



Rare Earth discovery at Muckanippie

Marmota Limited (ASX: MEU) ("Marmota")

Marmota (ASX:MEU) is very pleased to announce that Marmota's first ever reconnaissance program for rare earth elements (REE) has yielded a new REE discovery at Muckanippie:

- **Multiple holes** intersected **Total Rare Earth Oxides (TREO) over 1000 ppm**.
- The intersections are remarkably **close to surface**, featuring significant TREO grades over 1000 ppm located as close as **12m from surface** [see [Table 1](#)].
- Rare earths are hosted in ionic clays close to surface ... and appear to be similar to published descriptions of the major Chinese clay-hosted REE deposits. China currently produces more than 90% of the world's high-value rare earth magnet supply.
- Highlights include results such as: [see [Table 1](#)]

16m @ 1258 ppm TREO	from 12m downhole	[Hole WI116]	[incl 4m @ 1528 ppm]
16m @ 1138 ppm TREO	from 12m downhole	[Hole WI068]	[incl 4m @ 1414 ppm]
12m @ 1086 ppm TREO	from 12m downhole	[Hole WI037]	[incl 4m @ 1440 ppm]
12m @ 1151 ppm TREO	from 20m downhole	[Hole WI038]	[incl 4m @ 1755 ppm]
8m @ 1255 ppm TREO	from 20m downhole	[Hole WI039]	[incl 4m @ 1923 ppm]

- High-grade TREOs are **open in multiple directions**, particularly to the west [see [Figure 2](#)].
- This is the first of 4 highly prospective REE target areas that Marmota has identified within its tenements. [see [Figure 1](#)]

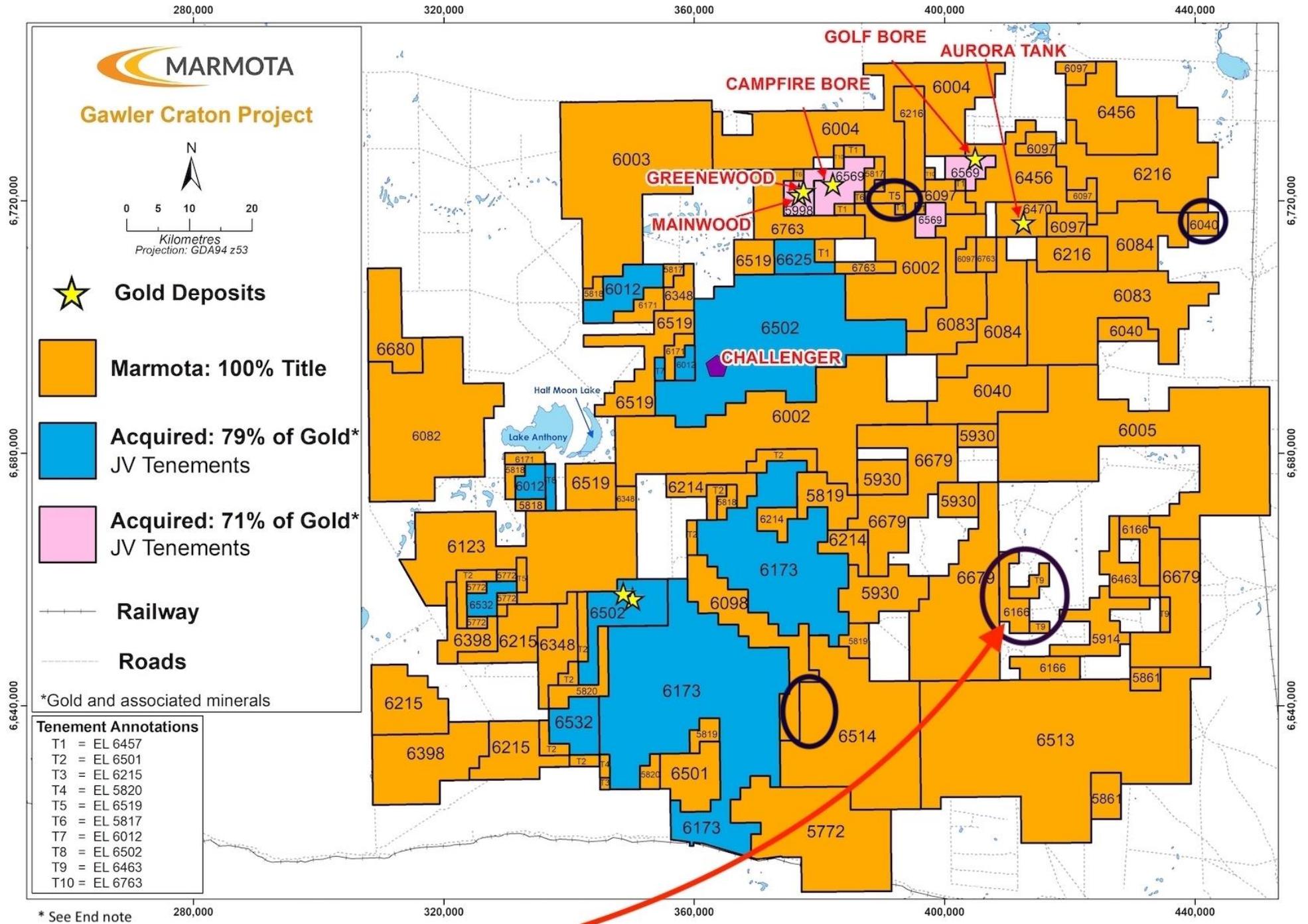


Figure 1: Location of REE discovery on Muckanippie tenement EL 6166 + 4 High-priority REE Zones

