MOUNT RIDLEY MINES

ASX ANNOUNCEMENT

DRILLING UNDERWAY AT THE MT RIDLEY RARE EARTH DEPOSIT

16 March 2022

Mount Ridley Mines Limited (ASX: **MRD**), ("**the Company**") is pleased to provide the following update.

- ***Stage 1 - Primary Target Infill Drilling has commenced at the Mt Ridley Rare Earth Project, targeting ionic adsorption clay-styled rare earth element (REE[1]) mineralisation at the high priority Winston's Prospect.***
- ***This will be followed by a substantial Stage 2 "Regional" 1,000-hole aircore program, along an existing network of tracks within a 750km² (approximately 40km x 20km) area, over the next 5 months. Results will be used to outline the potential scale of the project and to rank areas of REE mineralisation for more detailed evaluation.***
- ***Mount Ridley's environmental consultant is concurrently advancing the required submissions to enable higher density Stage 3 "Primary Target Expansion" drilling, which will then follow.***

Mount Ridley's Chairman Mr. Peter Christie commented:

"It's an exciting time for the Company as the first rare earth element-specific drilling gets going at our Mt Ridley project, expanding on the excellent assay results reported to date. The Mt Ridley team has done some excellent work in completing a detailed Heritage Management Plan and Programs of Work submissions in preparation for this drilling campaign.

"The Company is well funded and has committed to rapidly exploring the project for rare earth elements through substantial but judicious drilling programs executed in a staged approach. The aim of the drilling stages proposed is to outline a rare earth element project of significant scale."

DISCUSSION

The Company has implemented a four-stage drilling program aimed at determining the overall extent of mineralisation within the large, 3,400km² Mount Ridley Rare Earth Project including the various prospects shown on Figures 3-10, that were previously drilled between 2014-2016. The project is situated approximately 35 kilometres northeast of the deep-water port of Esperance (Figure 1). The near-term objective is to steadily advance high priority areas to enable the estimation of a JORC 2012 compliant maiden mineral resource estimate later in the year.

The drill program is designed to avoid agricultural land, utilise existing cleared tracks where possible and avoid areas where Proterozoic-aged inselbergs and ridges protrude through the Eocene-aged Bremmer Basin creating areas unlikely to host significant REE mineralisation (Figure 2).

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[1] REE refers to 14 rare earth elements: 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), and in addition yttrium (Y).

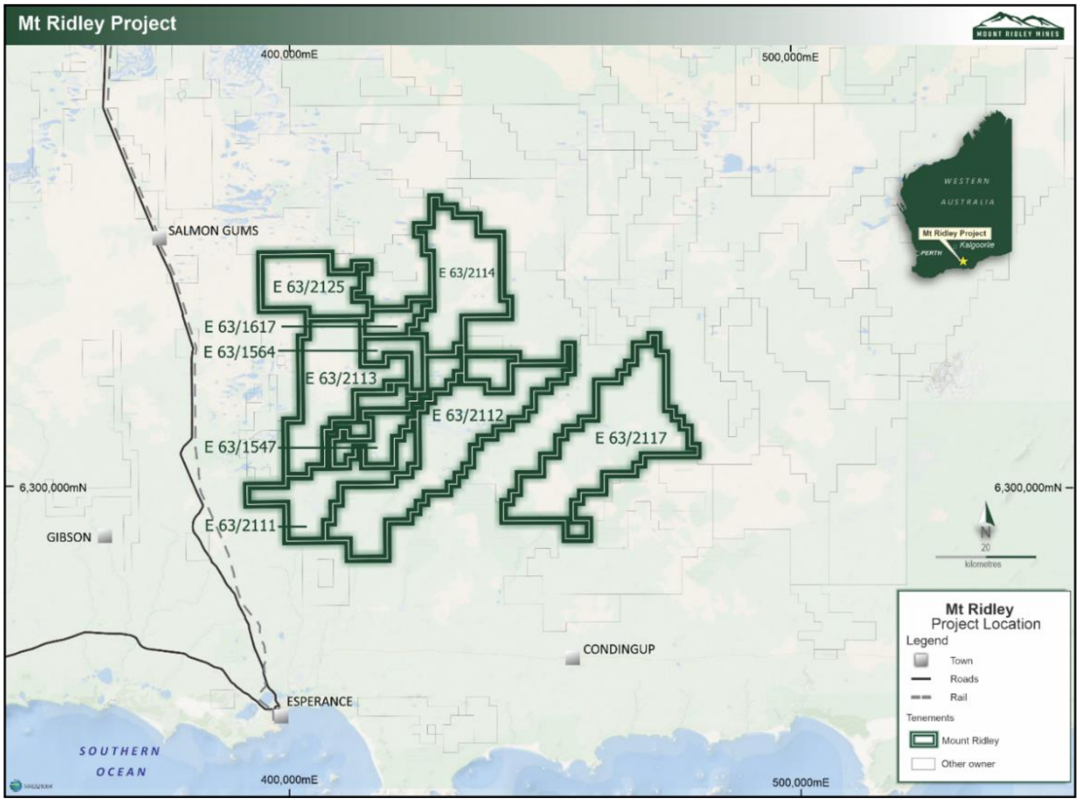

Figure 1: Mt Ridley Project comprises 1 application and 8 granted exploration licences in south-west Western Australia with an area of 3,400km^2.

2022 DRILLING PROGRAM

Stage 1 – Primary Target Infill Drilling: Now underway at the high priority Winston's Prospect, aircore holes are being completed on a 400 x 200m grid. The holes identifying REE mineralisation will later be infilled to 200 x 200m pattern and include a provision for core drilling to provide samples for advanced metallurgy and other inputs required for Mineral Resource estimations.

Stage 2 – Regional: Using the existing network of tracks, grids and firebreaks, traverses of aircore drilling will be completed with wide spaced reconnaissance holes spaced at 400 or 800 apart, to quickly map the extent of Bremmer Basin REE mineralisation and any higher-grade internal zones, including the grade of total rare earth oxides (**TREO**[2]) (and particularly critical rare earth oxide (**CREO**[3])), recovery and depth of cover. A Program of Work (PoW) with provision for 950 aircore holes has already been approved for Stage 2 work.

Stage 3 – Primary Target Expansion: Drilling the flanks of defined mineralisation, such as Winston's and Keith's, for extensions. The Company has in place a Heritage Management Plan and is preparing a Clearing Permit covering an area of 18km x 10km (180km^2) to enable this work. Many existing drilling intersections from within the perimeter of this expansion program returned REE mineralisation thicknesses exceeding 10m, which require follow-up drilling (Refer to Table 1 and Figures 2-5).

