ASX ANNOUNCEMENT 29 May 2025

Muckanippie yields spectacular Heavy Mineral concentrations

Marmota Limited (ASX:MEU) ('Marmota')

Marmota (ASX:MEU) is pleased to announce that laboratory results from the February drilling program at Marmota's Muckanippie EL 6166 **titanium discovery has yielded spectacular bonanza Heavy Mineral (HM) concentrations and intercept thicknesses.**

The results:

1. **Confirm MEU's Muckanippie Project as a major new titanium discovery hosted in heavy mineral sands.**
2. **Extend the size of the discovery in every direction**: North, East, South and West, with the mineralised zone now extending ~ 3.2km by 1.8km.
3. Feature **spectacular bonanza Heavy Mineral intersections**, starting close to surface, over thick wide intervals. Highlights include: [see Table 1 and Figure 1 for full detail]

Hole 25MKAC068	**37m** @ **45 %** HM	from **2m**	including	5m @ **56 %** HM
Hole 25MKAC018	**34m** @ **19 %** HM	from **4m**	including	1m @ **50 %** HM
Hole 25MKAC069	**30m** @ **20 %** HM	from **0m**	including	2m @ **43 %** HM
Hole 25MKAC021	**19m** @ **22 %** HM	from **13m**	including	3m @ **40 %** HM
Hole 25MKAC020	**20m** @ **22 %** HM	from **19m**	including	4m @ **38 %** HM
Hole 25MKAC048	**30m** @ **22 %** HM	from **6m**	including	1m @ **34 %** HM

Titanium is listed as a critical mineral. Australia is one of the leading producers of titanium dioxide and mineral sands in the world. Table 2 below provides a brief listing of major Australian Mineral Sands projects and their corresponding HM %.

