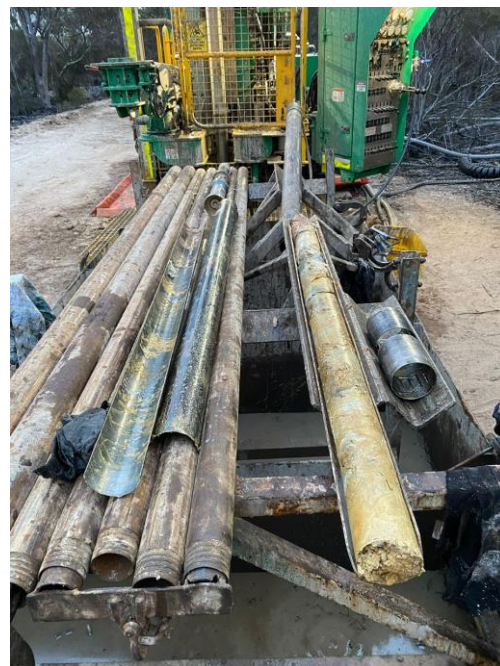


## Drilling resumes at Mt Ridley Rare Earth Project over 1,200km<sup>2</sup> mineralised footprint

26 October 2022

### HIGHLIGHTS

- Diamond drilling has commenced at Mt Ridley and will twin rare earth intersections at key prospects including Tyrrells, Mia, Butch Fabienne and Vincent.
- Drilling will aim to examine rare earth mineralogy to assist with ore genesis models and guide metallurgical testwork.
- Two aircore rigs are due to commence infill and step out drilling over a total mineralised footprint of 1,200 square kilometres.
- The 50,000 metre aircore program is likely to finish in 2Q CY 2023.
- Metallurgical testwork on selected prospects is ongoing.
- Company well positioned to fund exploration with \$6.0 million due from the underwritten options (MRDOB) expiring on 30<sup>th</sup> November 2022.



Holes to be twinned include:

- 23m at 3,688ppm TREO<sup>1</sup> from 6m in MRAC1053 at Tyrrell Prospect
- 15m at 2,120ppm TREO from 15m in MRAC1234 at the Mia Prospect
- 47m at 1,521ppm TREO from 33m in MRAC0955 at the Butch Prospect
- 12m at 2,178ppm TREO from 45m in MRAC1325 at the Fabienne Prospect
- 9m at 2,447ppm TREO from 54m in MRAC1026 at the Winston Prospect
- 12m at 1,346ppm TREO from 24m in MRAC0920 at the Vincent Prospect
- 13m at 788ppm TREO from 27m in MRAC0961 at the Keith Prospect; and
- 12m at 1,180ppm TREO from 36m from MRAC1003 at the Jules Prospect.

## Overview

Mount Ridley Mines Limited (ASX: **MRD**, “**Mt Ridley**” or “**the Company**”) is pleased to announce that drilling has resumed at its namesake Mount Ridley REE Project. The 100% owned Project is located approximately 50km north of the Port of Esperance Western Australia, with an area covering approximately 3,400km<sup>2</sup> (Figure 1).

## Mount Ridley’s Chairman Mr. Peter Christie commented:

*“The first of 3 drilling rigs has arrived at site and will twin approximately 20 aircore holes that returned strong REE<sup>2</sup> mineralisation at key prospects including Tyrrell’s, Keith’s, Jules’, Vincent, Winston’s, Butch and Mia, to provide material for mineralogy and metallurgical test work.*

