Consistently high grade returned from recent drilling averaging >1,000ppm TREO

Highlights

- **Recently completed 79-hole drill program delivers excellent results, confirming the potential for Koppamurra to host deposits of high-grade rare earth ionic clays of global significance**
- **Drill program focused on testing areas adjacent to and extensional from the existing Red Tail and Yellow Tail resources**
- **All drillholes that reached target depth returned significant intersections at a 500ppm Total Rare Earth Oxides (TREO) cut-off**
- **A trend of high grade intersections is evident 3.5km along strike from the Yellow Tail resource area. These significant intersections include:**
  - **KMC0181 with 1.5m @ 2,717ppm TREO**
    - **Including 0.7m @ 4,593ppm TREO**
  - **KMC0176 with 1.8m @ 1,995ppm TREO**
  - **KMC0179 with 0.5m @ 2,616ppm TREO**
- **Drilling conducted adjacent to the Red Tail resource area has supported continuation of mineralised clay intervals onto the adjacent private land, where land access agreements have been negotiated. Significant intersections from this area include:**
  - **KMC0150 with 3.7m @ 1,629ppm TREO**
  - **KMC0154 with 2.9m @ 1,374ppm TREO**
  - **KMC0140 with 1.5m @ 1,175ppm TREO**
  - **KMC0116 with 1.4m @ 1,036ppm TREO**
  - **KMC0128 with 2.7m @ 1,096ppm TREO**

Australian Rare Earths Limited (ASX: **AR3**) (‘**AR3**’ or the **Company**) is pleased to announce significant assay results from the recently completed 79-hole, 299m push tube core drilling program at the Company’s flagship Koppamurra Project, located across 3 tenements, South Australian EL’s 6509 and 6613 and Victorian EL 7254.

The program, was undertaken during the week of the 21 June 2021 and completed prior to the Company’s ASX listing on July 1, targeted areas adjacent to and extensional from the existing Red Tail and Yellow Tail resource areas.

AR3 has already established a JORC 2021 Inferred Mineral Resource of 39.9Mt @725ppm TREO[i] at Red Tail and Yellow Tail through previous exploration and impressively, the resource was defined through drilling less than 5% of the Company’s landholding at Koppamurra.

Commenting on the excellent results and continued exploration success at Koppamurra, Australian Rare Earths Non-Executive Chairman Dudley Kingsnorth said: *“The primary objective of the June 2021 drilling* *program was to extend the high grade ionic clay mineralisation discovered at both the Red Tail and Yellow Tail prospects which host the maiden mineral resource at Koppamurra.*

"We are just scratching the surface at Koppamurra and we are most encouraged with the results from the drill program, which provide the Company with the confidence that Koppamurra is a unique asset with major growth upside. Based on the most recent results we are planning our next drill program, which is due to commence in the coming weeks.

"Currently, China and Myanmar are the only countries that mine rare earth ionic clays for the production of the heavy rare earths (HREEs), that are essential for the rare earth permanent magnets (REPMs) used in EVs, hybrid vehicles and wind turbines. China is the only processor of the ionic clay concentrates, so the presence of ionic clays at Koppamurra, coupled with the early results of our processing tests at the Australian Nuclear Science and Technology Organisation (ANSTO), augur well for our participation in the emerging independent mine to magnet REPM supply chains"

Drill Program – Key Findings

The drilling method used in the recent 79-hole program was limited to a maximum depth of 6.5m and tested for shallow occurrences of clay hosted rare earth mineralisation adjacent to and extensional from the Red Tail and Yellow Tail resource areas. Through previous exploration, Koppamurra has demonstrated prospectivity for shallow clay hosted rare earth mineralisation across wide portions of the tenure.

Drilling was also conducted and completed along the Poolajelo and Edenhope Roads, aimed at recovering sample material from within the Red Tail resource area for further testing. The drill hole locations are detailed in Figure 1.

The results from this drill program have successfully identified shallow clay hosted rare earth mineralisation providing the Company with further confidence in the prospectivity of the entire Koppamurra Project area.

Importantly, results also confirm the continuing trend of high grade mineralisation along the Yellow Tail strike trend which now extends over a distance more than double the existing Yellow Tail resource length.

Weighted average TREO grades identified in the significant intersections from this recent drilling program continue to support the average grades seen within the Red Tail and Yellow Tail resource areas and as a group exceed those grades by ~30%.

Core recovered from drilling activities (see images 1 and 2 below) were photographed, geologically logged, scanned using a handheld X-Ray Fluorescence (XRF) for trace element determinations – in particular for Yttrium, and finally sampled for assay based on anomalous Yttrium responses, and lithological features. Some of the core recovered can also provide material for future metallurgical testwork.

Next Steps

AR3 is now in the process of finalising the planning for the Company's next major drilling program, which is scheduled to commence in the coming weeks. This drilling will seek to both extend the known resource areas and map the regional prospectivity to provide focus for further future resource drilling programs.