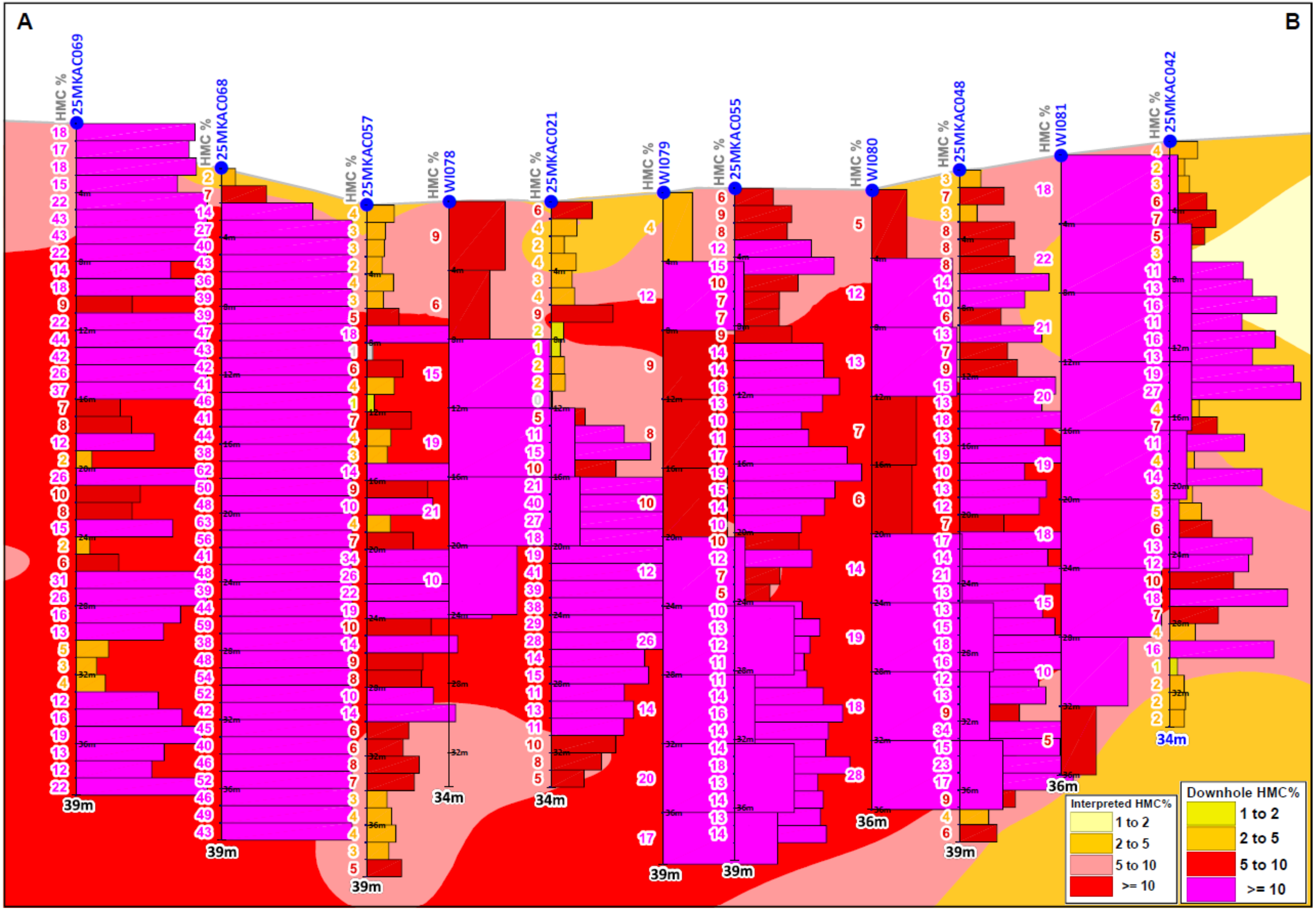

Figure 1: **Cross-section (1.8km long) from point 'A': Hole 69 (NE) to point 'B': Hole 42 (SW) featuring outstanding heavy mineral concentrations in every hole**

/continues …

4. The **mineralised zone has dramatically extended the discovery to the full width of the tenement** (~3.2km) [see Fig. 2 and Fig. 4], with high grade HM % of over 20% recorded at both the western and eastern extremes of the tenement. The next adjoining tenement to the west EL 6679 has not yet been drilled by Marmota but has recorded 100% leucoxene mineral assemblages in all tested samples [see ASX:MEU 24 Feb 2025] … *i.e. all of the HMC content was high-value titanium* (Leucoxene). The combination of mineralisation already identified from the recent drilling on EL 6166 and the 100% leucoxene on the western extremity of EL 6679 could extend the discovery area to 9km in length.

5. The previously reported 4 discovery holes [ASX:MEU 14 Jan 2025] featured maximum downhole bonanza grades of up to 28% HM [ASX:MEU 14 Jan 2025: Hole Wi080 at 32m]. **The new program has seen the maximum downhole grade more than double to 63% HM** [Hole 25MKAC068 at 20m: see Table 1], with 6 holes returning maximum HM% over 40%, and **14 holes returning max HM% over 30%** [see Fig. 2].

About the Program

- **AC Drill program: 91 holes drilled** for **3272m**
- **Hole depths: ~ 36m** (average, or to refusal)

Hole depths were purposefully shallow as the target is the titanium-bearing mineral sands *from surface*.

- With the realisation that mineralisation is much larger and wider than originally understood, the HM concentration laboratory analysis was carried out on both the 91 holes from the February 2025 drilling, and also extended to a selected number of holes ("Wi" prefix) from previous drilling for which samples were still available. HM percentages for the Wi078, Wi079, Wi080 and Wi081 holes (being the 4 discovery holes) were reported in ASX:MEU 14 Jan 2025.

About Figure 1

- Figure 1 plots a cross-section extending **approximately 1.8km in length** from point A to point B (shown in plan view in Figure 2 and Figure 3), illustrating downhole histograms of Heavy Mineral % for every drill hole along the section.[1]

- The figure *background* (surrounding the reported histograms of HM%) is a 2D slice of the 3D geostatistical interpreted iso-shell of the HM content.

- The diagram illustrates **outstanding HM% down each hole along the section**, and also **excellent continuity between the holes**.

- The HM percentages are so high that the histogram bars have been capped/truncated at 20% (even though the results extend up to 63%), to enable comparison and relative scaling between holes.

- HM results for 4 holes, namely Wi078, Wi079, Wi080 and Wi081 (4m composites) were previously reported on ASX:MEU 14 Jan 2025 and constitute the original 4 discovery holes.

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1 As noted in ASX: 14 Jan 2025, in Hole WI-081, there was insufficient sample left to test one of the 4m intervals in the 28m range from surface (namely, from 12m to 16m). That interval, from 12m to 16m, in ASX:MEU 13 Nov 2024, reported the highest titanium grade of all samples at that time. To enable the calculation of comparative continuous HM% intervals from surface, the missing 4m was inferred as the simple average of the HM % from the 2 samples above and 2 samples below *i.e.* average of the surrounding 16m of samples), noting that the hole features exceptional geological continuity from surface.