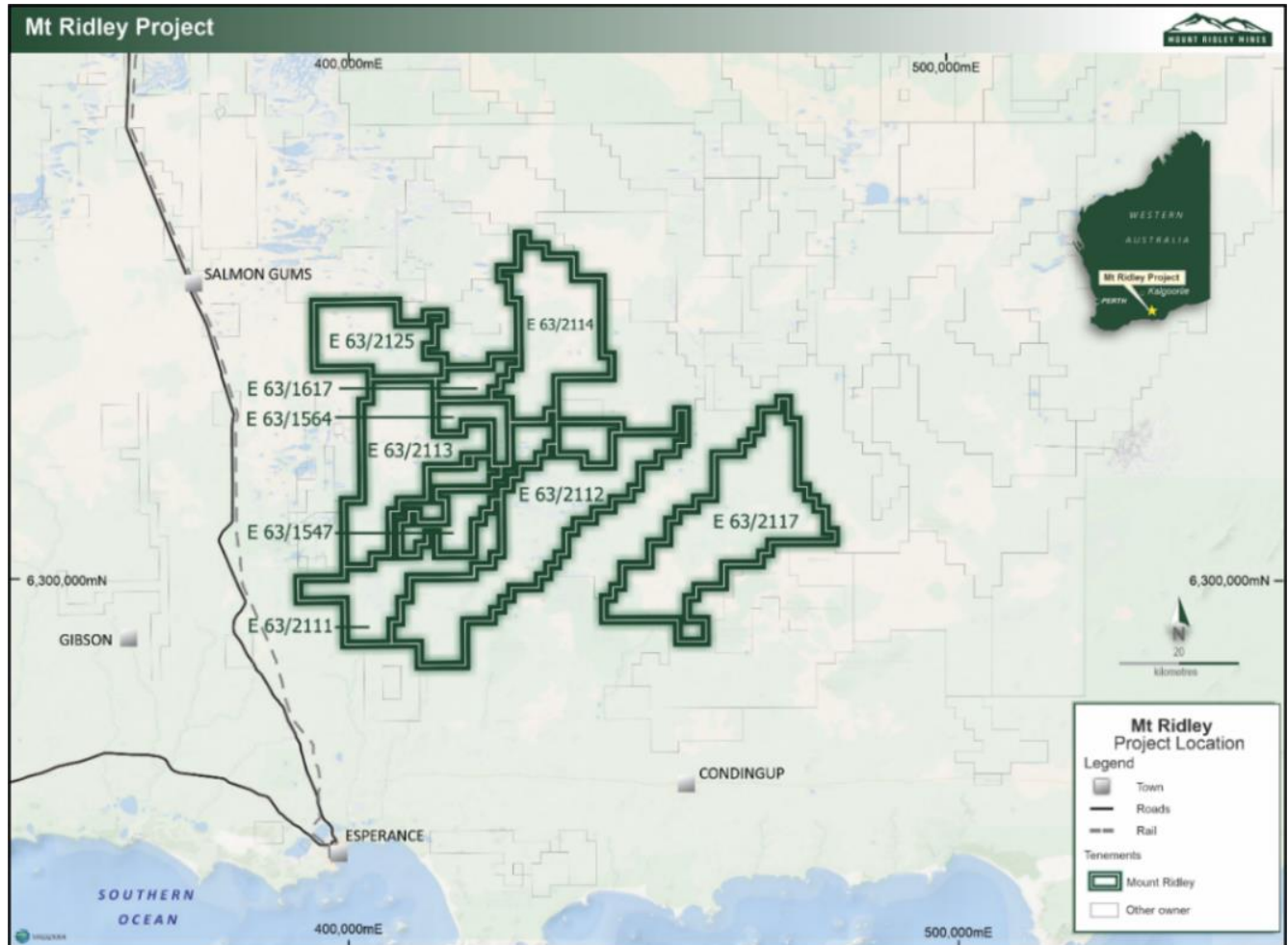
*“Aircore drilling is then scheduled to resume during November, with approvals in place to drill up to 50,000m over the next two quarters.”*

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<sup>1</sup> TREO means the sum of 14 REE+Y, each converted to its respective element oxide equivalent using the factors in References: Table 1.

<sup>2</sup> REE means 14 rare earth elements plus yttrium that were analysed: cerium (Ce), dysprosium (Dy), erbium (Er), europium (Eu), gadolinium (Gd), holmium (Ho), lanthanum (La), lutetium (Lu), neodymium (Nd), praseodymium (Pr), samarium (Sm), terbium (Tb), thulium (Tm), ytterbium (Yb). Yttrium (Y) is usually included with REE.

Drilling is targeting widespread and well-developed clay-hosted rare earth element mineralisation within a mineralised footprint of 1,200km<sup>2</sup> (Figures 2 and 3).



**Figure 1:** The Mount Ridley REE Project comprises 9 granted exploration licences in south-west Western Australia with an area of approximately 3,400km<sup>2</sup>.

