.6	1.3	0.6	43.2	387	Saprock		
RRMDD171	20.1	21.1	1.0	72.0	156.4	16.0	58.7	10.9	2.2	9.1	1.3	7.1	1.4	4.2	0.6	1.3	0.6	43.6	385	Saprock		
RRMDD172	0.0	1.0	1.0	124.9	744.9	23.9	78.3	14.1	2.3	10.8	1.7	10.4	2.0	5.9	0.9	1.7	0.9	53.8	1077	Soil		
RRMDD172	1.0	1.9	1.0	99.9	520.1	19.4	62.2	11.2	1.9	8.5	1.4	8.6	1.7	4.9	0.8	1.4	0.8	42.9	786	Soil		
RRMDD172	1.9	2.9	1.0	119.0	623.1	24.1	78.1	14.0	2.3	10.7	1.8	10.8	2.0	6.0	1.0	1.7	0.9	53.5	949	Soil		
RRMDD172	2.9	3.8	1.0	118.5	607.9	24.6	80.1	14.4	2.4	11.2	1.8	11.4	2.1	6.1	1.0	1.7	0.9	56.3	940	Soil		
RRMDD172	3.8	4.2	0.4	107.2	179.2	23.3	80.8	14.2	2.4	10.6	1.5	9.0	1.7	5.1	0.8	1.5	0.8	47.0	485	Clay		
RRMDD172	4.2	5.1	0.9	107.3	149.9	25.4	89.5	15.5	2.8	11.8	1.7	9.3	1.8	5.0	0.7	1.6	0.7	50.4	473	Clay		
RRMDD172	5.1	6.0	0.9	81.4	139.4	18.8	72.2	14.4	3.0	13.8	2.0	11.6	2.2	6.7	1.0	2.0	0.9	70.9	440	Clay		
RRMDD172	6.0	6.9	0.9	125.5	209.7	41.8	186.0	33.3	6.2	29.7	4.2	24.7	5.1	15.3	2.1	4.2	1.9	174.6	864	Clay		
RRMDD172	6.9	7.9	0.9	76.2	140.6	20.8	92.7	20.1	4.2	23.1	3.5	21.4	4.7	13.6	1.9	3.4	1.8	157.5	585	Clay		
RRMDD172	7.9	8.8	0.9	69.1	140.6	18.3	84.0	24.5	6.0	40.5	6.4	43.5	10.2	30.6	4.2	6.4	3.8	424.1	912	Clay		
RRMDD172	8.8	9.9	1.1	71.0	145.8	18.0	77.1	18.6	4.3	27.1	4.1	26.7	6.7	20.4	2.7	4.1	2.4	344.1	773	Clay	**6.1**	**667**
RRMDD172	9.9	10.6	0.7	68.6	143.5	16.2	60.5	11.5	2.4	11.1	1.5	9.1	1.8	5.4	0.7	1.5	0.7	63.1	398	Clay		
RRMDD172	10.6	11.5	0.9	66.5	140.0	15.8	58.4	11.4	2.3	10.2	1.4	8.0	1.6	4.7	0.6	1.4	0.6	49.0	372	Clay		
RRMDD172	11.5	12.4	0.9	61.3	127.7	14.5	54.4	10.6	2.2	10.2	1.4	8.9	1.8	5.2	0.8	1.4	0.7	58.7	360	Clay		
RRMDD172	12.4	13.3	0.9	59.0	122.4	13.6	50.4	9.2	1.9	8.4	1.1	6.9	1.4	4.3	0.6	1.1	0.6	44.7	326	Upper Saprolite		
RRMDD172	13.3	13.9	0.6	68.8	147.0	16.2	60.0	10.9	2.3	9.9	1.3	7.4	1.4	4.2	0.6	1.2	0.5	43.4	375	Upper Saprolite		
RRMDD172	13.9	14.9	1.0	65.1	138.8	15.4	56.2	10.6	2.1	9.0	1.1	6.6	1.2	3.8	0.5	1.1	0.5	38.9	351	Upper Saprolite		
RRMDD172	14.9	15.8	0.9	63.1	133.5	14.9	55.2	10.8	2.2	9.8	1.3	7.7	1.6	4.6	0.6	1.3	0.6	49.5	357	Lower Saprolite		
RRMDD172	15.8	16.7	0.9	65.2	158.1	14.0	49.9	8.9	1.7	7.5	1.0	6.2	1.2	3.8	0.5	1.0	0.5	36.6	356	Lower Saprolite		
RRMDD172	16.7	17.6	0.9	64.6	141.1	15.3	55.1	10.3	2.0	9.1	1.2	7.3	1.5	4.6	0.7	1.2	0.6	47.5	362	Lower Saprolite		
RRMDD172	17.6	18.0	0.4	60.6	130.6	14.1	50.5	9.2	1.8	7.8	1.0	6.1	1.1	3.2	0.4	1.0	0.4	33.9	322	Saprock		
RRMDD173	0.0	0.9	0.9	110.7	148.2	25.0	85.7	16.4	2.6	14.3	2.2	13.6	2.7	7.7	1.2	2.1	1.2	86.0	520	Soil		
RRMDD173	0.9	1.7	0.9	113.9	188.6	26.0	91.3	16.8	2.8	13.9	2.1	13.7	2.6	7.7	1.2	2.1	1.1	85.1	569	Soil		
RRMDD173	1.7	2.8	1.1	115.2	186.2	20.7	66.8	12.1	2.0	9.3	1.5	8.7	1.7	4.9	0.8	1.5	0.7	45.5	478	Hardcap		
RRMDD173	2.8	3.1	0.3	142.5	838.7	28.9	93.2	14.8	2.2	10.1	1.6	9.2	1.8	5.3	0.8	1.6	0.8	44.7	1196	Hardcap		
RRMDD173	3.1	4.1	0.9	123.7	203.2	22.8	77.4	12.6	2.2	10.3	1.4	8.7	1.7	5.2	0.8	1.4	0.8	51.0	523	Transition		
RRMDD173	4.1	4.7	0.6	83.4	111.9	17.3	61.1	10.5	1.9	9.2	1.2	7.4	1.5	4.6	0.7	1.2	0.7	46.9	359	Clay		
RRMDD173	4.7	5.5	0.8	64.9	113.7	14.6	53.2	9.0	1.8	8.0	1.1	6.5	1.4	4.3	0.6	1.1	0.6	46.7	328	Mottled		
RRMDD173	5.5	6.3	0.8	95.8	154.0	23.4	87.1	16.1	3.1	15.3	2.0	12.5	2.6	7.7	1.0	2.0	1.0	89.8	514	Clay		
RRMDD173	6.3	7.0	0.7	115.6	175.7	26.1	94.5	17.5	3.4	16.3	2.1	12.3	2.5	7.6	1.0	2.1	0.9	78.1	556	Clay		
RRMDD173	7.0	7.8	0.8	108.2	169.8	26.1	97.7	19.0	3.7	17.6	2.3	13.1	2.5	7.3	1.0	2.3	0.9	81.4	553	Clay		
RRMDD173	7.8	8.7	0.9	107.4	190.9	27.4	104.6	19.5	3.9	18.8	2.5	14.4	2.8	8.3	1.1	2.5	1.0	97.8	603	Clay		