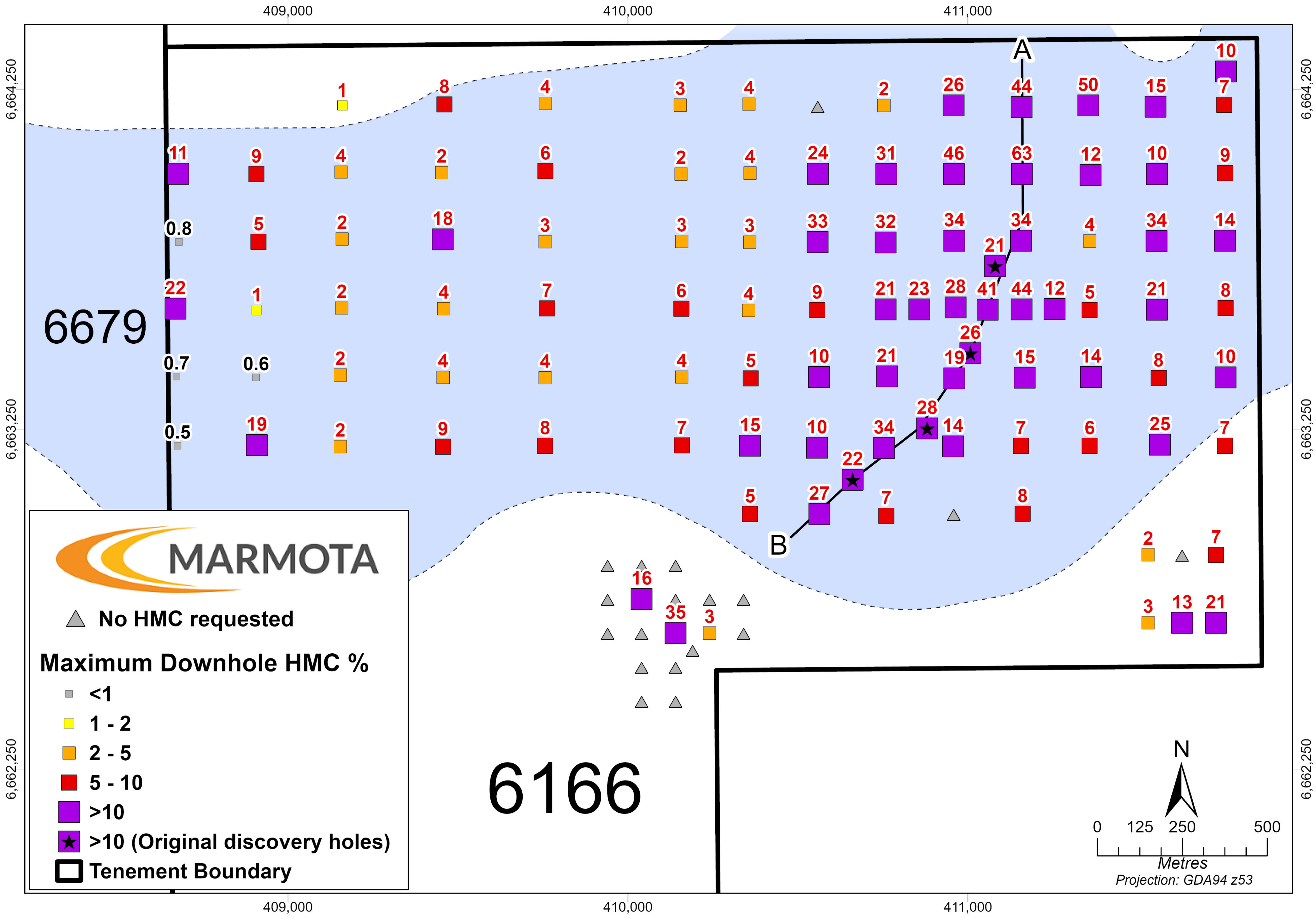

Figure 2: Marmota's Titanium Discovery on EL 6166 (Muckanippie) including ultra-high grade HM zone over eastern half