### Aircore drilling will resume thereafter.

With **Stage 4 - Diamond Core Drilling** advancing, with step out (figure 2) and infill drilling (figure 3) sufficient to drill out a JORC Resource later in CY 2022.

- **Stage 2 – Regional Drilling** (continued): Very encouraging results have been reported from many of the drill holes analysed to date<sup>3</sup>. Stage 2 drilling has been along existing bush tracks within vacant crown land. The Company has adopted a policy of avoiding adjoining cultivated farmland.
- **Stage 3 – Primary Target Expansion Drilling:** The Company has received Programme of Works (POW) approvals from the Department of Mines Industry Regulation and Safety (DMIRS), which provide for up to 50,000m of aircore drilling at all named prospects, including Mia, Tyrrell’s Keith’s, Marcellus’,

<sup>3</sup> Refer to ASX: MRD announcements dated 3 August 2022 and 6 October 2022.

Winston's, Jules' and Vincent's Prospects. Drilling will initially be completed on a 400m by 400m grid pattern and then infilled to a sufficient density for a JORC Resource estimate.

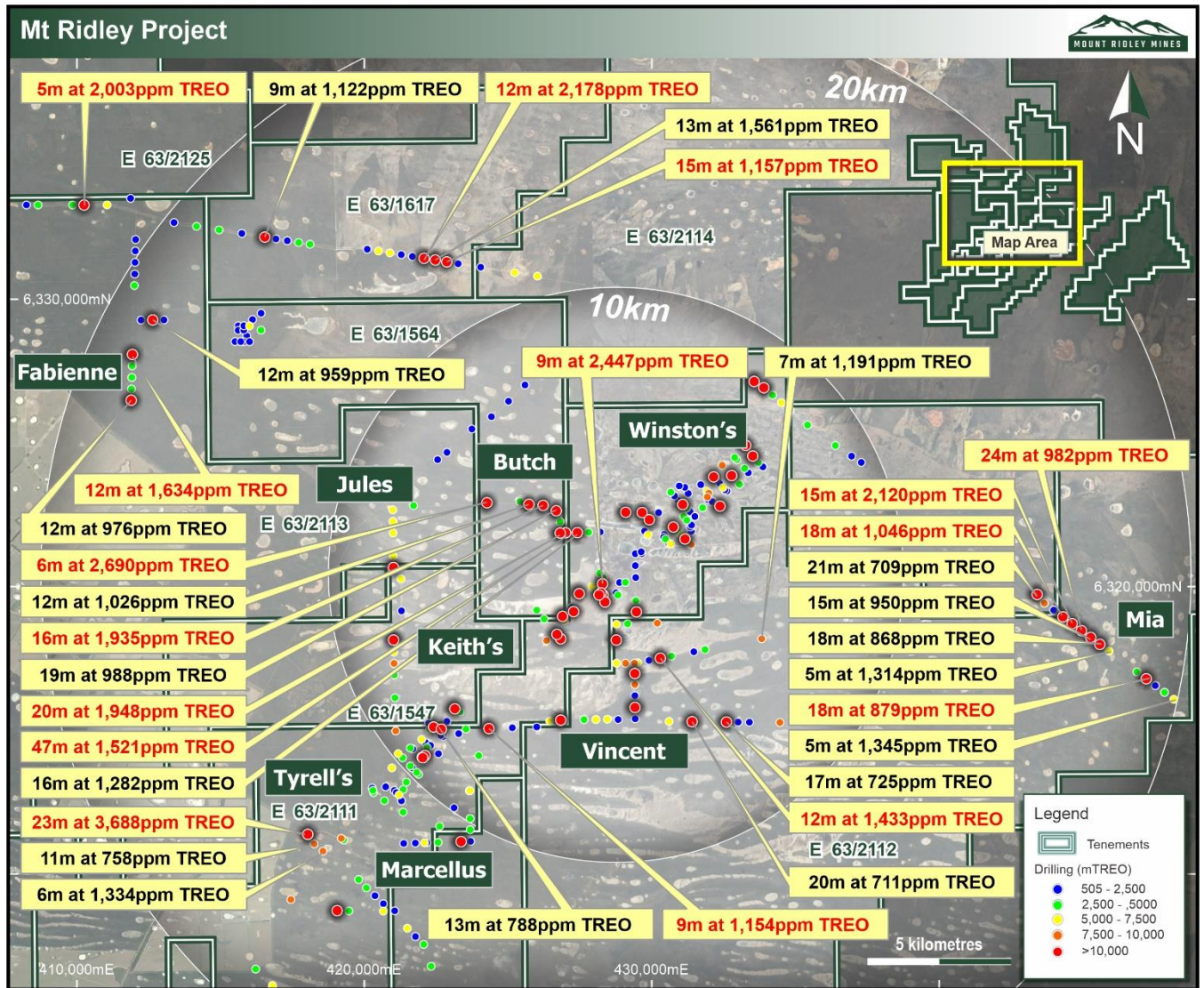


Figure 2: Significant drilling intersections from the latest results (intersections calculated using 500ppm TREO as the lower cut-off), with collar locations coloured by m.TREO<sup>4</sup> and showing Prospect locations. The field of view is approximately 40km by 35km.

## ONGOING WORK

### Ore Genesis Petrography and Metallurgy Commences

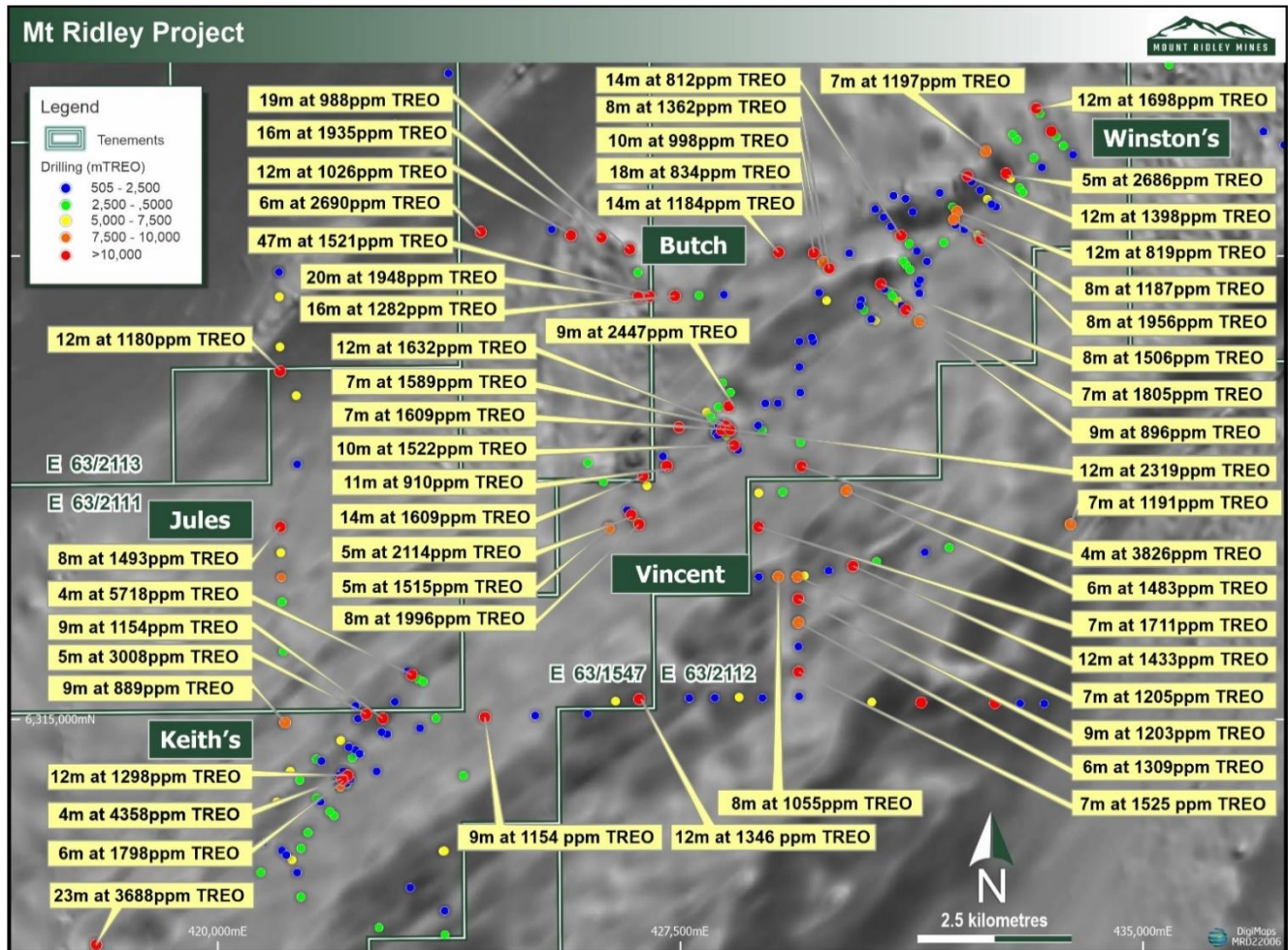
409 bottom-of-hole mostly fresh samples of Proterozoic-aged geological basement, have been submitted to Portable Spectral Services to be scanned using a Bruker M4 Tornado microXRF. 344 samples have previously been scanned.