Table 1

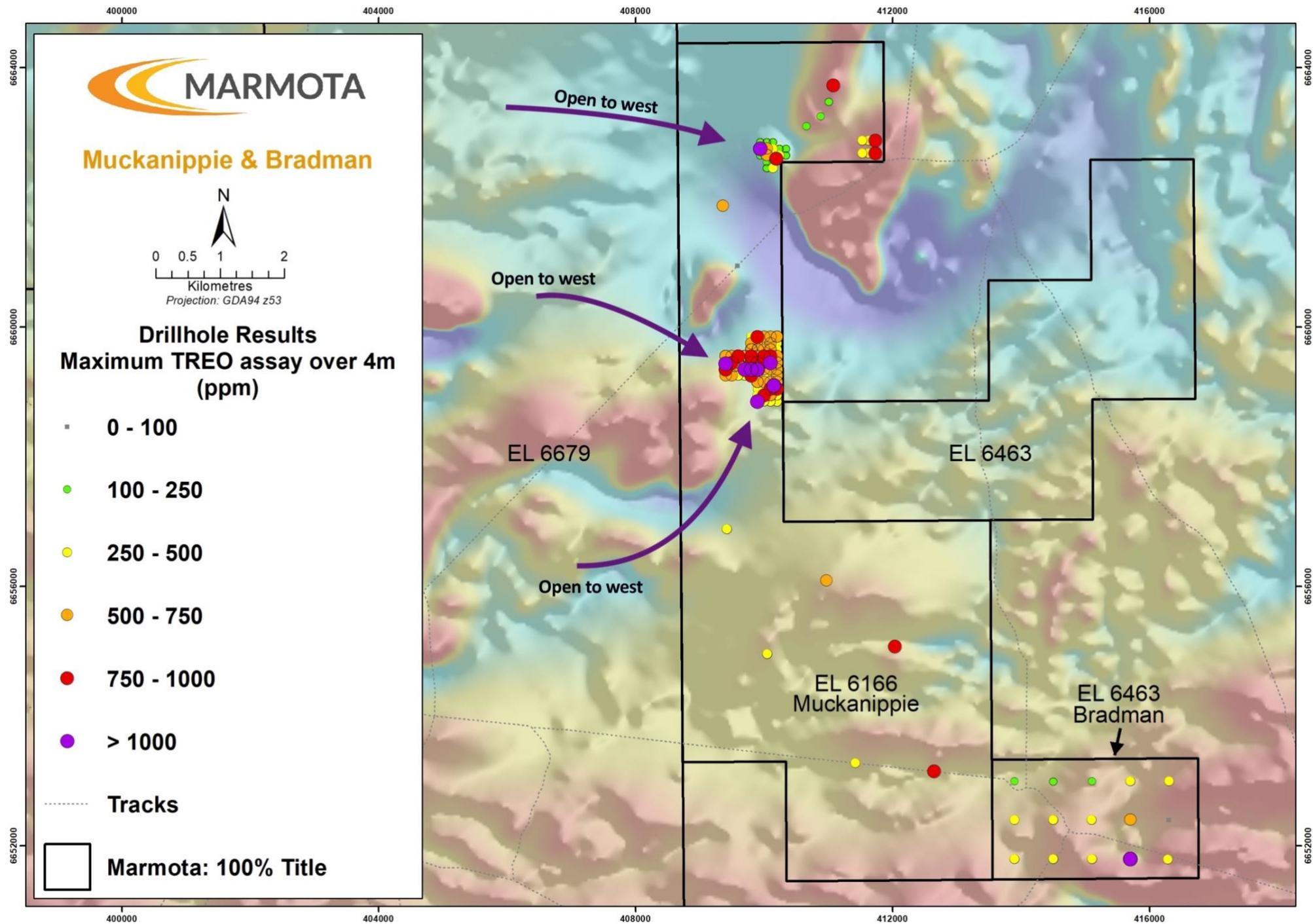
Muckanippie / Bradman: First reconnaissance REE program

Significant TREO Intersections > 1000 ppm [over 4m or larger intervals]

Hole ID	Depth From	Depth To	Interval	TREO
	metres	metres		ppm
WI116 <i>including</i>	12	28	16	1258
	16	20	4	1528
WI039 <i>including</i>	20	28	8	1255
	20	24	4	1923
WI038 <i>including</i>	20	32	12	1151
	24	28	4	1755
WI037 <i>including</i>	12	24	12	1086
	12	16	4	1440
WI068 <i>including</i>	12	28	16	1138
	20	24	4	1414
WI089	28	32	4	1033
WI062	24	28	4	1393
WI027 <i>including</i>	16	24	8	907
	20	24	4	1211
WI043 <i>including</i>	24	32	8	1031
	28	32	4	1474