RRMDD173	8.7	9.7	1.0	106.7	198.5	27.6	109.6	22.3	4.4	21.4	2.8	16.3	3.3	9.5	1.3	2.8	1.2	108.1	636	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)	>300ppm TREO-Ce_2O_3 Interval TREO ppm
RRMDD173	9.7	10.6	0.9	107.0	205.0	28.1	111.4	23.5	4.7	22.7	3.0	18.4	3.6	10.6	1.4	3.0	1.3	114.0	658	Clay		
RRMDD173	10.6	11.3	0.7	102.6	205.6	27.2	108.2	23.1	4.6	21.9	2.9	17.6	3.5	10.1	1.4	2.9	1.3	110.2	643	Clay		
RRMDD173	11.3	12.3	1.0	90.7	177.5	24.1	94.7	19.0	3.9	18.4	2.4	14.1	2.8	8.3	1.2	2.4	1.1	94.1	555	Upper Saprolite		
RRMDD173	12.3	13.3	1.0	85.3	182.7	22.8	90.3	17.2	3.4	16.7	2.3	14.0	2.9	9.0	1.3	2.3	1.2	99.1	550	Upper Saprolite		
RRMDD173	13.3	14.3	1.0	98.0	220.2	25.7	102.3	19.4	3.9	19.6	2.8	17.8	3.7	11.2	1.6	2.8	1.5	128.3	659	Upper Saprolite		
RRMDD173	14.3	15.3	1.0	79.8	184.5	21.2	85.8	15.7	3.1	15.8	2.2	13.8	2.9	9.4	1.2	2.2	1.2	106.5	545	Upper Saprolite		
RRMDD173	15.3	16.3	1.0	86.7	191.5	20.7	77.2	14.3	2.8	13.9	2.0	12.7	2.7	8.3	1.1	2.0	1.0	92.1	529	Upper Saprolite	**10.8**	**583**
RRMDD173	16.3	17.3	1.0	78.6	178.0	19.4	72.1	12.3	2.4	11.3	1.5	9.1	2.0	6.2	0.9	1.5	0.9	71.2	467	Upper Saprolite		
RRMDD173	17.3	18.3	1.0	75.2	172.8	18.0	69.4	13.3	2.5	12.0	1.7	10.4	2.2	6.8	0.9	1.7	0.9	77.8	466	Upper Saprolite		
RRMDD173	18.3	19.3	1.0	68.4	156.4	16.1	60.0	11.5	2.2	10.4	1.4	7.6	1.5	4.6	0.6	1.3	0.6	54.1	397	Lower Saprolite		
RRMDD173	19.3	19.9	0.6	69.8	157.0	16.7	60.0	10.9	2.1	9.3	1.1	6.2	1.1	3.2	0.4	1.1	0.4	34.5	374	Saprock		
RRMDD173	19.9	20.5	0.6	66.6	145.8	15.9	58.0	10.8	1.9	7.6	1.0	5.7	1.0	3.0	0.4	1.0	0.4	31.4	350	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	• *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 all holes were surveyed using a relational DGPS system. The general accuracy for x,y and z is ± 0.2m. 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.* • *Whether sample compositing has been applied.*	Drilling relating to this report was conducted on a 400m x 400m grid spacing.. 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	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	The Makuutu mineralisation is interpreted to be in a flat lying weathered profile including cover soil, lateritic caprock, clays transitioning to saprolite and saprock.

Criteria	JORC Code explanation	Commentary
geological structure	• *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.*	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 interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	The Makuutu Project is located in the Republic of Uganda. The mineral tenements comprise two (1) granted Retention Licences (RL1693 and RL00007), one (1) Exploration Licence (EL1766). 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 51% 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>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
<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.

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

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

Criteria	JORC Code explanation	Commentary
	• *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.
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	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk*	Metallurgical leach testing was previously conducted on samples derived from exploration pits, RAB drilling, and one 8.5 tonne bulk pit sample.

Criteria	JORC Code explanation	Commentary
exploration data	*samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	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 BioLantanidos 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.