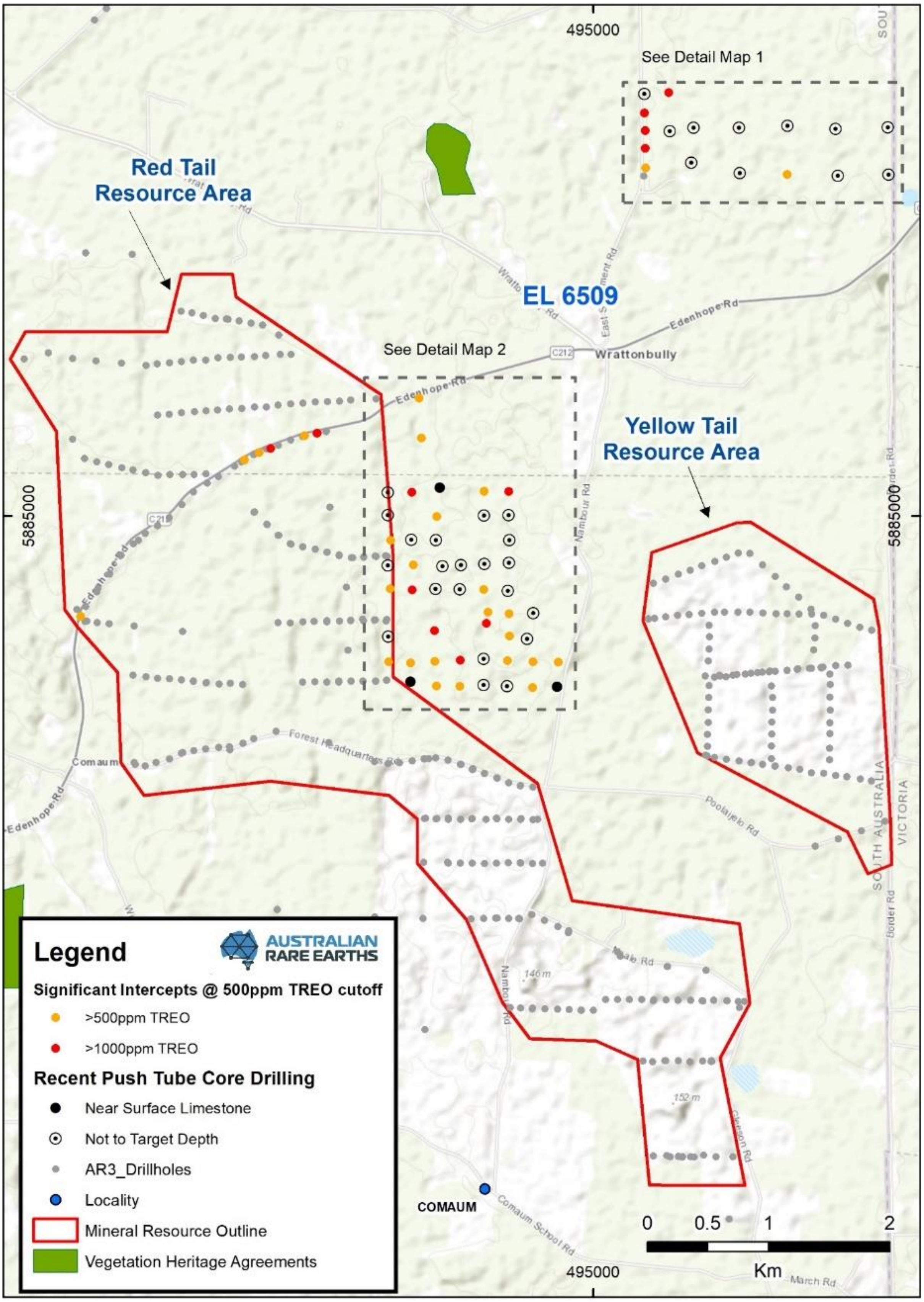

Figure 1: Recent Push-Tube Core Drilling with Significant Intersections

Hole ID	Depth From (m)	Depth To (m)	Thickness (m)	TREO (ppm)	Rare Earths Used in Rare Earth Permanent Magnets (REPMs)	
					Neodymium+Praseodymium oxide as % of TREO	Dysprosium oxide as % of TREO
KMC0110	1.5	2.2	0.7	825	22.6	2.65
KMC0112	1.4	4.2	2.8	655	20.2	3.06
KMC0114	0.6	4.9	4.3	824	25	3.13
KMC0115	4	4.9	0.9	2162	19.7	2.51
KMC0116	1.6	3	1.4	1036	24.5	2.91
KMC0118	3	3.6	0.6	595	12.1	2.14
KMC0119	0.4	3.1	2.7	753	16.3	2.57
KMC0121	0.4	0.8	0.4	650	23	2.51
KMC0123	0.5	2.7	2.2	886	22.8	2.56
KMC0125	1.3	1.7	0.4	865	23.9	2.47
KMC0126	0.6	2.4	1.8	752	21.2	2.58
KMC0127	1.8	2.9	1.1	707	22.8	2.58
KMC0128	2.3	5	2.7	1096	22.2	2.96
KMC0130	3	3.7	0.7	614	19.9	3.46
KMC0130	4.4	5	0.6	815	15.5	2.34
KMC0130	5.5	6	0.5	502	16.1	2.74
KMC0131	0.8	1.2	0.4	713	24.2	2.61
KMC0132	0.6	2.2	1.6	966	21.2	2.56
KMC0134	2	3.5	1.5	906	21.4	2.74
KMC0136	0.6	1.5	0.9	767	19.6	2.26
KMC0137	0.2	0.7	0.5	784	22.4	2.93
KMC0140	1.3	2.8	1.5	1175	21	2.73
KMC0142	1.9	3.1	1.2	706	22.5	2.97
KMC0146	1	1.6	0.6	807	22.9	2.49
KMC0150	2.6	6.3	3.7	1629	24.3	2.76
KMC0152	4.7	5.3	0.6	514	20.8	3.12
KMC0152	5.6	5.8	0.2	597	22.1	2.65
KMC0153	5.3	6.5	1.2	697	22.8	3.49
KMC0154	1.1	4	2.9	1374	19.8	2.47
KMC0158	1.3	2	0.7	861	21.2	2.48
KMC0165	1	2.2	1.2	806	19.7	2.16
KMC0168	2.4	3.8	1.4	789	18.5	2.35
KMC0176	3.6	5.4	1.8	1995	19	2.68
KMC0177	6	6.5	0.5	1682	20.8	1.92
KMC0179	6	6.5	0.5	2616	23.3	2.6
KMC0181	1.7	3.2	1.5	2717	16.8	2.92
KMC0182	0.8	2	1.2	865	23	3.36