Stage 4 - Resource drill out: Comparable projects (i.e., simply layered ionic clay-hosted REE deposits) have been drilled out on a 200 x 200m pattern which may enable JORC 2012 compliant Indicated Mineral Resources to be estimated. However, the final drill hole density required to do this will be determined by an independent geological expert and will be based on a combination of the historical results and the results of Stages 1 to 3.

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2 TREO means the sum of the 14 REE+Y, each converted to its respective element oxide equivalent using the formulae in Table 4 (See references).
3 Critical or CREO means Critical Rare Earth Oxides; the sum of Dy_2O_3, Eu_2O_3, Nd_2O_3, Tb_4O_7 and Y_2O_3

MOUNT RIDLEY MINES

EXPLORATION OVERVIEW

The Company announced on 1 July 2021 that laterally extensive REE mineralisation had been identified at its namesake Mount Ridley Project[4], near Esperance, Western Australia. REE mineralisation occurs within Eocene-aged sediments of the Bremmer Basin. Drill holes that have returned elevated REE extend over an area 25 kilometres long and 3 kilometres wide, **representing approximately 2% of the Project area,** and mineralisation is 'open' in all directions (refer to Figure 2 and Figures 6-10).

Partial Digestion Analyses Indicate Potential for High Recoveries

Initially, composite samples from over 3,500m of drilling were analysed for REE using a 'total digest' fusion technique ("Fusion"), designed to report the total amount of REE in each sample.

A second analysis of higher grade REE samples was completed using a 'partial digest' weak aqua regia digestion technique ("AR[5]") which would take into solution only the most soluble or loosely bound REE, a feature of ionic adsorption clay REE deposits. This test indicated that at a grade of approximately 800ppm **TREO**, **80% of light REO[6], 76% of heavy REO[7] and 80% of CREO** were taken into solution under the conditions trialled (Tables 1-3).

Table 1: Selected Drill Hole Intersections (TREO x Intersection > 10,000 ppm)

Winston's	Fusion	Aqua Regia (AR)	AR Recovery
MRAC0590: 24 to 36m	12m at 1,231 ppm TREO	12m at 1,107 ppm TREO	89.90%
MRAC0593: 24 to 30m	6m at 2,006 ppm TREO	6m at 1,980 ppm TREO	98.70%
MRAC0605: 36 to 47m	11m at 1,623 ppm TREO	11m at 1,488 ppm TREO	91.70%
MRAC0617: 24 to 36m	12m at 1,540 ppm TREO	12m at 1,224 ppm TREO	79.50%
MRAC0638: 24 to 40m	16m at 1,581 ppm TREO	16m at 1,109 ppm TREO	70.10%
MRAC0721: 52 to 68m	16m at 2,119 ppm TREO	16m at 1,718 ppm TREO	81.10%
MRAC0439: 40 to 48m	8m at 2,349 ppm TREO	8m at 1,871 ppm TREO	79.65%
MRAC0456: 28 to 38m	10m at 1,850 ppm TREO	10m at 1,385 ppm TREO	74.86%
MRAC0632: 4 to 17m	13m at 1,289 ppm TREO	13m at 940 ppm TREO	72.92%
MRAC0474: 32 to 50m	18m at 879 ppm TREO	18m at 788 ppm TREO	89.65%
MRAC0471: 28 to 39m	11m at 1,259 ppm TREO	11m at 1,107 ppm TREO	87.93%
MRAC0726: 40 to 47m	7m at 1,857 ppm TREO	7m at 1,470 ppm TREO	79.16%
MRAC0667: 36 to 40m	4m at 3,044 ppm TREO	4m at 2,513 ppm TREO	82.56%
MRAC0441: 20 to 25m	5m at 2,301 ppm TREO	5m at 2,009 ppm TREO	87.31%
Keith's			
MRAC0484: 32 to 40m	8m at 3,357 ppm TREO	8m at 1,916 ppm TREO	57.10%
MRAC0514: 16 to 21m	5m at 1,261 ppm TREO	5m at 1,150 ppm TREO	91.20%
MRAC0518: 16 to 21m	5m at 3,950 ppm TREO	5m at 2,627 ppm TREO	66.50%
MRAC0568: 32 to 38m	6m at 1,882 ppm TREO	6m at 1,720 ppm TREO	91.40%
MRAC0695: 24 to 40m	16m at 1,136 ppm TREO	16m at 996 ppm TREO	87.70%
MRAC0711: 16 to 24m	8m at 2,792 ppm TREO	8m at 2,215 ppm TREO	79.30%
Marcellus and Tyrrell's			
MRAC0679: 16 to 28m	12m at 914 ppm TREO	12m at 833 ppm TREO	91.10%
MRAC0684: 24 to 31m	7m at 1,503 ppm TREO	7m at 903 ppm TREO	60.10%

Note: Drilling intersections calculated used a minimum cut off of 300ppm TREO (Fusion), minimum thickness 1m, maximum internal dilution of 4m (single sample composite) and no external dilution.

4 Mount Ridley Mines Limited announcements to ASX 1 July 2021,2 August 2021, 13 September 2021

5 AR means Weak aqua regia acid, a mix of 1 molar hydrochloric acid (HCl) and 1 molar nitric acid (HNO_3).

6 Light REO or LREO means Light Rare Earth Oxides; the sum of La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3, Sm_2O_3, Eu_2O_3.

7 Heavy REO or HREO means Heavy Rare Earth Oxides; the sum of Gd_2O_3, Tb_4O_7, $Dy_2O_3Ho_2O_3$, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3.

PROJECT GEOLOGY

Archaean to Meso-Proterozoic Basement

Geological Survey of Western Australia mapping[8] shows that basement rocks are interpreted to be Archaean to Meso-Proterozoic-aged gneisses and granites, in parts intermixed with mafic and ultramafic rocks.

Basement rocks protrude through younger sediments, forming northeast trending ridges and inselbergs (Refer to Figure 2). Basement ridges likely control the size and shape of the overlying, REE-mineralised, Eocene-aged basins.

Certain ultramafic rocks are considered prospective for nickel mineralisation.

Eocene

Eocene-aged sediments fill the onshore Bremmer Basin, infilling depressions in the Meso-Proterozoic-aged basement.