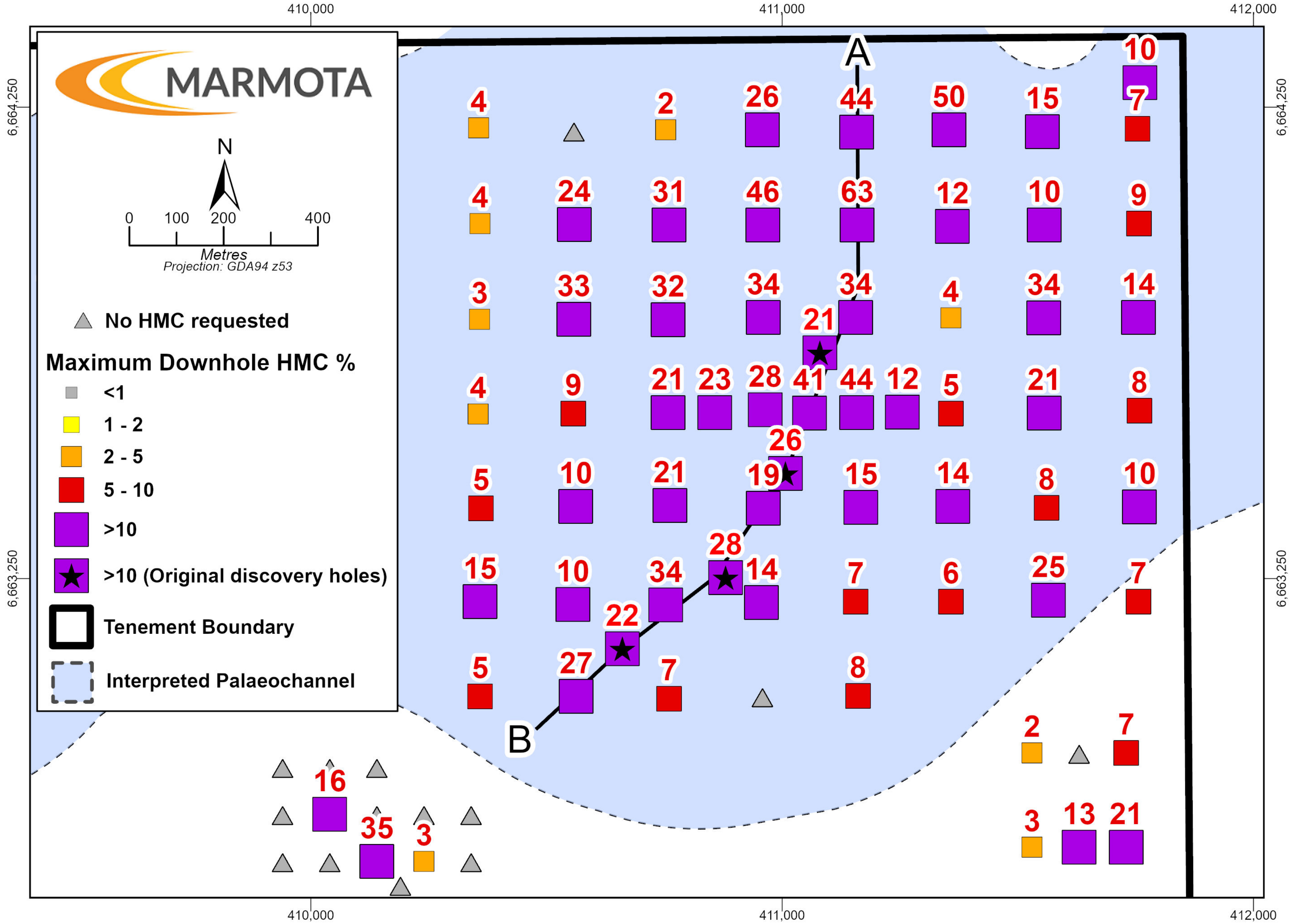

Figure 3: DETAIL VIEW: Ultra-high grade area on MEU Titanium Discovery on EL 6166 (Muckanippie) with interpreted palaeochannel