Table 1: Significant Intersections – Drilling Conducted outside current Resource Areas

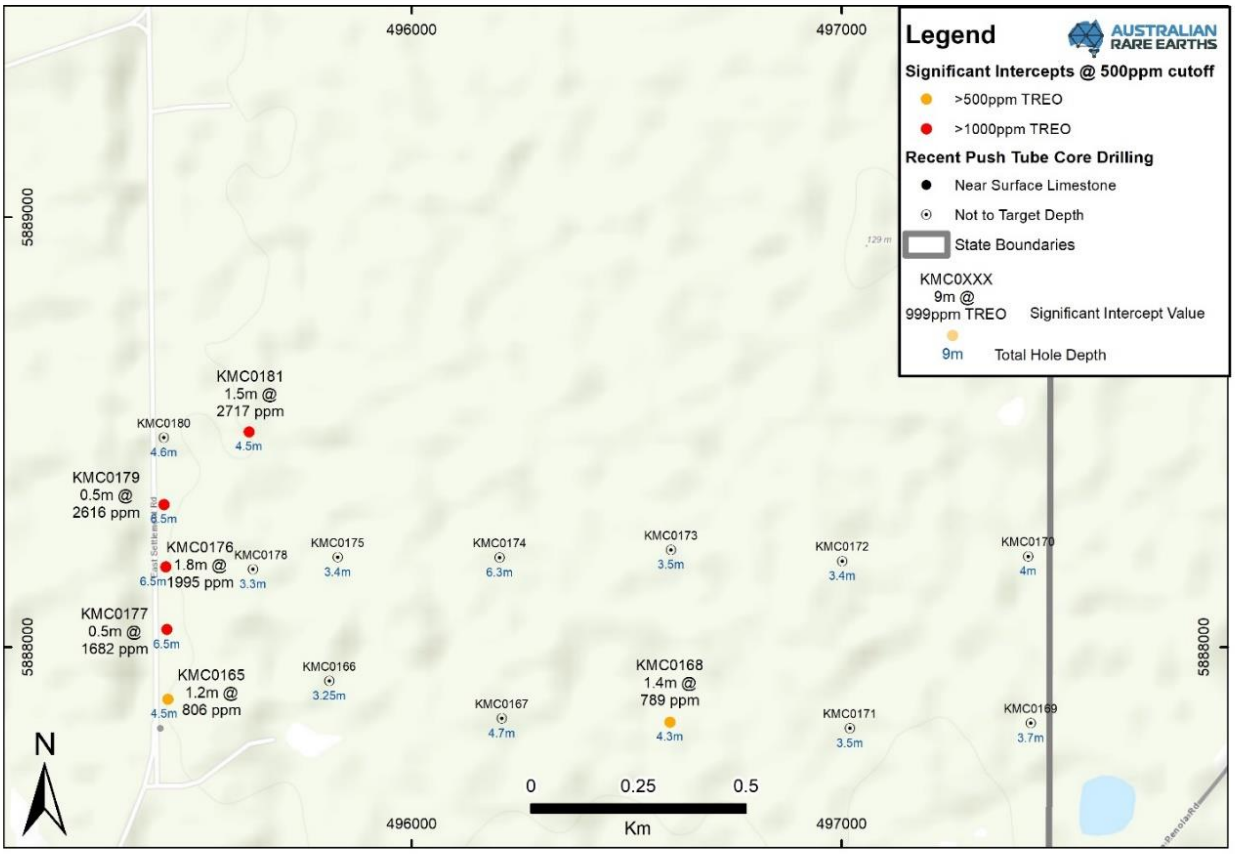

Figure 2: Recent Push-Tube Core Drilling (Detail Map 1) with Significant Intersections (calculated by downhole sample length weighted averages)