4 m.TREO means metres of intersection width (m) multiplied by TREO.

This technology is used to confirm the lithology of basement rocks, and REE-containing minerals and other mineralisation indicators.

### Sighter Metallurgy Samples with ANSTO

17 composite samples from 8 drill holes distributed throughout the Project have been submitted to ANSTO for sighter REE extraction work. Composites were made up from upper and lower zones of mineralisation from a variety of depths throughout the Project. Results are expected during Q4 2022.



**Figure 3:** Significant REE mineralisation intersections from all drilling completed to date for the central REE Corridor. This is an area of approximately 30km by 11km which includes the Winston's, Keith's, Jules', and Vincent's Prospects. Tyrrell's and Marcellus Prospects adjoin to the southwest. Intersections are calculated using 500ppm TREO as the lower cut-off. Collar positions are coloured by m.TREO. The field of view is approximately 20km by 14km.

### ESG commitments in action. Heritage Protection and Environment Management

The Company has developed an Aboriginal Heritage Management Plan (AHMP) in conjunction with the Esperance Tjaltjraak Native Title Aboriginal Corporation (ETNTAC) which, among other things, identifies areas of cultural significance that the Company will avoid.

The Company has adopted a best practice Exploration Environment Management Plan (EEMP), developed in conjunction with consultant Botanica and relevant Government environmental bodies. This records the Company's obligations and procedures when operating at the Mount Ridley Project.

Under the AHMP and EEMP, areas of proposed new clearing will be inspected by on-site heritage and flora/fauna monitors when drill traverses are cleared.

#### **ABOUT THE MOUNT RIDLEY REE PROJECT<sup>5</sup>**

The Company announced on 1 July 2021 that laterally extensive REE mineralisation had been identified at its namesake Mount Ridley Project.

Regional drilling along traverses of up to 40km in length have intersected multiple, wide zones of significant (>500ppm) TREO mineralisation with an apparent width of 15km in places.

Key highlight intersections from the most recent drilling include:

- 23m at 3,688ppm TREO from 6m in MRAC1053 at Tyrrell's Prospect;
- 15m at 2,120ppm TREO from 15m in MRAC1234 at the Mia Prospect;
- 47m at 1,521ppm TREO from 33m in MRAC0955 at the Butch Prospect; and
- 12m at 2,178ppm TREO from 45m in MRAC1325 at the Fabienne Prospect.

The Company reported that on a weighted average basis by sample interval, the average assayed grade is 1,036ppm TREO (using a 500ppm TREO lower cutoff) and comprises 26% Magnet REO<sup>6</sup>.

#### **Completed Work Summary**

- Samples from over 3,500m of drilling by Mt Ridley Mines from 2017-2018 were analysed for REE.
- Over 2022 a total of 409 aircore holes for 18,927m were drilled along cleared tracks identifying priority prospects at Mia, Tyrrell's Keith's, Marcellus', Winston's, Jules' and Vincent's.
- 880 drill pulps have been analysed using a short wave infra-red ("SWIR") instrument to help map clay mineral distribution as a component of an ongoing Research and Development project studying the REE mineralisation genesis.
- 344 samples of near fresh rock stubs from the bottom of aircore holes drilled in 2014 were scanned using a Bruker M4 Tornado micro-XRF analyser. A further 409 samples from 2022 drillholes are currently being scanned. This study forms a component of the Research and Development project.
- The Company's geochemical consultant is generating prospectivity indices from these datasets.