High Value Magnetic Rare Earths (MREO)					
Neodymium Nd ₂ O ₃	Praseodymium Pr ₆ O ₁₁	Dysprosium Dy ₂ O ₃	Terbium Tb ₄ O ₇	Total MREO	
ppm	ppm	ppm	ppm	ppm	% TREO
196	52	37	6	291	23%
297	79	39	8	423	28%
285	79	28	5	398	30%
455	127	44	8	634	33%
228	60	25	5	317	27%
341	87	42	8	477	27%
198	60	15	3	277	25%
254	83	13	3	353	25%
230	65	21	4	319	28%
297	77	36	6	417	29%
229	60	25	5	320	31%
285	79	30	5	398	29%
149	43	12	2	207	23%
192	56	16	3	267	22%
266	73	11	3	353	32%
415	108	16	4	543	37%

See Appendix 2 for hole collar details



Page 4 **Figure 2: Muckanippie and Bradman – Plan Overview of Recon Program** (Best downhole TREO results on TMI background)

Additional Detail

1. Location and Extent

- Marmota drilled 121 reconnaissance holes, mostly to a depth of 39m, testing for REE on the Muckanippie and Bradman tenements.
- Highly elevated REE mineralisation hosted in clays close to surface were found in multiple locations across the tenements [see [Figure 2](#)].

2. Highly prospective

- The significant rare earth intersections are remarkably close to surface, just 12m from surface and hosted in clays. This means that exploration costs are low, that large areas of ground can be tested quickly, and any deposits defined would potentially have low mining costs.
- Marmota is by far the largest tenure holder in the Northern Gawler Craton.
- This is the first of 4 prospective targets to be drill tested by Marmota [see [Figure 1](#)].

3. Advantages of ionic clay hosted REE

- China dominates global REE mining and processing: most of its supply comes from ionic clay-hosted deposits.
- Low-cost rapid exploration
- Low operating costs (soft material, no blasting required, minimal stripping)
- Relatively simple processing plant compared to hard rock deposits (no crushing or milling)
- Non-radioactive tailings

4. Broader Implications

- The combination of rare earth mineral bearing Archaean basement and overlying zones of intensely weathered basement provides large areas which are geologically highly prospective for potentially economic regolithic clay-hosted ionic REE deposits.
- Primary REE mineralisation appears to have been released during basement weathering, transported in solution and redeposited in large flat-lying layers within the clay-rich intensely weathered basement. These large, close to surface and regolith-hosted deposits are expected to be more economically viable than finding and developing primary mineralisation developed in basement.
- REE mineralisation is largely contained in the saprolite regolith zone which is composed of intensely weathered, clay-rich basement.
- Marmota is fortunate to hold tenure for the majority of the large area of the Mulgathing Complex metamorphic rocks surrounding the new discoveries [see [Fig. 1](#)].
- The close-to-surface regolith-hosted deposits offer great potential, and together with the results of others, show the presence of an emerging and large new REE province in which Marmota is ideally placed.

Comment

Marmota Chairman, Dr Colin Rose, said:

“ I am delighted that this program has already yielded excellent results, particularly so for a first stage recon program, and is testament to the excellence of our exploration team. It is a style of exploration that suits Marmota particularly well: rapid, close to surface, inexpensive, and with considerable upside potential for our shareholders. ”

Follow Marmota on Twitter at: twitter.com/MarmotaLimited

For further information, please contact:

Marmota Limited

Dr Colin Rose Executive Chairman
Email: colin@marmota.com.au

Unit 6
79-81 Brighton Road
Glenelg SA 5045
ABN: 38 119 270 816
T: (08) 8294 0899
www.marmota.com.au

About Marmota Limited

Marmota Limited (ASX: MEU) is a South Australian mining exploration company, focused on gold, copper and uranium. Gold exploration is centred on the Company's dominant tenement holding in the highly prospective and significantly underexplored Gawler Craton, near the Challenger gold mine, in the Woomera Prohibited Defence Area. The Company's copper project is based at the Melton project on the Yorke Peninsula. The Company's uranium JORC resource is at Junction Dam adjacent to the Honeymoon mine.

For more information, please visit: www.marmota.com.au

Competent Persons Statement

Information in this Release relating to Exploration Results is based on information compiled by Aaron Brown, who is a Member of The Australian Institute of Geoscientists. He has sufficient experience relevant to the styles of mineralisation and types of deposits under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves." Mr Brown consents to the inclusion in this report of the matters based on this information in the form and context in which they appear.