The Eocene sediments comprise siltstone, sandstone, spongolite, limestone and lignite. Unconsolidated kaolin- or montmorillonite- rich siltstones host the Mt Ridley rare earth mineralisation (refer to Figures 3-5).

Recent

The current land surface is dominated by deposits of sand and gypsum dunes around numerous ephemeral lakes.

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8 (DMIRS) Department of Mines, Industry Regulation and Safety 1:250,000 Interpreted Bedrock Geology (2020)

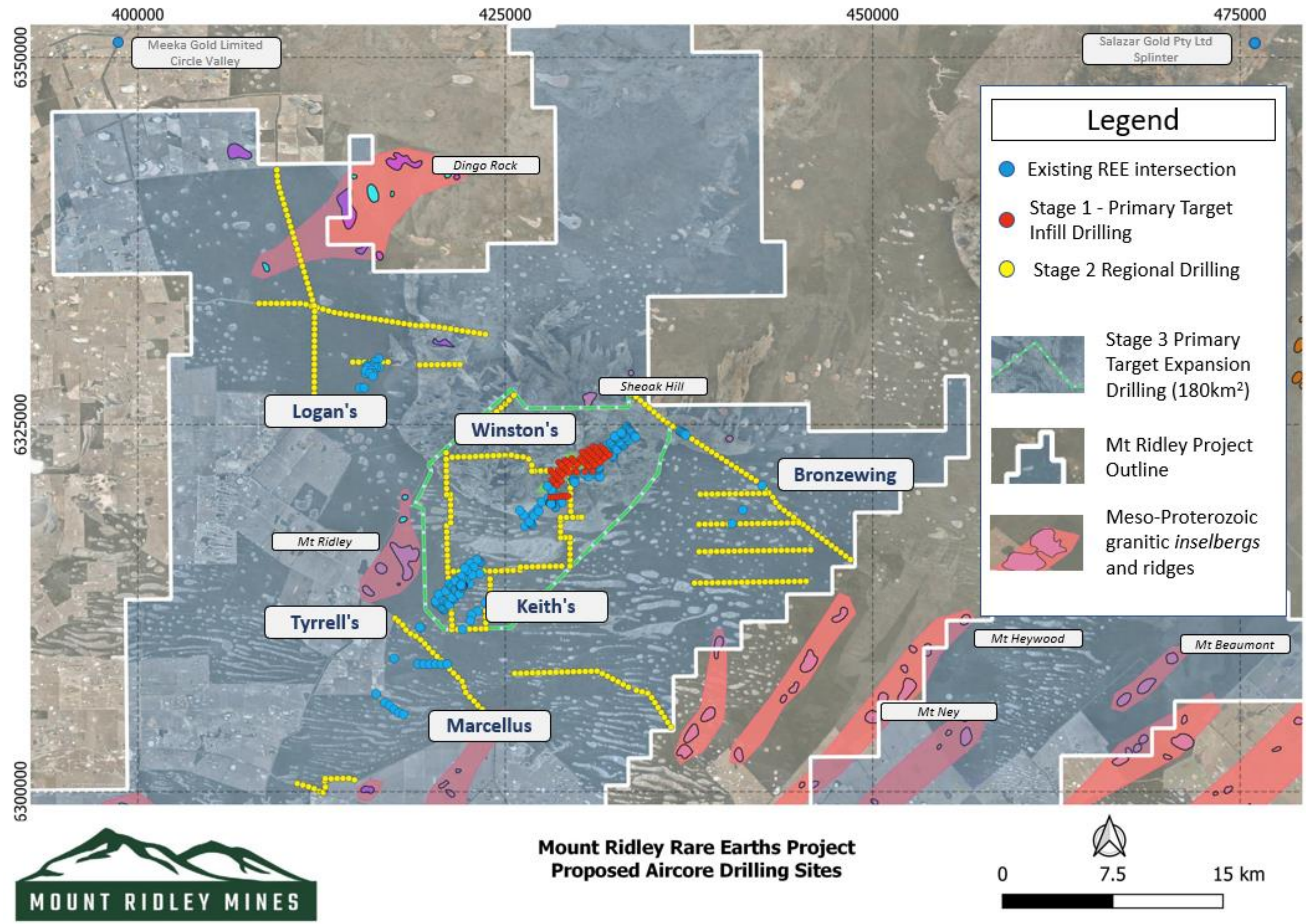

Figure 2: Drilling Location Plan by Stage.

Distribution of Rare Earth Elements at the Mt Ridley Project

Table 2: Comparison of Length-Weighted Average REO Grades of 489 samples by Fusion and by AR.															
					Critical	Critical	Critical	Critical	Critical						
	Light	Light	Light	Light	Light	Light	Heavy	Heavy	Heavy	Heavy	Heavy	Heavy	Heavy	Heavy	Heavy
Method	La_2O_3	CeO_2	Pr_6O_{11}	Sm_2O_3	Nd_2O_3	Eu_2O_3	Tb_4O_7	Dy_2O_3	Y_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Fusion	108.81	155.43	31.93	31.62	138.29	11.46	5.18	31.03	206.91	34.25	6.37	17.86	2.39	14.61	2.18
AR	75.68	116.12	26.99	28.27	123.06	10.80	4.28	26.78	149.86	30.77	5.05	14.45	1.75	10.98	1.53
Recovery	70%	75%	85%	89%	89%	94%	83%	86%	72%	90%	79%	81%	73%	75%	70%

Table 2 compares the length-weighted average grade of the 489 samples analysed initially by Fusion, the follow-up analysis by AR (each element analysis converted to its respective rare earth oxide ("REO") equivalent) and the Recovery by AR.

Table 3: Comparison of the Distribution of REO ("Basket") of 489 samples by Fusion and by AR.															
					Critical	Critical	Critical	Critical	Critical						
	Light	Light	Light	Light	Light	Light	Heavy	Heavy	Heavy	Heavy	Heavy	Heavy	Heavy	Heavy	Heavy
Distribution	La_2O_3	CeO_2	Pr_6O_{11}	Sm_2O_3	Nd_2O_3	Eu_2O_3	Tb_4O_7	Dy_2O_3	Y_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
Fusion	13.6%	19.5%	4.0%	4.0%	17.3%	1.4%	0.7%	3.9%	25.9%	4.3%	0.8%	2.2%	0.3%	1.8%	0.3%
					Light	**59.8%**		**Critical**	**49.2%**					**Heavy**	**40.2%**
Distribution	La_2O_3	CeO_2	Pr_6O_{11}	Sm_2O_3	Nd_2O_3	Eu_2O_3	Tb_4O_7	Dy_2O_3	Y_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
AR	12.1%	18.5%	4.3%	4.5%	19.7%	1.7%	0.7%	4.3%	23.9%	4.9%	0.8%	2.3%	0.3%	1.8%	0.2%
					Light	**60.8%**		**Critical**	**50.3%**					**Heavy**	**39.2%**

Table 3 compares the relative distribution of each REO, plus aggregated light, heavy and critical REO.