Image 1: Core recovered from recent drill program at Koppamurra

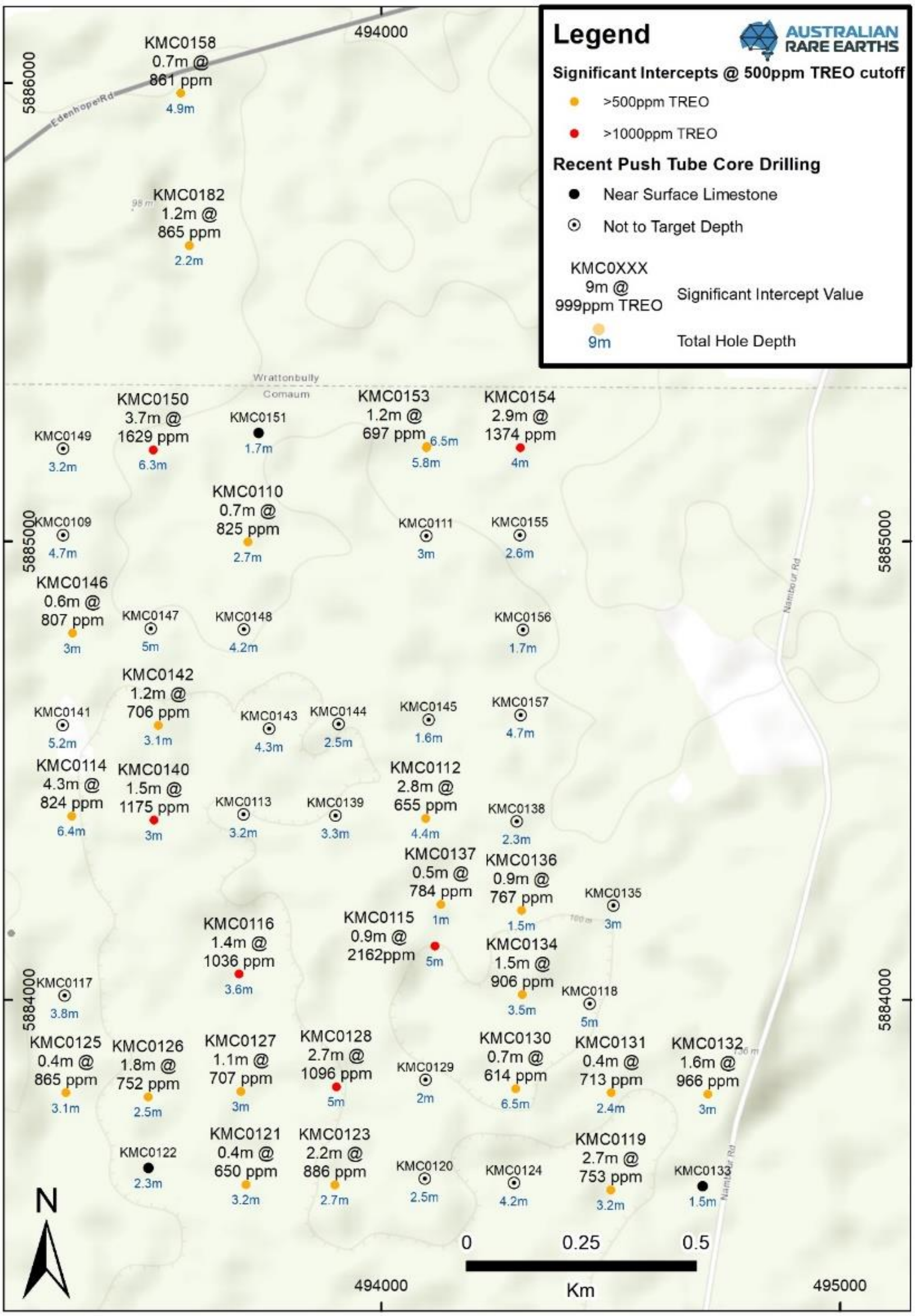

Figure 3 – Recent Push-Tube Core Drilling (Detail Map 2) with Significant Intersections (calculated by downhole sample length weighted averages)

The Board of Australian Rare Earths Limited authorised this announcement to be given to ASX.

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Competent Person Statement

The information in this report that relates to Exploration results is based on information compiled by Australian Rare Earths Limited and reviewed by Mr Rickie Pobjoy who is the Executive Director of the Company and a member of the Australian Institute of Mining and Metallurgy (AusIMM). Mr Pobjoy has sufficient experience that is relevant to the style of mineralisation, the type of deposit under consideration and to the activities 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". Mr Pobjoy consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement (Prospectus dated 7 May 2021) and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement (Prospectus dated 7 May 2021) continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement (Prospectus dated 7 May 2021).

About Australian Rare Earths Limited

Australian Rare Earths (AR3) is committed to the timely exploration and development of its 100% owned, flagship Koppamurra Project, located in South Australia and Victoria. Koppamurra is a prospective ionic clay hosted rare earth element (REE) deposit; uniquely rich in ~~all~~ the REEs required in the manufacture of rare earth permanent magnets which are essential components in energy efficient motors.

The Company is focused on executing a growth strategy that will ensure AR3 is in a position to become an independent and sustainable source of HREEs, playing a pivotal role in the global transition to a green economy.

[1] *Australian Rare Earths Prospectus dated 7 May 2021*

Drill Hole Collar Table – Co-ordinates are Geocentric Datum of Australia (GDA94, Zone 54)