Where results from previous announcements are quoted, Marmota confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

Clarification re Figure 1

In November 2021, Marmota completed its acquisition of the rights, title and interest of the Jumbuck Gold Project, including acquisition of Half Moon Pty Ltd (Half Moon), from Tyranna Resources Ltd [ASX:MEU 15 Nov 2021]. Pursuant to the terms of the Western Gawler Craton JV (WGCJV), Marmota (via its 100% ownership of Half Moon) is the owner of majority gold rights to a number of tenements including EL 6502: the latter has a number of components including one that surrounds the Challenger Gold mine. In 2016, a Term Sheet was entered into that if subsequently implemented and if Ministerial Consent granted (amongst other conditions not met), would exclude the tenement surrounding the Challenger Gold mine from the WGCJV in return for granting various other mineral rights to Half Moon. As previously noted in ASX:MEU 31 Jan 2022 and 29 April 2022, the Term Sheet was never enacted, in part because under the Mining Act, it was not possible for tenements to be so subdivided. The deadline for implementing the Term Sheet expired on 27 July 2020. It was never enacted. Notwithstanding same, Barton Gold Holdings Ltd and/or its subsidiaries (Barton), who are the minority party to the WGCJV, assert that the Term Sheet is binding, and on that basis disputes the WGCJV's gold rights to the sub-part of the tenement EL 6502 surrounding the Challenger Gold mine. It remains to be resolved the amount of gold mined from the tenement outside the original Challenger Mining Lease by Barton's predecessors in title (*i.e.* gold mined from EL 6502), and whether that gold belonged to the WGCJV pursuant to the terms of the WGCJV and for which remuneration has not been received by the WGCJV. The percentage ownership of the WGCJV is: Marmota (78.84%) and Barton (21.16%), via their respective subsidiaries. Marmota has carefully checked the maps in its ASX releases and is fully confident that they are correct and reflect both the WGCJV and the Departmental registration of same.

For the purpose of ASX Listing Rule 15.5, the Board has authorised for this announcement to be released.

APPENDIX 1 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	<ul style="list-style-type: none"> Nature and quality of sampling (e.g. 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 (e.g. ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverized 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 (e.g. submarine nodules) may warrant disclosure of detailed information. 	<ul style="list-style-type: none"> A total of 121 RAB holes were drilled for 4,545 m. Samples were collected at 1m intervals from the drilling cyclone and stored in separate bags at the drill site. Composite 4m samples were collected using a 50mm PVC tube ‘spear’ to collect representative samples from bags. Composite samples were an average weight of 3.3 kg which were pulverized to produce sub samples for lab assay by Aqua Regia and Lithium Borate Fusion. For Aqua Regia, a 40 g sample was taken for digest and analysed by Inductively Coupled Mass Spectrometry (ICP-MS) and Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES). For Lithium Borate Fusion, an aliquot of sample is fused with lithium metaborate at high temperature in a Pt crucible. The fused glass is then digested in nitric acid. and analysed by ICP-MS Only laboratory assay results were used to compile the table of intersections that appears in the report.
Drilling techniques	<ul style="list-style-type: none"> Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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). 	<ul style="list-style-type: none"> Drill Method was RAB drilling. Hole diameters are 146.5 mm.
Drill sample recovery	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Drill holes and sample depths were recorded in hard copy format during drilling including sample intervals. Qualitative assessment of sample recovery of drill samples was recorded. Sample recoveries were generally high, and moisture in samples minimal. No relationship is known to exist between sample recovery and grade, in part due to in-ground variation in grade. A potential bias due to loss/gain of fine/coarse material is not suspected.

Criteria	JORC Code explanation	Commentary
Logging	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Representative drill holes were geologically examined by Marmota geologists. • The holes have not been geotechnically logged. • Geological logging is qualitative.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Composite samples averaging 3.3 kg were collected for laboratory assay. Samples were collected with a 50mm tube by diagonally spearing individual samples within bags. • It is considered representative samples were collected after homogenizing of sample through drilling cyclone and unbiased spearing of samples in bags. • Laboratory sample preparation includes drying and pulverizing of submitted sample to target of p80 at 75 µm. • No samples checked for size after pulverizing failed to meet sizing target in the sample batches relevant to the report. • Duplicate samples were introduced into the sample stream by the Company.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> • 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 (i.e. lack of bias) and precision have been established. 	<ul style="list-style-type: none"> • Bureau Veritas Minerals in Adelaide were used for analytical work. • Samples from exploratory holes on Muckanippie and Bradman tenements were analysed in the following manner: • Aqua Regia Digest: Analysed by Inductively Coupled Plasma Mass Spectrometry or Inductively Coupled Plasma Atomic Emission for Au, Ag, As, Bi, Co, Cr, Cs, Cu, Fe, Li, Mn, Mo, Ni, P, Pb, Pd, Pt, Sb, Sn, V, W and Zn. • Lithium Borate Fusion: Analysed by Inductively Coupled Plasma Mass Spectrometry for Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sc, Sm, Tb, Th, Tm, Y, Yb, U, Th, P, Ti. • For all samples, the Company introduced QA/QC samples at a ratio of one QA/QC sample for every 30 drill samples. The laboratory introduced additional QA/QC samples (blanks, standards, checks) at a ratio of greater than 1 QA/QC sample for every 10 samples. • Both the Company and laboratory QA/QC samples indicate acceptable levels of accuracy and precision have been established. • Duplicates were introduced into the sample stream by the Company. The laboratory completed repeat assays on various samples. • Standard samples were introduced into the sample stream by the Company, while the laboratory completed standard assays also.