The Company acknowledges the Esperance Nyungar People, custodians of the Project area.

This announcement has been authorised for release by the Company's Board of Directors.

#### **For further information, please contact:**

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<sup>5</sup> Mount Ridley Mines Limited announcements to ASX 1 July 2021, 2 August 2021, 13 September 2021, 2 August 2022, 6 October 2022.

<sup>6</sup> Magnet REO or MagREO means magnet rare earth oxides; the sum of Dy2O3, Nd2O3, Pr6O11 and Tb4O7

## ABOUT MOUNT RIDLEY MINES LIMITED

Mount Ridley is a company targeting demand driven metals in Western Australia.

Its namesake Mount Ridley Project, located within a Fraser Range sub-basin, was initially acquired for its nickel and copper sulphides potential, and is now recognised as being prospective for clay hosted REE deposits.

The Company also holds approximately 18% of the Weld Range in the mid-west of Western Australia. Areas of the tenements are prospective iron and gold.

### Competent Person

*The information in this report that relates to exploration strategy and results is based on information supplied to and compiled by Mr David Crook. Mr Crook is a consulting geologist retained by Mount Ridley Limited. Mr Crook is a member of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists and has sufficient experience which is relevant to the exploration processes undertaken to qualify as a Competent Person as defined in the 2012 Editions of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.*

*With respect to JORC Table 1 included in MRD announcements to ASX dated:*

- *2 August 2021. "REE Potential Unveiled at Mount Ridley."*
- *13 September 2021. "REE Targets Extended."*
- *21 October 2021. "Encouraging Rare Earth Extraction Results."*
- *2 August 2022. "Excellent Drilling Results Expand Rare Earth Mineralisation Footprint at the Mt Ridley Project."*
- *6 October 2022. "Highest grades to date returned from Mt Ridley Rare Earth Project Mineralised footprint extended to more than 1,200km<sup>2</sup>."*

*Mount Ridley confirms that it is not aware of any new information or data that materially affects the information included in these announcements and that all material assumptions and technical parameters underpinning the exploration results 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.*

### Caution Regarding Forward Looking Information

*This announcement may contain forward-looking statements that may involve a number of risks and uncertainties. These forward-looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions, and estimates should change or to reflect other future developments.*

## References

“REO” means the rare earth element converted to its element oxide equivalent using the factors provided at [Element-to-stoichiometric oxide conversion factors - JCU Australia](#). TREO means the sum of the 14 REO+ Y<sub>2</sub>O<sub>3</sub>.

Ce_ppm	1.2284	CeO <sub>2</sub> _ppm
Dy_ppm	1.1477	Dy <sub>2</sub> O <sub>3</sub> _ppm
Er_ppm	1.1435	Er <sub>2</sub> O <sub>3</sub> _ppm
Eu_ppm	1.1579	Eu <sub>2</sub> O <sub>3</sub> _ppm
Gd_ppm	1.1526	Gd <sub>2</sub> O <sub>3</sub> _ppm
Ho_ppm	1.1455	Ho <sub>2</sub> O <sub>3</sub> _ppm
La_ppm	1.1728	La <sub>2</sub> O <sub>3</sub> _ppm
Lu_ppm	1.1372	Lu <sub>2</sub> O <sub>3</sub> _ppm
Nd_ppm	1.1664	Nd <sub>2</sub> O <sub>3</sub> _ppm
Pr_ppm	1.2082	Pr <sub>6</sub> O <sub>11</sub> _ppm
Sm_ppm	1.1596	Sm <sub>2</sub> O <sub>3</sub> _ppm
Tb_ppm	1.1762	Tb <sub>4</sub> O <sub>7</sub> _ppm
Tm_ppm	1.1421	Tm <sub>2</sub> O <sub>3</sub> _ppm
Y_ppm	1.2695	Y <sub>2</sub> O <sub>3</sub> _ppm
Yb_ppm	1.1387	Yb <sub>2</sub> O <sub>3</sub> _ppm