Hole_ID	East (m)	North (m)	RL (m ASL)	Drill_Type	Total Depth EOH (m)	Azimuth	Dip Direction
KMC0104	494102	5882875	103	Push Tube	4.8	0	-90
KMC0105	493999	5882909	105	Push Tube	2.6	0	-90
KMC0106	493800	5882982	107	Push Tube	4.7	0	-90
KMC0107	493699	5883005	107	Push Tube	3.4	0	-90
KMC0108	493402	5882964	106	Push Tube	4.4	0	-90
KMC0109	493306	5885008	102	Push Tube	4.7	0	-90
KMC0110	493709	5884999	103	Push Tube	2.7	0	-90
KMC0111	494098	5885006	102	Push Tube	3	0	-90
KMC0112	494096	5884396	110	Push Tube	4.4	0	-90
KMC0113	493699	5884398	105	Push Tube	3.2	0	-90
KMC0114	493324	5884401	102	Push Tube	6.4	0	-90
KMC0115	494117	5884117	108	Push Tube	5	0	-90
KMC0116	493689	5884056	102	Push Tube	3.6	0	-90
KMC0117	493309	5884003	106	Push Tube	3.8	0	-90
KMC0118	494454	5883985	107	Push Tube	5	0	-90
KMC0119	494500	5883585	107	Push Tube	3.2	0	-90
KMC0120	494095	5883603	104	Push Tube	2.5	0	-90
KMC0121	493704	5883597	104	Push Tube	3.2	0	-90
KMC0122	493492	5883633	105	Push Tube	2.3	0	-90
KMC0123	493898	5883596	105	Push Tube	2.7	0	-90
KMC0124	494289	5883594	104	Push Tube	4.2	0	-90
KMC0125	493312	5883797	99	Push Tube	3.1	0	-90
KMC0126	493491	5883788	100	Push Tube	2.5	0	-90
KMC0127	493693	5883800	103	Push Tube	3	0	-90
KMC0128	493902	5883810	106	Push Tube	5	0	-90
KMC0129	494096	5883819	105	Push Tube	2	0	-90
KMC0130	494293	5883806	104	Push Tube	6.5	0	-90
KMC0131	494501	5883797	104	Push Tube	2.4	0	-90
KMC0132	494712	5883794	104	Push Tube	3	0	-90
KMC0133	494701	5883593	105	Push Tube	1.5	0	-90
KMC0134	494307	5884011	108	Push Tube	3.5	0	-90
KMC0135	494506	5884199	106	Push Tube	3	0	-90
KMC0136	494305	5884195	110	Push Tube	1.5	0	-90
KMC0137	494129	5884208	108	Push Tube	1	0	-90
KMC0138	494295	5884383	107	Push Tube	2.3	0	-90
KMC0139	493900	5884396	102	Push Tube	3.3	0	-90
KMC0140	493504	5884392	98	Push Tube	3	0	-90
KMC0141	493305	5884593	101	Push Tube	5.2	0	-90
KMC0142	493513	5884599	103	Push Tube	3.1	0	-90
KMC0143	493755	5884585	103	Push Tube	4.3	0	-90

AUSTRALIAN RARE EARTHS

KMC0144	493907	5884595	109	Push Tube	2.5	0	-90
KMC0145	494103	5884605	110	Push Tube	1.6	0	-90
KMC0146	493326	5884800	101	Push Tube	3	0	-90
KMC0147	493497	5884804	103	Push Tube	5	0	-90
KMC0148	493700	5884802	103	Push Tube	4.2	0	-90
KMC0149	493306	5885196	103	Push Tube	3.2	0	-90
KMC0150	493502	5885200	103	Push Tube	6.3	0	-90
KMC0151	493732	5885237	100	Push Tube	1.7	0	-90
KMC0152	494098	5885205	95	Push Tube	5.8	0	-90
KMC0153	494099	5885207	94	Push Tube	6.5	0	-90
KMC0154	494303	5885205	100	Push Tube	4	0	-90
KMC0155	494302	5885008	99	Push Tube	2.6	0	-90
KMC0156	494309	5884801	106	Push Tube	1.7	0	-90
KMC0157	494304	5884615	107	Push Tube	4.7	0	-90
KMC0158	493562	5885978	102	Push Tube	4.9	0	-90
KMC0159	492719	5885687	101	Push Tube	4	0	-90
KMC0160	492614	5885665	101	Push Tube	4.3	0	-90
KMC0161	492336	5885562	101	Push Tube	2.3	0	-90
KMC0162	492240	5885525	101	Push Tube	5	0	-90
KMC0163	492120	5885464	101	Push Tube	6.5	0	-90
KMC0164	490767	5884174	90	Push Tube	1.7	0	-90
KMC0165	495433	5887879	124	Push Tube	4.5	0	-90
KMC0166	495809	5887921	129	Push Tube	3.25	0	-90
KMC0167	496210	5887834	128	Push Tube	4.7	0	-90
KMC0168	496601	5887826	128	Push Tube	4.3	0	-90
KMC0169	497440	5887823	129	Push Tube	3.7	0	-90
KMC0170	497434	5888211	135	Push Tube	4	0	-90
KMC0171	497020	5887811	120	Push Tube	3.5	0	-90
KMC0172	497002	5888200	126	Push Tube	3.4	0	-90
KMC0173	496603	5888226	126	Push Tube	3.5	0	-90
KMC0174	496205	5888208	130	Push Tube	6.3	0	-90
KMC0175	495828	5888209	126	Push Tube	3.4	0	-90
KMC0176	495428	5888187	125	Push Tube	6.5	0	-90
KMC0177	495430	5888041	121	Push Tube	6.5	0	-90
KMC0178	495631	5888181	124	Push Tube	3.3	0	-90
KMC0179	495424	5888332	123	Push Tube	6.5	0	-90
KMC0180	495424	5888487	121	Push Tube	4.6	0	-90
KMC0181	495622	5888501	125	Push Tube	4.5	0	-90
KMC0182	493581	5885646	108	Push Tube	2.2	0	-90