Criteria	JORC Code explanation	Commentary																																																			
Verification of sampling and assaying	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> An alternative company representative has checked the calculation of the quoted intersections. No twinned holes were drilled in the program. Assays were reported in Elemental form and converted to relevant oxide using James Cook University's Element-to-stoichiometric oxide conversion factors: <table border="1" data-bbox="1368 347 1883 1129"> <thead> <tr> <th>Element</th> <th>Oxide</th> <th>Factor</th> </tr> </thead> <tbody> <tr> <td>Cerium</td> <td>CeO₂</td> <td>1.2284</td> </tr> <tr> <td>Dysprosium</td> <td>Dy₂O₃</td> <td>1.1477</td> </tr> <tr> <td>Erbium</td> <td>Er₂O₃</td> <td>1.1435</td> </tr> <tr> <td>Europium</td> <td>Eu₂O₃</td> <td>1.1579</td> </tr> <tr> <td>Gadolinium</td> <td>Gd₂O₃</td> <td>1.1526</td> </tr> <tr> <td>Holmium</td> <td>Ho₂O₃</td> <td>1.1455</td> </tr> <tr> <td>Lanthanum</td> <td>La₂O₃</td> <td>1.1728</td> </tr> <tr> <td>Lutetium</td> <td>Lu₂O₃</td> <td>1.1371</td> </tr> <tr> <td>Neodymium</td> <td>Nd₂O₃</td> <td>1.1664</td> </tr> <tr> <td>Praseodymium</td> <td>Pr₆O₁₁</td> <td>1.2082</td> </tr> <tr> <td>Scandium</td> <td>Sc₂O₃</td> <td>1.5338</td> </tr> <tr> <td>Samarium</td> <td>Sm₂O₃</td> <td>1.1596</td> </tr> <tr> <td>Terbium</td> <td>Tb₄O₇</td> <td>1.1762</td> </tr> <tr> <td>Thulium</td> <td>Tm₂O₃</td> <td>1.1421</td> </tr> <tr> <td>Yttrium</td> <td>Y₂O₃</td> <td>1.2699</td> </tr> <tr> <td>Ytterbium</td> <td>Yb₂O₃</td> <td>1.1387</td> </tr> </tbody> </table> <ul style="list-style-type: none"> TREO is the sum of the oxides of the so-called heavy rare earths elements (HREO) and the so-called light rare earths elements (LREO). TREO = CeO₂ + Dy₂O₃ + Er₂O₃ + Eu₂O₃ + Gd₂O₃ + Ho₂O₃ + La₂O₃ + Lu₂O₃ + Nd₂O₃ + Pr₆O₁₁ + Sm₂O₃ + Tb₄O₇ + Tm₂O₃ + Y₂O₃ + Yb₂O₃ High Value Magnetic Rare Earths: MREO = Nd₂O₃ + Pr₆O₁₁ + Dy₂O₃ + Tb₄O₇ 	Element	Oxide	Factor	Cerium	CeO ₂	1.2284	Dysprosium	Dy ₂ O ₃	1.1477	Erbium	Er ₂ O ₃	1.1435	Europium	Eu ₂ O ₃	1.1579	Gadolinium	Gd ₂ O ₃	1.1526	Holmium	Ho ₂ O ₃	1.1455	Lanthanum	La ₂ O ₃	1.1728	Lutetium	Lu ₂ O ₃	1.1371	Neodymium	Nd ₂ O ₃	1.1664	Praseodymium	Pr ₆ O ₁₁	1.2082	Scandium	Sc ₂ O ₃	1.5338	Samarium	Sm ₂ O ₃	1.1596	Terbium	Tb ₄ O ₇	1.1762	Thulium	Tm ₂ O ₃	1.1421	Yttrium	Y ₂ O ₃	1.2699	Ytterbium	Yb ₂ O ₃	1.1387
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Ytterbium	Yb ₂ O ₃	1.1387																																																			

Criteria	JORC Code explanation	Commentary
Location of data points	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • For exploration holes on Muckanippie and Bradman tenements, drillhole coordinate information was collected using a handheld GPS system with an autonomous accuracy of $\pm 3\text{m}$ utilising GDA 94 Zone 53. • The area is generally of low topographic relief. Topographic control uses SRTM 90 DEM.
Data spacing and distribution	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Drill hole spacing is irregular as indicated in Appendix 2.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Drill lines were new reconnaissance holes. Therefore, a sampling bias should not have occurred.
Sample security	<ul style="list-style-type: none"> • The measures taken to ensure sample security. 	<ul style="list-style-type: none"> • Company staff collected all laboratory samples. • Samples submitted to the laboratory were transported and delivered by Company staff.
Audits or reviews	<ul style="list-style-type: none"> • The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> • No audit of data has been completed to date.