Cross Sections

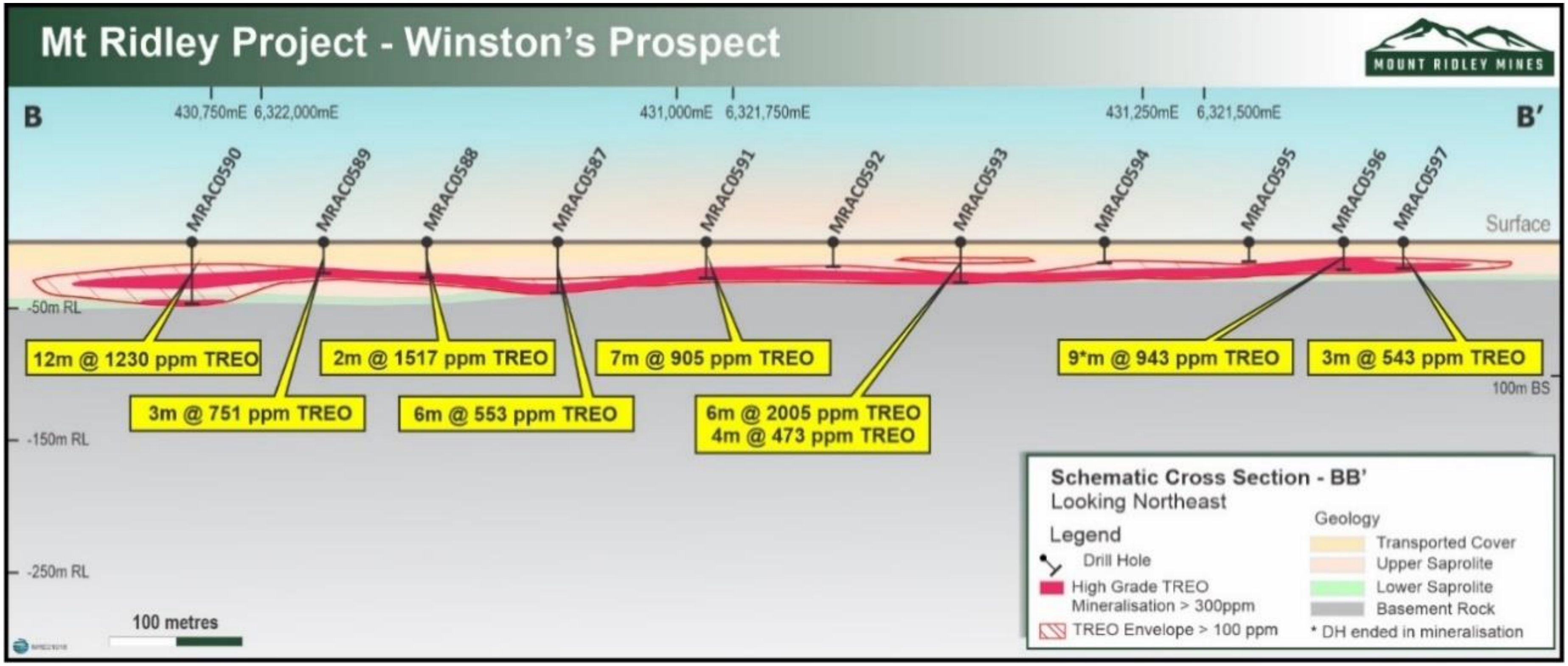

Figure 3: Cross Section through Winston's Prospect. Central northing is 6,321,750mN.