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JORC Table 1

Section 1 Sampling Techniques and Data		
Criteria	Explanation	Comment
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*	• *The Push Tube Core Drilling method was used to obtain samples which were placed in marked core trays, photographed and geologically logged. Push tube core samples were selected for sampling predominantly based on preliminary pXRF readings with samples cut to geological contacts. Half core samples which consisted predominantly of clay and clay-rich material were split with a paint scraper. The collected sample interval lengths ranging from 0.2m to 1.2m and were placed in pre-numbered calico bags and made available for assay.* • *A handheld Olympus Delta XFR Analyser was used to provide a preliminary assessment of the geochemistry of the core. The XRF analysis provided a full suite of mineral elements for characterising the lithological units with pXRF readings downloaded daily.* • *Field duplicates were taken at a rate of ~ 1:20 with the remaining half core sampled. Duplicate samples were inserted into the sampling sequence.* • *At the laboratory, the samples were oven dried at 105 degrees for a minimum of 24 hours and secondary crushed to 3 mm fraction. Samples were reduced s via a rifle splitter and then moved to the central weighing laboratory. The samples were submitted for analysis using XRF-LA-ICP-MS method* • *A laboratory repeat was taken at ~ 1 in 13 samples* • *Commercially obtained standards were inserted by the laboratory at a rate of ~ 1 in 26 into the sample.*

Criteria	Explanation	Comment
	problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	
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).*	• *Push tube core drilling was conducted by contractor In-Depth Drilling Pty Ltd utilising a Landcruiser-mounted hydraulic ram system to push tubes of known length into surficial transported sediments and underlying weathered saprolitic clays.* • *Each push tube core drillhole commenced with a short tube of 1m in length which is initially pushed into the ground. The tube is removed, and the sample is placed into a core tray. A second longer tube of known length with a slightly smaller diameter is then pushed into the existing drill hole to extend the drill hole depth. The second tube is removed, and the sample is then placed into the core tray at the appropriate depth position. The drilling is continued using progressively longer drill tubes to attain the target total depth.* • *All holes were drilled vertically with depths ranging from 1.0m and 6.5m.*
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.*	• *Sample recovery was monitored during the geological logging process by recording sample condition descriptions where 'Poor' to 'Very Poor' were used to identify any samples recovered which were potentially not representative of the interval drilled.* • *No significant loses of samples were observed due to the shallow drilling depths (<6.5m).* • *Samples collected from the push tube core method were placed in core trays with 5 channels of 1m length representing individual metres from the drillhole. Placement of the core into the core trays was monitored by the geologist or field crew at the rig to ensure effective representation of the interval drilled.* • *Push tube coring was effective and produced quality core samples representative of the*

Criteria	Explanation	Comment
		intervals with good recoveries in unconsolidated and highly weathered zones. • *No relationship exists between sample recovery and grade.*
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* *The total length and percentage of the relevant intersections logged.*	• *All push tube core trays (KMC104 – KMC182) collected using the push tube coring method were geologically logged for lithology, colour, cement type, hardness, percentage rock estimate, sorting and any relevant comments such as moisture, sample condition, or vegetation. All trays were photographed.* • *Geological logging data for all drill holes was recorded onto a Microsoft Excel spreadsheet with validation rules built into the spreadsheet including specific drop-down menus for each variable to ensure consistent and systematic data collection.* • *The data was uploaded to the Azure Data Studio database and subjected to numerous validation queries.* • *Every drillhole was logged in full.*
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*	• *Push Tube Core sampling was completed by halving the core using a paint scraper. One half of the core was collected from intervals representing visible geological or oxidative boundaries ranging from 0.2m to 1.2m in length and placed into pre-numbered calico bags. The intervals were recorded against the unique sample ID on the calico bags.* • *Duplicates were generally taken within the clay lithologies above the basement as this is the likely zone of REE enrichment and collected at a frequency of 1 per 20 samples. Duplicate samples consist of the remaining half core.*

AUSTRALIAN RARE EARTHS

Criteria	Explanation	Comment
	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.*	• *Standard Reference Material (SRM) samples were inserted into the sample batches at a frequency rate of 1 per 26 samples by the laboratory and a repeat sample was taken at a rate of 1 per 13 samples.* • *A geologist was in charge the sampling and logging process with samples selected for analysis based on the logging descriptions and preliminary pXRF data. Clay rich sample and those adjacent to the limestone basement contact were selected for assay as the REEs are known to be contained within the clay component of the sediment package based on analysis of XRF data and previous exploration work.*
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*	• *The detailed geological logging of samples provides lithology (clay component) and proximity to the limestone basement which is sufficient for the purpose of determining the mineralised zone.* • *A handheld Olympus Delta XFR Analyser was used to provide a preliminary geochemical assessment of the core. The XRF was set to the 3-beam Soil Mode to provide a multi-element analyses including the target rare earth elements. A total 80 second reading was conducted at each sampling point, with an extended 50 second reading interval set to provide enhanced accuracy and lower detection limits for the critical rare earth elements. Shorter reading times were undertaken for less important elements to provide a complete suite of multi-element values to assist with characterising any anomalism and the different lithological rock units.* • *pXRF readings were downloaded daily.* • *The Push Tube Core samples were assayed by Bureau Veritas laboratory in Canning Vale,*