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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Muckanippie (EL 6166) and Bradman (EL 6463) are 100% owned by Marmota Limited. These ELs are located approximately 120 km southwest of Coober Pedy in South Australia. There are no third-party agreements, non-government royalties, historical sites or environmental issues. Exploration is conducted within lands of the Antakirinja Matu-Yankunytjatjara Native Title Determination Area. The tenements are in good standing.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> Previous exploration drill holes included: <ul style="list-style-type: none"> Regional AC by CRA Exploration Pty Ltd (1983) for Kimberlites. Regional RC by South Australia Department of Mines and Energy (1991) focused on basement lithology. Regional RAB by Normandy Exploration Ltd (1997) focused on Gold, Base Metals. Regional RC drilling by Aztec Mining (1998) focused on Gold, Base Metals. Reconnaissance AC, TMI and EM surveys by Uranium SA Ltd (2007) focused on Uranium. Previous RC drilling at the Widgetty prospect by MEU (2015). No previous REE exploration has occurred within these tenements
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> All drilling occurred within geology of the Christie Domain of the western Gawler Craton. The Christie Domain is largely underlain by late Archaean Mulgathing Complex which comprises meta-sedimentary successions interlayered with Banded Iron Formations (BIF), chert, carbonates and calc-silicates. In this program, Marmota targeted near surface ionic clay hosted REE mineralisation.
Drill hole Information	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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 Person should clearly explain why this is the case. 	<ul style="list-style-type: none"> The required information on drill holes is incorporated into Appendix 2 to the ASX Release.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	<ul style="list-style-type: none"> <i>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.</i> <i>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.</i> <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	<ul style="list-style-type: none"> Any intersections are calculated by simple averaging of 4m Composite Samples. Where aggregated intercepts are presented in the report, they may include shorter lengths of high-grade mineralisation; these shorter lengths are also tabulated. No metal equivalents are reported.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <i>These relationships are particularly important in the reporting of Exploration Results.</i> <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i> 	<ul style="list-style-type: none"> Drill coverage is considered sufficient to establish approximate true widths, given the current geological understanding of mineralisation dip and strike. Mineralisation intersections are downhole lengths; exact true widths are unknown but are similar to the intersection lengths as the mineralised zones are approximately normal to hole inclinations.
Diagrams	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> See Figures within ASX release
Balanced reporting	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> A cut-off grade of 1000 ppm TREO was applied in reviewing assay results and deemed to be appropriate at this stage in reporting of exploration results. Reporting is considered balanced.
Other substantive exploration data	<ul style="list-style-type: none"> <i>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.</i> 	
Further work	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> See attached release Marmota is currently reviewing results received to date and preparing additional work programs and additional infill and extensional drilling.

Drillhole collar summary: Muckanippie and Bradman REE exploration holes

Tenement	Hole ID	Easting (MGA94 z53)	Northing (MGA94 z53)	RL	Dip	Azimuth (Mag)	EOH Depth
Muckanippie	WI001	409,800	6,659,850	198	-90	0	39
Muckanippie	WI002	409,900	6,659,850	198	-90	0	39
Muckanippie	WI003	410,000	6,659,850	198	-90	0	39
Muckanippie	WI004	410,100	6,659,850	197	-90	0	39
Muckanippie	WI005	410,200	6,659,850	196	-90	0	33
Muckanippie	WI006	410,200	6,659,750	196	-90	0	37
Muckanippie	WI007	410,100	6,659,750	198	-90	0	33
Muckanippie	WI008	410,000	6,659,750	198	-90	0	39
Muckanippie	WI009	409,900	6,659,750	198	-90	0	39
Muckanippie	WI010	409,800	6,659,750	199	-90	0	39
Muckanippie	WI011	409,800	6,659,650	199	-90	0	39
Muckanippie	WI012	409,900	6,659,650	199	-90	0	39
Muckanippie	WI013	410,000	6,659,650	199	-90	0	39
Muckanippie	WI014	410,100	6,659,650	199	-90	0	39
Muckanippie	WI015	410,200	6,659,650	197	-90	0	40
Muckanippie	WI016	410,200	6,659,550	199	-90	0	39
Muckanippie	WI017	410,100	6,659,550	200	-90	0	39
Muckanippie	WI018	410,000	6,659,550	201	-90	0	37
Muckanippie	WI019	409,900	6,659,550	201	-90	0	39
Muckanippie	WI020	409,800	6,659,549	200	-90	0	39
Muckanippie	WI021	409,700	6,659,550	201	-90	0	34
Muckanippie	WI022	409,600	6,659,550	201	-90	0	39
Muckanippie	WI023	409,500	6,659,550	201	-90	0	38
Muckanippie	WI024	409,400	6,659,550	203	-90	0	40
Muckanippie	WI025	409,500	6,659,450	203	-90	0	39
Muckanippie	WI026	410,200	6,659,450	200	-90	0	38
Muckanippie	WI027	410,100	6,659,450	201	-90	0	33
Muckanippie	WI028	410,000	6,659,450	202	-90	0	39
Muckanippie	WI029	409,900	6,659,450	202	-90	0	34
Muckanippie	WI030	409,800	6,659,450	202	-90	0	36
Muckanippie	WI031	409,700	6,659,450	202	-90	0	39
Muckanippie	WI032	409,600	6,659,450	203	-90	0	39
Muckanippie	WI033	409,550	6,659,400	205	-90	0	39
Muckanippie	WI034	410,200	6,659,350	201	-90	0	39
Muckanippie	WI035	410,100	6,659,350	202	-90	0	39
Muckanippie	WI036	410,000	6,659,350	202	-90	0	39
Muckanippie	WI037	409,900	6,659,350	203	-90	0	33
Muckanippie	WI038	409,800	6,659,350	203	-90	0	35
Muckanippie	WI039	409,700	6,659,350	203	-90	0	39
Muckanippie	WI040	409,600	6,659,350	204	-90	0	39
Muckanippie	WI041	409,500	6,659,350	207	-90	0	39
Muckanippie	WI042	409,400	6,659,350	210	-90	0	40