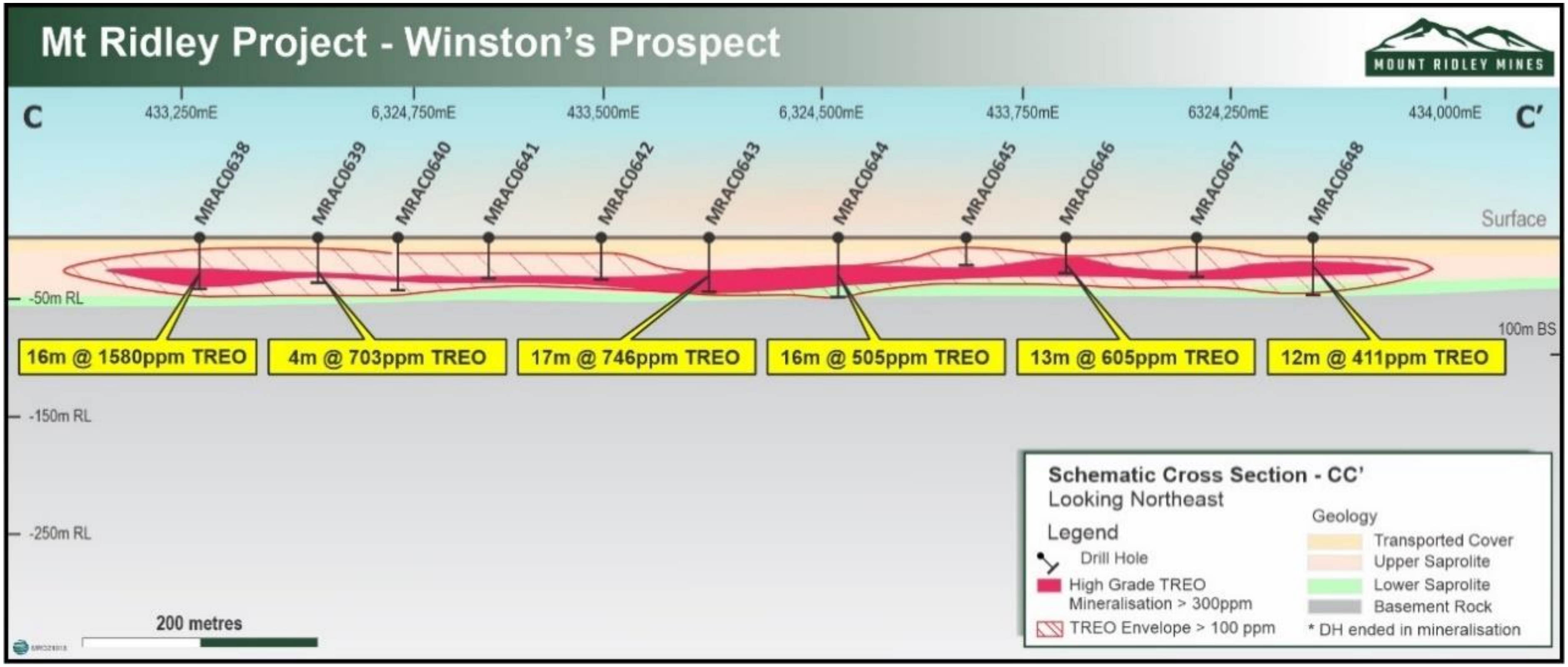

Figure 4: Cross Section through Winston's Prospect. Central northing is 6,324,500mN.

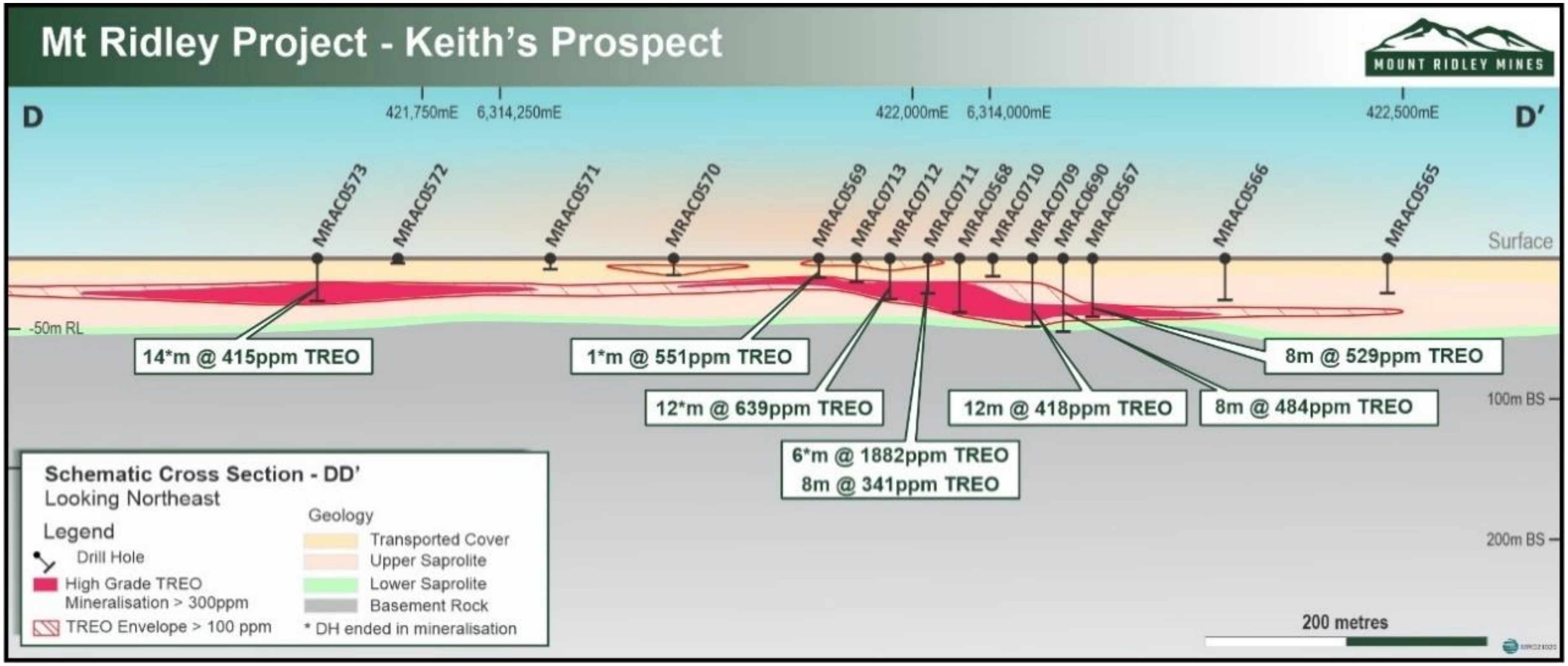

Figure 5: Cross section through Keith's Prospect. Central northing is 6,314,500mN.