Criteria	Explanation	Comment
	whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	*Perth, Western Australia, which is considered the Primary laboratory.* • *The samples were initially oven dried at 105 degrees Celsius for 24 hours. Samples were secondary crushed to 3 mm fraction and the weight recorded. The sample was reduced on a rifle splitter, then pulverised to 90% passing 75 µm. Excess residue was maintained for storage while the rest of the sample placed in 8x4 packets and sent to the central weighing laboratory.* • *All weighed samples were then analysed using the Laser ablation ICP-MS (LA-ICP-MS) analytical method;* • *The laboratory used XRF-LA_ICP-MS combo package which requires a single lithium borate fusion to provide major elements from XRF and trace minor elements from LA-ICP-MS assay method.* • *Field duplicates were collected and submitted at an approximate frequency of 1 per 20 samples.* • *Bureau Veritas completed its own internal QA/QC checks that included a Laboratory repeat every 13th sample and a standard reference sample every 26th sample prior to the results being released.* • *Analysis of QA/QC samples show the laboratory data to be of acceptable accuracy and precision;* • *No standards or blanks were submitted by Australian Rare Earths.* • *The adopted QA/QC protocols are acceptable for this stage of work.* • *The sample preparation and assay techniques used are industry standard and provide a total analysis.*

Criteria	Explanation	Comment
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.*	• *All results are checked by the company's Technical Director.* • *Field based geological logging for drillholes was entered directly into an Excel spreadsheet format with validation rules built into the spreadsheet including specific drop-down menus for each variable. This digital data was then uploaded directly to the database.* • *Assay data was received in digital format from the laboratory and was uploaded directly to the database* • *Field and laboratory duplicate data pairs of each batch are plotted to identify potential quality control issues.* • *Standard Reference Material sample results are checked from each sample batch to ensure they are within tolerance (<3SD) and that there is no bias.* • *Assay data yielding elemental concentrations for rare earths (REE) within the sample are converted to their stoichiometric oxides (REO) in a calculation performed within the database using the conversion factors in the below table.* Rare earth oxide is the industry accepted form for reporting rare earths. The following calculations have been used for reporting throughout this report: Note that Y_2O_3 is included in the TREO, HREO and CREO calculation. TREO = $La_2O_3 + CeO_2 + Pr_6O_{11} + Nd_2O_3 + Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Lu_2O_3 + Y_2O_3$ CREO = $Nd_2O_3 + Eu_2O_3 + Tb_4O_7 + Dy_2O_3 + Y_2O_3$ LREO = $La_2O_3 + CeO_2 + Pr_6O_{11} + Nd_2O_3$ HREO = $Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Lu_2O_3 + Y_2O_3$ NdPr = $Nd_2O_3 + Pr_6O_{11}$ TREO-Ce = TREO - CeO_2

<table>
<tr><th>Criteria</th><th>Explanation</th><th>Comment</th></tr>
<tr><td></td><td></td><td>

- % NdPr = NdPr/ TREO

<table>
<tr><td>Element Name</td><td>Element Oxide</td><td>Oxide Factor</td></tr>
<tr><td>Ce</td><td>CeO_2</td><td>1.2284</td></tr>
<tr><td>Dy</td><td>Dy_2O_3</td><td>1.1477</td></tr>
<tr><td>Er</td><td>Er_2O_3</td><td>1.1435</td></tr>
<tr><td>Eu</td><td>Eu_2O_3</td><td>1.1579</td></tr>
<tr><td>Gd</td><td>Gd_2O_3</td><td>1.1526</td></tr>
<tr><td>Ho</td><td>Ho_2O_3</td><td>1.1455</td></tr>
<tr><td>La</td><td>La_2O_3</td><td>1.1728</td></tr>
<tr><td>Lu</td><td>Lu_2O_3</td><td>1.1371</td></tr>
<tr><td>Nd</td><td>Nd_2O_3</td><td>1.1664</td></tr>
<tr><td>Pr</td><td>Pr_6O_{11}</td><td>1.2082</td></tr>
<tr><td>Sc</td><td>Sc_2O_3</td><td>1.5338</td></tr>
<tr><td>Sm</td><td>Sm_2O_3</td><td>1.1596</td></tr>
<tr><td>Tb</td><td>Tb_4O_7</td><td>1.1762</td></tr>
<tr><td>Th</td><td>ThO_2</td><td>1.1379</td></tr>
<tr><td>Tm</td><td>Tm_2O_3</td><td>1.1421</td></tr>
<tr><td>U</td><td>U_3O_8</td><td>1.1793</td></tr>
<tr><td>Y</td><td>Y_2O_3</td><td>1.2699</td></tr>
<tr><td>Yb</td><td>Yb_2O_3</td><td>1.1387</td></tr>
</table>
</td></tr>
<tr><td>Location of data points</td><td>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.</td><td>

- Down hole surveys for short, shallow vertical drilling is not required, and was not undertaken.
- The drillhole collars were located a handheld GPS which has an accuracy of +/-5m in the horizontal.
- The datum used is GDA94/MGA Zone 54.
- Topographic data is derived from hand held GPS readings with limited accuracy.
- The accuracy of the locations is sufficient for this stage of exploration.

</td></tr>
<tr><td>Data spacing and distribution</td><td>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</td><td>

- The holes were largely drilled at 200m and 400m centres.
- The Push Tube Core Drilling program was conducted in June 2021 to examine new regions and to gain suitable samples for further testwork.
- No sample compositing has been applied.