Table 1 Muckanippie Heavy mineral (HM) %
Significant HM Intersections over 10%

Hole ID	Easting	Northing	DIP	AZI	EOH	From (m)	To (m)	Interval (m)	Heavy Mineral %
25MKAC068	411,159	6,664,000	-90	0	39	2	39	37 m	**45%**
incl						17	22	5 m	**56%**
incl						20	21	1 m	**63%**
25MKAC018	411,354	6,664,202	-90	0	39	5	39	34 m	**19%**
incl						30	31	1 m	**50%**
25MKAC067	410,959	6,664,000	-90	0	31	9	10	1 m	**46%**
and						15	16	1 m	**33%**
and						18	19	1 m	14%
and						27	28	1 m	12%
25MKAC069	411,158	6,664,197	-90	0	39	0	30	30 m	**20%**
incl						5	7	2 m	**43%**
incl						12	14	2 m	**43%**
and						33	39	6 m	**16%**
25MKAC020	411,158	6,663,602	-90	0	39	7	9	2 m	11%
and	411,158	6,663,602	-90	0	39	19	39	20 m	**22%**
incl						26	29	3 m	**41%**
25MKAC021	411,058	6,663,601	-90	0	34	13	32	19 m	**22%**
incl						21	24	3 m	**40%**
WI092	410,140	6,662,652	-90	0	37	24	37	13 m	**22%**
incl						28	32	4 m	**35%**
25MKAC048	410,753	6,663,194	-90	0	39	6	36	30 m	14%
incl						32	33	1 m	**34%**
25MKAC060	410,558	6,663,800	-90	0	39	3	6	3 m	**21%**
incl						5	6	1 m	**33%**
and						8	9	1 m	12%

and						22	24	2 m	14%
25MKAC009	411,555	6,663,803	-90	0	39	22	29	7 m	**18%**
incl						24	26	2 m	**33%**
and						37	38	1 m	**21%**
25MKAC059	410,758	6,663,799	-90	0	39	11	12	1 m	**19%**
and						15	19	4 m	**16%**
and						29	30	1 m	**19%**
and						33	35	2 m	10%
and						38	39	1 m	**32%**
25MKAC066	410,760	6,664,000	-90	0	33	6	19	13 m	15%
incl						12	13	1 m	**31%**
incl						15	16	1 m	**23%**
and						24	33	9 m	12%
25MKAC022	410,964	6,663,608	-90	0	39	5	9	4 m	**19%**
incl						7	9	2 m	**28%**
and						20	39	19 m	11%
25MKAC065	410,559	6,664,001	-90	0	39	5	6	1 m	**24%**
and						9	10	1 m	14%
and						15	17	2 m	**15%**
and						27	28	1 m	13%
25MKAC023	410,857	6,663,602	-90	0	39	9	11	2 m	**16%**
incl						9	10	1 m	**23%**
25MKAC012	411,565	6,663,204	-90	0	39	17	19	2 m	14%
and						20	24	4 m	13%
and						34	39	5 m	**23%**
25MKAC030	408,669	6,663,604	-90	0	39	7	8	1 m	**22%**
25MKAC058	410,960	6,663,804	-90	0	16	4	15	11 m	**22%**
25MKAC071	410,958	6,664,202	-90	0	39	3	4	1 m	**17%**
and						8	9	1 m	12%
and						16	17	1 m	**21%**
and						19	22	3 m	**17%**
and						32	33	1 m	14%

and						35	36	1 m	11%
25MKAC024	410,758	6,663,602	-90	0	39	7	8	1 m	15%
and						11	12	1 m	**21%**
and						16	18	2 m	11%
and						21	22	1 m	**19%**
and						26	28	2 m	17%
WI072	411,731	6,662,681	-90	0	33	0	32	32 m	16%
incl						28	32	4 m	**21%**
25MKAC054	410,762	6,663,405	-90	0	17	10	16	6 m	12%
incl						15	16	1 m	**21%**
25MKAC057	411,156	6,663,804	-90	0	39	7	8	1 m	**18%**
and						15	30	15 m	14%
25MKAC079	409,455	6,663,808	-90	0	39	9	10	1 m	**18%**
25MKAC042	410,563	6,663,000	-90	0	34	7	15	8 m	16%
and						17	20	3 m	10%
and						23	27	4 m	13%
and						29	30	1 m	16%
25MKAC056	411,167	6,663,401	-90	0	39	8	9	1 m	15%
25MKAC083	408,908	6,663,203	-90	0	39	31	35	4 m	15%
25MKAC050	410,359	6,663,201	-90	0	39	4	5	1 m	15%
25MKAC004	411,756	6,663,804	-90	0	32	19	20	1 m	10%
and						31	32	1 m	14%
25MKAC047	410,956	6,663,199	-90	0	34	8	10	2 m	11%
incl						9	10	1 m	14%
25MKAC014	411,362	6,663,403	-90	0	36	27	28	1 m	14%
25MKAC055	410,960	6,663,399	-90	0	39	1	38	37 m	12%
WI073	411,631	6,662,681	-90	0	39	12	16	4 m	13%
25MKAC019	411,255	6,663,603	-90	0	39	25	26	1 m	12%
25MKAC017	411,361	6,663,997	-90	0	37	33	34	1 m	12%
25MKAC007	411,552	6,664,198	-90	0	39	22	24	2 m	12%
WI088	410,041	6,662,752	-90	0	39	12	28	16 m	11%
25MKAC088	408,677	6,664,001	-90	0	39	8	9	1 m	11%