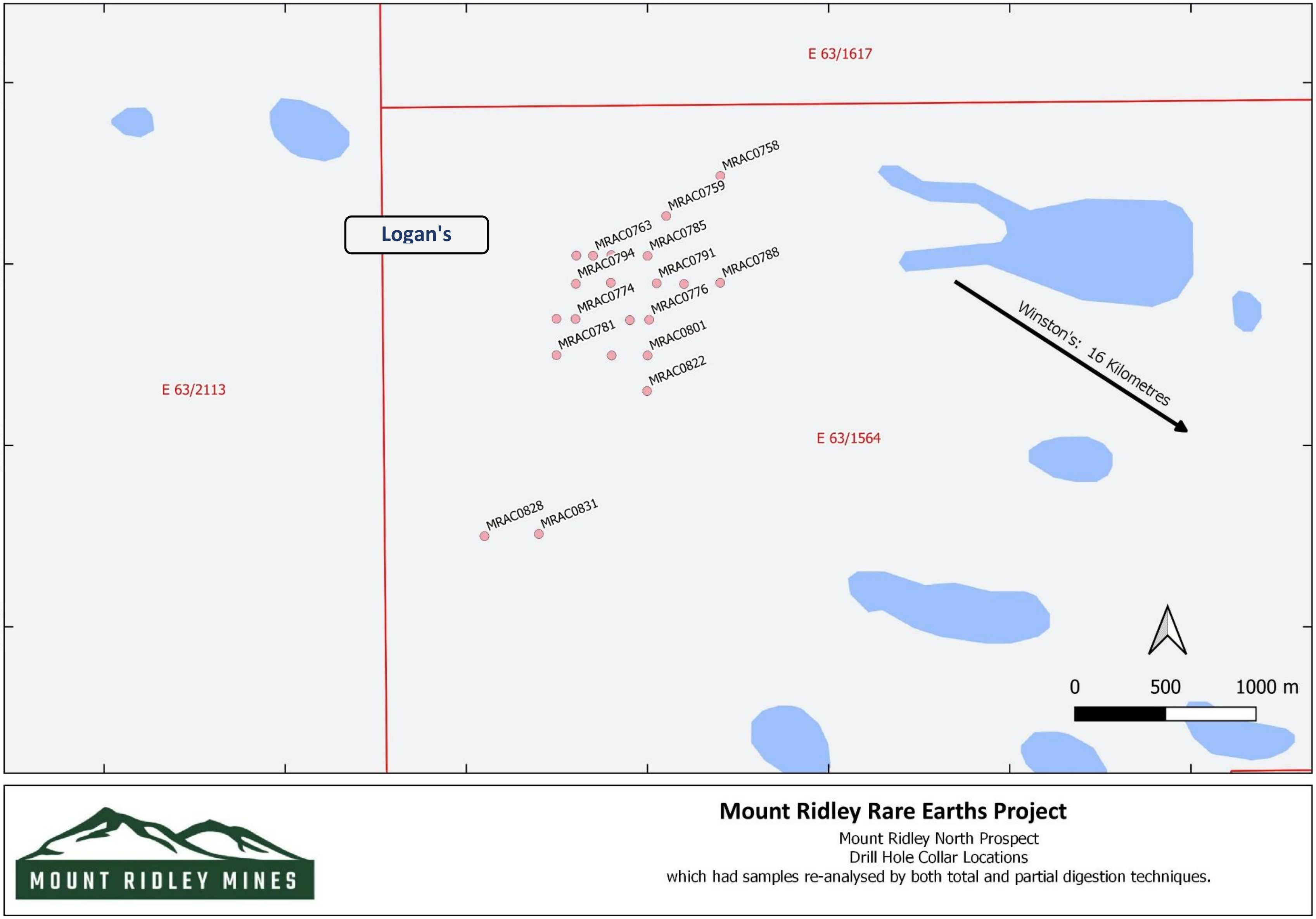

Figure 6: Mount Ridley North REE Prospect.

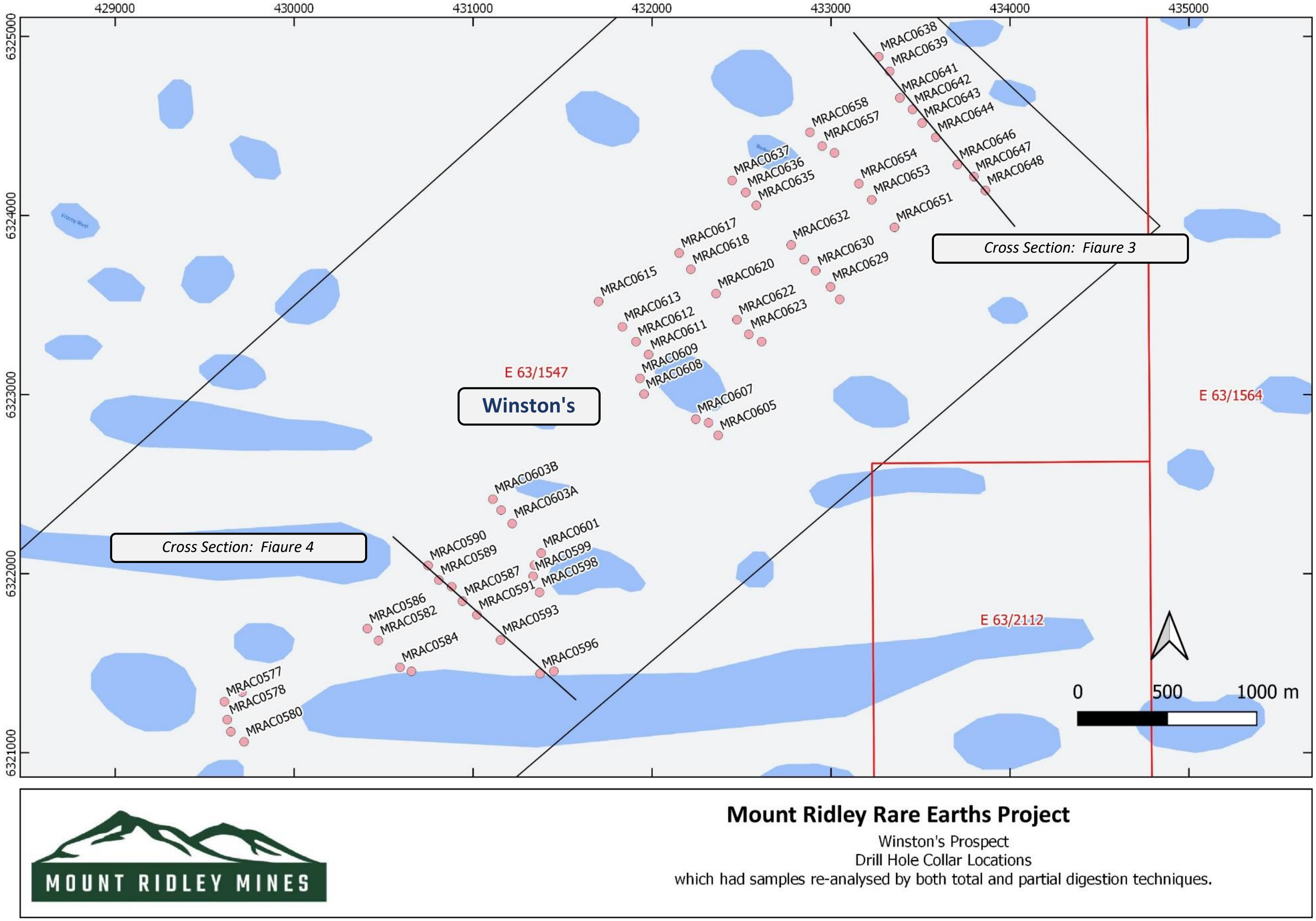

Figure 7: Winston's REE Prospect (North).