Muckanippie	WI043	409,400	6,659,436	211	-90	0	39
Muckanippie	WI044	410,200	6,659,250	203	-90	0	39
Muckanippie	WI045	410,100	6,659,250	205	-90	0	39
Muckanippie	WI046	410,000	6,659,250	205	-90	0	39
Muckanippie	WI047	409,900	6,659,250	205	-90	0	35
Muckanippie	WI048	409,800	6,659,250	204	-90	0	36
Muckanippie	WI049	409,700	6,659,250	204	-90	0	38
Muckanippie	WI050	409,600	6,659,250	205	-90	0	39
Muckanippie	WI051	409,500	6,659,250	206	-90	0	39
Muckanippie	WI052	409,400	6,659,250	208	-90	0	39
Muckanippie	WI053	410,200	6,659,150	204	-90	0	39
Muckanippie	WI054	410,100	6,659,150	206	-90	0	36
Muckanippie	WI055	410,000	6,659,150	208	-90	0	39
Muckanippie	WI056	409,900	6,659,150	208	-90	0	39
Muckanippie	WI057	410,000	6,659,050	213	-90	0	39
Muckanippie	WI058	409,900	6,659,050	209	-90	0	39
Muckanippie	WI059	410,200	6,658,850	204	-90	0	33
Muckanippie	WI060	410,100	6,658,850	204	-90	0	39
Muckanippie	WI061	410,000	6,658,850	206	-90	0	39
Muckanippie	WI062	409,900	6,658,850	206	-90	0	34
Muckanippie	WI063	410,200	6,658,950	204	-90	0	39
Muckanippie	WI064	410,100	6,658,950	207	-90	0	39
Muckanippie	WI065	410,000	6,658,950	209	-90	0	39
Muckanippie	WI066	409,900	6,658,950	208	-90	0	33
Muckanippie	WI067	410,200	6,659,050	204	-90	0	38
Muckanippie	WI068	410,150	6,659,100	205	-90	0	38
Muckanippie	WI069	410,100	6,659,050	208	-90	0	39
Muckanippie	WI070	409,584	6,660,946	196	-90	0	34
Muckanippie	WI071	409,360	6,661,867	195	-90	0	39
Muckanippie	WI072	411,730	6,662,680	191	-90	0	33
Muckanippie	WI073	411,630	6,662,680	189	-90	0	39
Muckanippie	WI074	411,530	6,662,680	188	-90	0	39
Muckanippie	WI075	411,730	6,662,880	185	-90	0	39
Muckanippie	WI076	411,630	6,662,880	185	-90	0	39
Muckanippie	WI077	411,530	6,662,880	185	-90	0	34
Muckanippie	WI078	411,080	6,663,729	186	-90	0	34
Muckanippie	WI079	411,007	6,663,473	185	-90	0	39
Muckanippie	WI080	410,880	6,663,252	186	-90	0	36
Muckanippie	WI081	410,661	6,663,101	188	-90	0	36
Muckanippie	WI082	410,139	6,662,852	190	-90	0	34
Muckanippie	WI083	410,040	6,662,850	190	-90	0	34
Muckanippie	WI084	409,940	6,662,850	191	-90	0	39
Muckanippie	WI085	410,340	6,662,750	192	-90	0	34
Muckanippie	WI086	410,240	6,662,750	191	-90	0	35
Muckanippie	WI087	410,140	6,662,750	191	-90	0	34
Muckanippie	WI088	410,040	6,662,750	191	-90	0	39

Muckanippie	WI089	409,940	6,662,750	191	-90	0	39
Muckanippie	WI090	409,940	6,662,650	191	-90	0	39
Muckanippie	WI091	410,040	6,662,650	191	-90	0	39
Muckanippie	WI092	410,140	6,662,650	191	-90	0	37
Muckanippie	WI093	410,240	6,662,650	192	-90	0	39
Muckanippie	WI094	410,340	6,662,650	193	-90	0	34
Muckanippie	WI095	410,190	6,662,600	191	-90	0	34
Muckanippie	WI096	410,140	6,662,550	191	-90	0	39
Muckanippie	WI097	410,140	6,662,450	192	-90	0	34
Muckanippie	WI098	410,040	6,662,450	192	-90	0	39
Muckanippie	WI099	410,040	6,662,550	191	-90	0	39
Muckanippie	WI100	409,808	6,655,006	192	-90	0	39
Muckanippie	WI101	409,423	6,656,887	218	-90	0	39
Muckanippie	WI102	410,048	6,654,963	207	-90	0	40
Muckanippie	WI103	410,972	6,656,090	219	-90	0	39
Muckanippie	WI104	412,035	6,655,076	185	-90	0	39
Bradman	WI105	413,900	6,653,000	189	-90	0	33
Muckanippie	WI106	412,644	6,653,149	193	-90	0	40
Muckanippie	WI107	411,418	6,653,278	198	-90	0	40
Bradman	WI108	414,500	6,652,990	187	-90	0	39
Bradman	WI109	415,100	6,653,000	184	-90	0	39
Bradman	WI110	415,100	6,652,400	185	-90	0	39
Bradman	WI111	414,500	6,652,400	186	-90	0	40
Bradman	WI112	414,500	6,651,799	184	-90	0	36
Bradman	WI113	413,900	6,651,800	186	-90	0	39
Bradman	WI114	413,900	6,652,399	187	-90	0	39
Bradman	WI115	415,100	6,651,800	186	-90	0	40
Bradman	WI116	415,700	6,651,802	182	-90	0	40
Bradman	WI117	416,286	6,651,793	179	-90	0	39
Bradman	WI118	415,700	6,652,400	183	-90	0	39
Bradman	WI119	416,300	6,652,400	182	-90	0	9
Bradman	WI120	416,300	6,653,000	181	-90	0	39
Bradman	WI121	415,700	6,653,000	183	-90	0	40