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

Criteria	Explanation	Comment
	Ore Reserve estimation procedure(s) and classifications applied. *Whether sample compositing has been applied.*	
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• *The Koppamurra REE target is interpreted to be hosted in flay lying near-surface clays that are horizontal.* • *All drillholes are vertical which is appropriate for horizontal bedding and regolith profile.* • *The Koppamurra drilling was oriented perpendicular to the strike of mineralisation defined by previous exploration and current geological interpretation.* • *All drillholes were vertical and the orientation of the mineralisation is relatively horizontal.* • *The orientation of the drilling is considered appropriate for testing the lateral and vertical extent of mineralisation without any bias.*
Sample security	*The measures taken to ensure sample security.*	• *After drilling the core trays were returned to the Company's base of operations in Naracoorte for logging, preliminary pXRF readings, density measurements and geochemical sampling.* • *Sampling of the core was completed with sample calico bags were tied and placed into polyweave bags, labelled with the sample numbers contained within each polyweave bag.* • *Polyweave bags were placed on a pallet and 'shrink-wrapped' by the transport contractor prior to departure from the Naracoorte base to the analytical laboratory.* • *Transport to the analytical laboratory was undertaken by an agent for the TOLL Logistics Group, and consignment numbers were logged against the chain of custody forms.* • *The laboratory inspected the packages and did not report tampering of the samples.*

Criteria	Explanation	Comment
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	*A review of the sampling techniques was undertaken by Grant Williamson Geological Consulting Services which found that Push tube core drilling proved to be an effective method of obtaining good quality, representative, core samples of the target rare earth anomalous clay horizons from the Koppamurra Project.* *A number of spot checks were made on database outputs by AR3 which confirmed the correct calculations were being made.*

Section 2 Reporting of Exploration Results

Criteria	Explanation	Comment
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 exploration work was completed on the tenement (EL6509) in South Australia and 100% owned by the company Australian Rare Earths Limited. The Exploration Licence was granted on 15/09/2020 with an expiry date of 14/09/2022.* • *EL6509 is within 100m of a Glen Roy Conservation Park and the Naracoorte Caves National Park, the latter of which is excised from the tenement. The License area contains several small Extractive Mineral Leases (EML) held by others, Native Vegetation Heritage Agreement areas, as well as the Deadman's Swamp Wetlands which are wetlands of national importance.* • *A Native Title Claim by the First Nations of the South East #1 has been registered but is yet to be determined. The claim area includes the areas covered by EL6509.* • *Details regarding royalties are discussed in chapter* ***Error! Reference source not found.*** *of Australian Rare Earths Prospectus dated 7 May 2021.*
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	• *Exploration activities by other exploration companies in the area have not previously targeted or identified REE mineralisation.* • *Historical exploration activities in the vicinity of Koppamurra include investigations for coal, gold and base metals, uranium, and heavy mineral sands.*
Geology	*Deposit type, geological setting and style of mineralisation.*	• *The Koppamurra deposit is interpreted to contain analogies to ion adsorption ionic clay REE deposits.* • *REE mineralisation at Koppamurra is hosted by a clay unit interpreted to have been deposited onto a limestone base (Gambier Limestone) and accumulated in an interdunal, lagoonal or estuarine environment and the source of the REE at Koppamurra is most likely basalt associated alkali volcanics of the Newer Volcanics Province in south-eastern Australia. Mineralogy of the clay is indicative of formation under mildly alkaline conditions in a marine or coastal environment from fine-grained sediments either river transported or windblown thereby supporting this interpretation.* • *Mineralogical test work conducted on a clay sample from the project area established that the dominant clay minerals are smectite and kaolin, and the few*

Criteria	Explanation	Comment
		REE-rich minerals detected during the SEM investigation are not considered inconsistent with the suggestion that a significant proportion of REE are distributed in the sample as adsorbed elements on clay and iron oxide surfaces. • *There are several known types of regolith hosted REE deposits including, ion adsorption clay deposits, alluvial and placer deposits. Whilst Koppamurra shares similarities with both ion adsorption clay deposits and volcanic ash fall placer deposits, there are also several differences, highlighting the need for further work before a genetic model for REE mineralisation at Koppamurra can be confirmed.* • *There is insufficient geological work undertaken to determine any geological disruptions, such as faults or dykes, that may cause variability in the mineralisation.*
Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* • *easting and northing of the drill hole collar* • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* • *dip and azimuth of the hole* • *down hole length and interception depth* • *hole length.* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent*	• *The material information for drill holes relating to this report are contained within the report.*

Criteria	Explanation	Comment
	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.*	• *No metal equivalents have been used.* • *Significant intercepts are calculated using downhole sample length weighted averages and a lower cut-off grade of 500 ppm TREO.* • *A full list of drillholes with significant intercepts > 500ppm TREO can be found in the body of this report.*

Criteria	Explanation	Comment
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').*	• *All intercepts reported are down hole lengths.* • *The mineralisation is interpreted to be flat lying and drilling is vertical perpendicular to mineralisation. Any internal variations to REE distribution within the horizontal layering was not defined, therefore the true width is considered not known.*
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• *Diagrams are included in the body of this report.*
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.*

AUSTRALIAN RARE EARTHS

Criteria	Explanation	Comment
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• *All known relevant exploration data has been reported in this report.*
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.*	• *Proposed further exploration includes drilling, assay, ground based geophysical surveys and further metallurgical testwork.*

[i] *Australian Rare Earths Prospectus dated 7 May 2021*

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