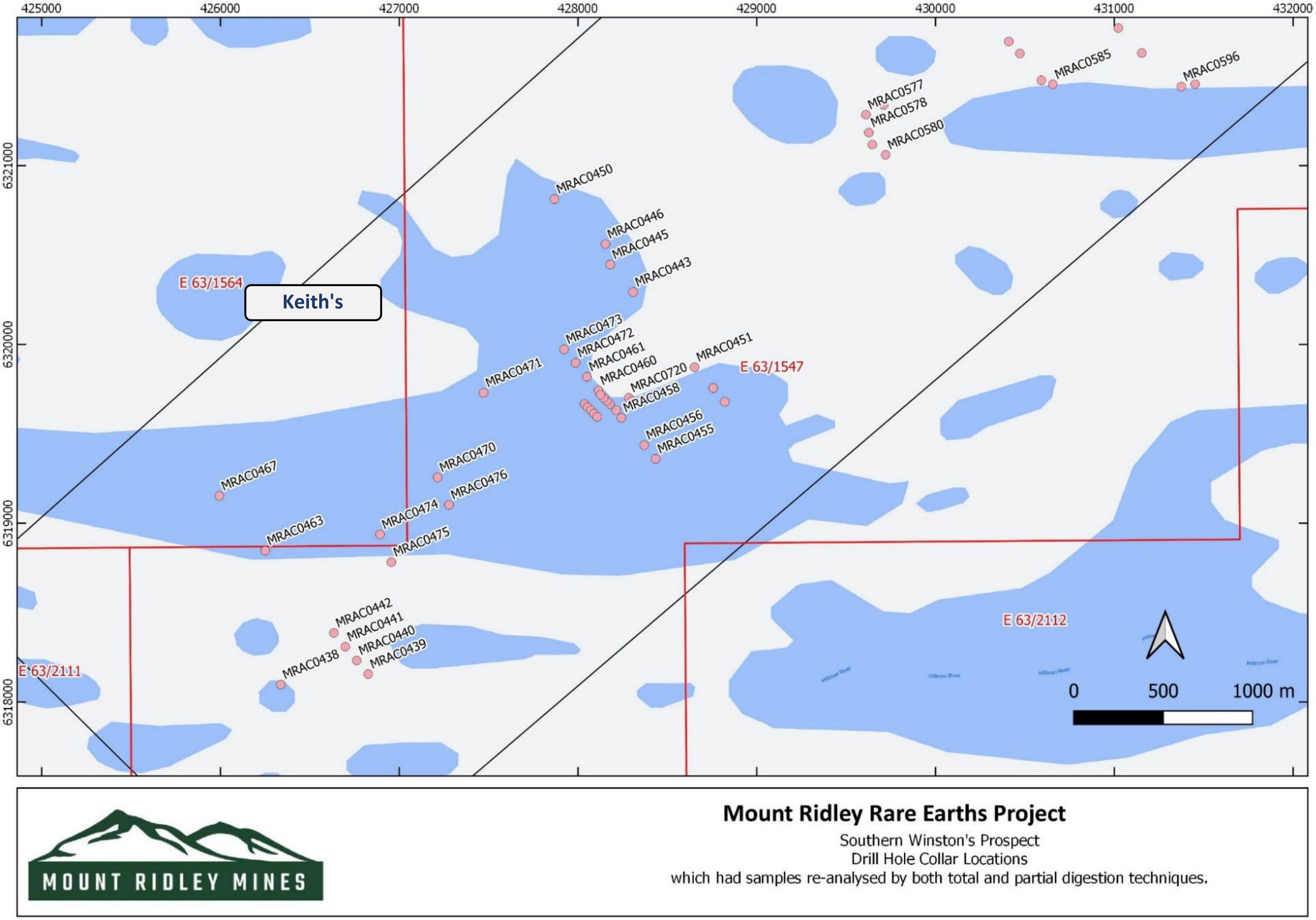

Figure 8: Winston's REE Prospect (South).