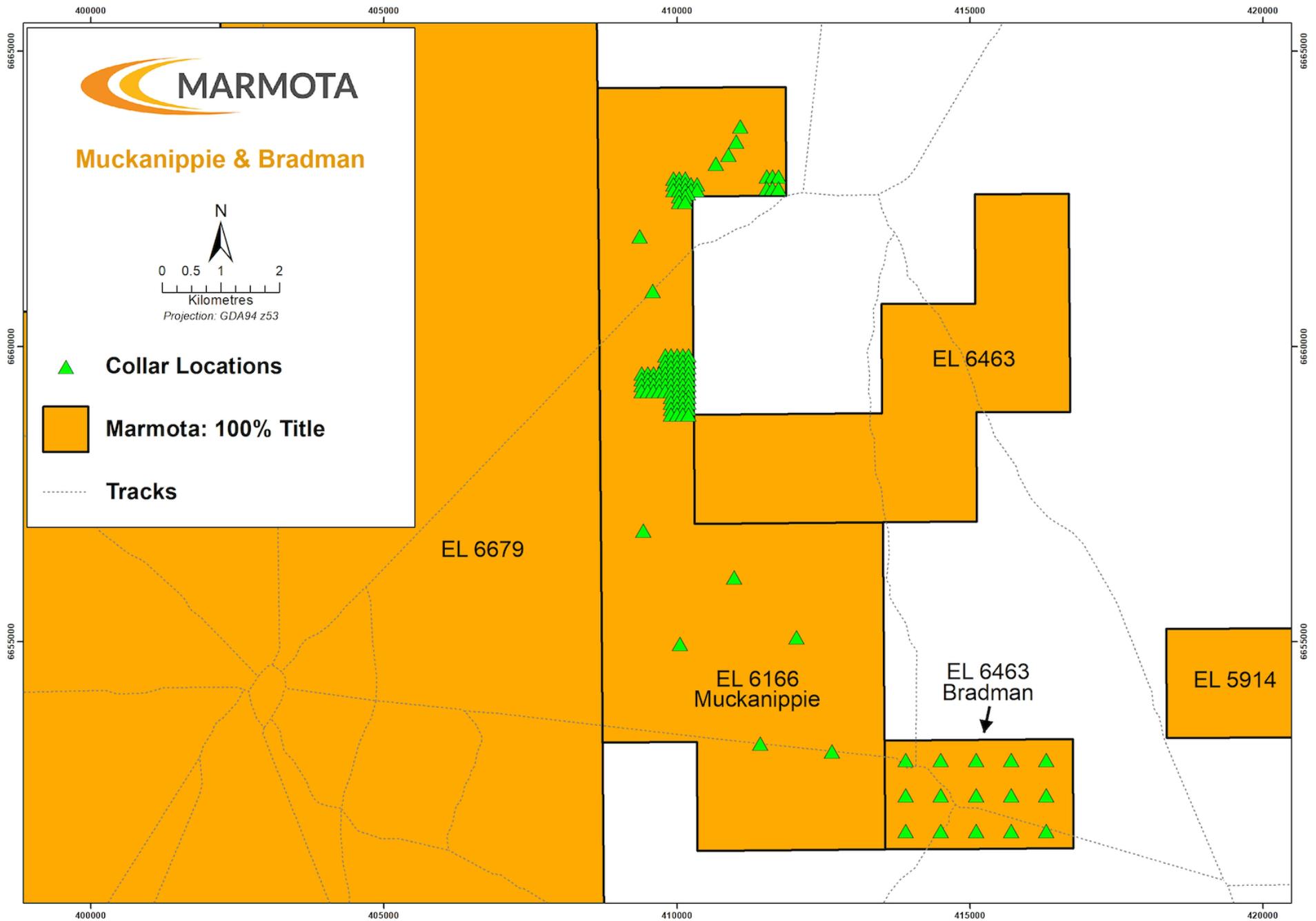


Figure 3: REE recon drill holes ▲ Muckanippie (EL 6166) and Bradman (EL 6463)