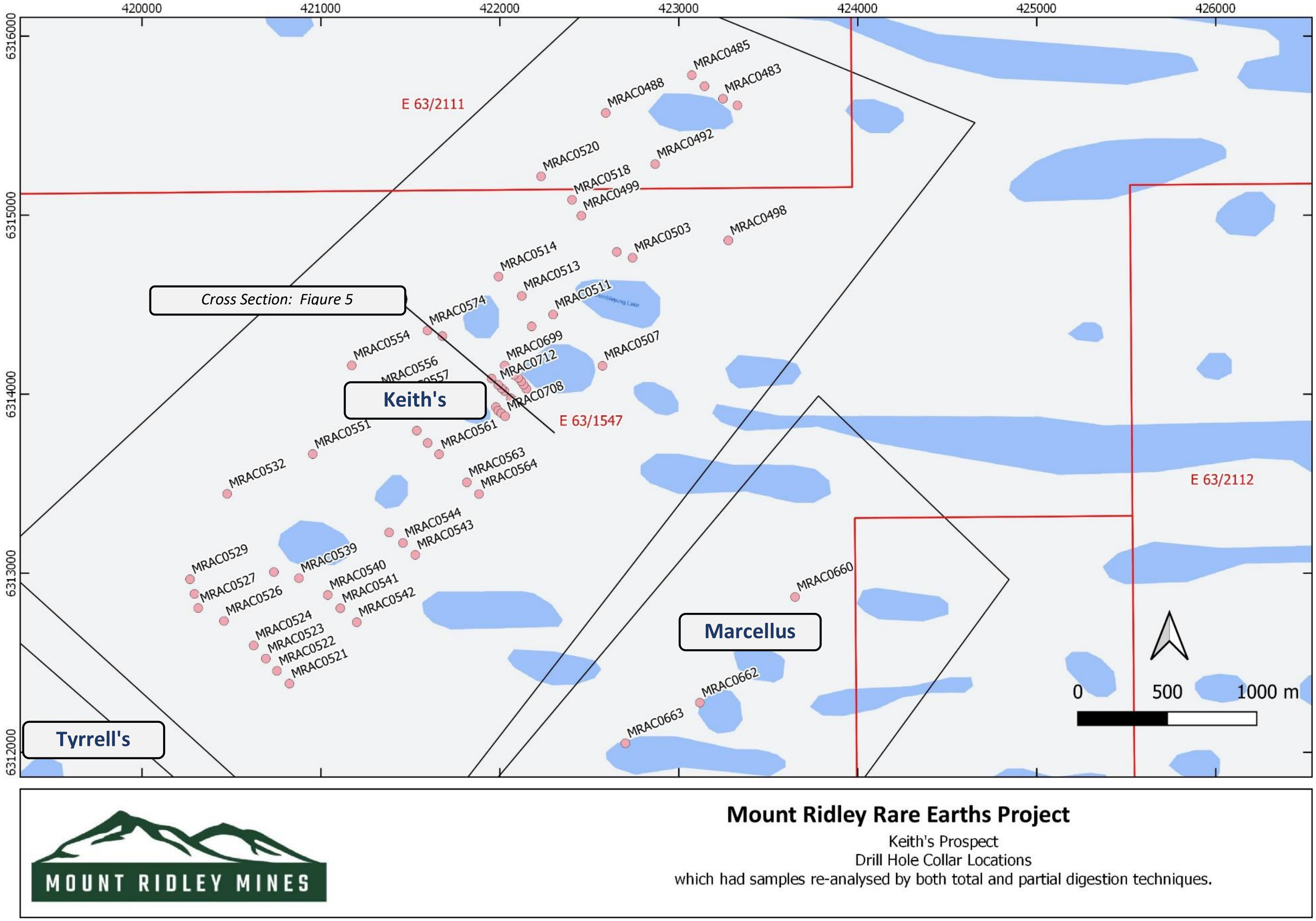

Figure 9: Keith's REE Prospect

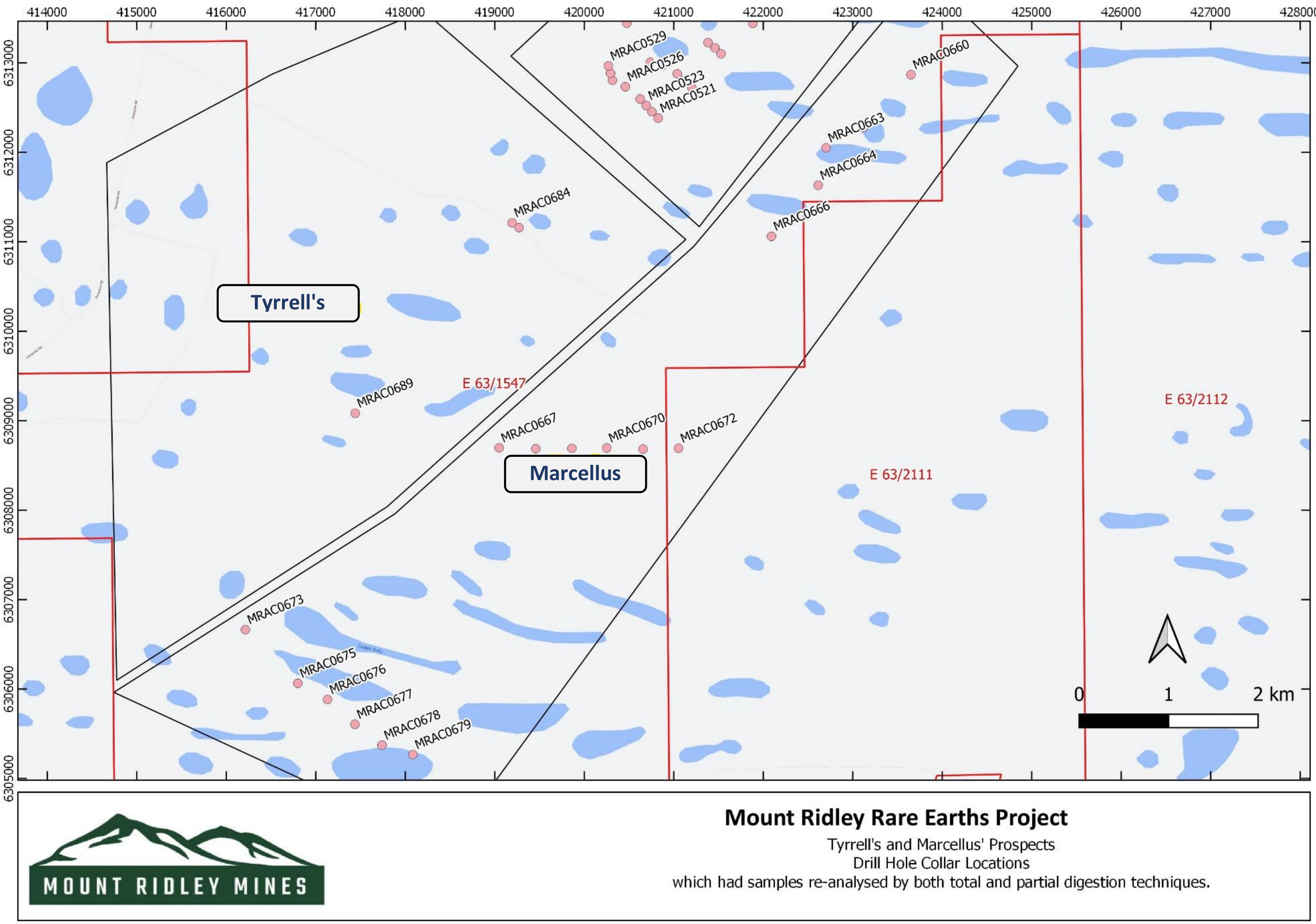

Figure 10: Tyrrell's and Marcellus' REE Prospects.

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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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 ionic clay REE deposits.

The Company also holds approximately 18% of the Weld Range West Iron Project in the mid-west of Western Australia. Areas of the tenements are also prospective for 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."*

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_2O_3.

Table 4: Conversions from elements to oxides		
Ce_ppm	1.2284	CeO_2_ppm
Dy_ppm	1.1477	Dy_2O_3_ppm
Er_ppm	1.1435	Er_2O_3_ppm
Eu_ppm	1.1579	Eu_2O_3_ppm
Gd_ppm	1.1526	Gd_2O_3_ppm
Ho_ppm	1.1455	Ho_2O_3_ppm
La_ppm	1.1728	La_2O_3_ppm
Lu_ppm	1.1372	Lu_2O_3_ppm
Nd_ppm	1.1664	Nd_2O_3_ppm
Pr_ppm	1.2082	Pr_6O_{11}_ppm
Sm_ppm	1.1596	Sm_2O_3_ppm
Tb_ppm	1.1762	Tb_4O_7_ppm
Tm_ppm	1.1421	Tm_2O_3_ppm
Y_ppm	1.2695	Y_2O_3_ppm
Yb_ppm	1.1387	Yb_2O_3_ppm
Source: www.geol.umd.edu/~piccoli/probe/molweight.html		

J. D. A. Clarke (1994) Evolution of the Lefroy and Cowan palaeodrainage channels, Western Australia, Australian Journal of Earth Sciences: An International Geoscience Journal of the Geological Society of Australia, 41:1, 55-68