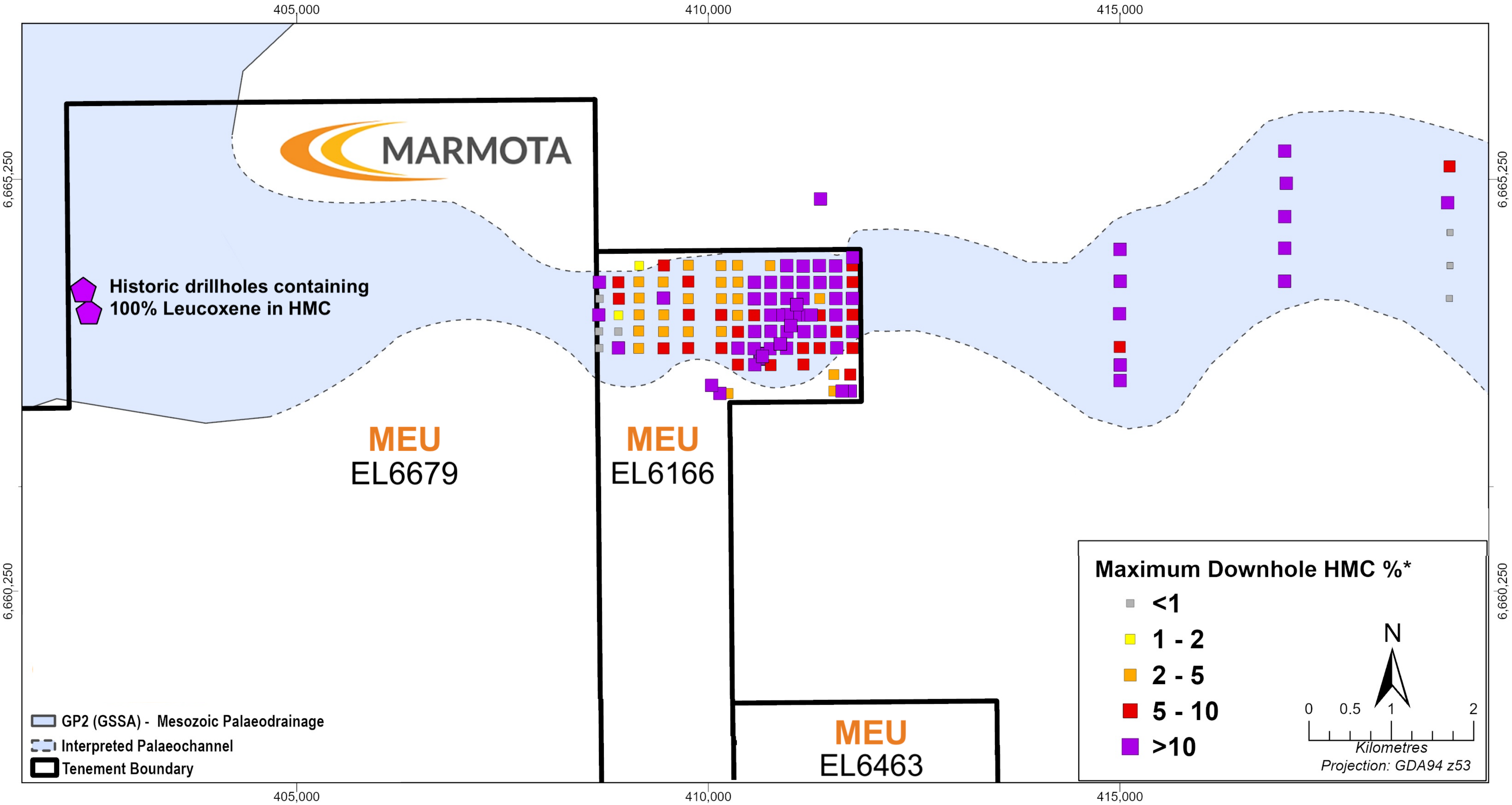

Figure 4: **Palaeochannel interpretation over the regional area of Marmota's Titanium Discovery on EL 6166 (Muckanippie) and Petratherm's Titanium discovery, and adjacent MEU tenements**

Background

- In November 2024, Marmota discovered **exceptional thick rich titanium** mineralisation at Muckanippie [ASX:MEU 13 Nov 2024] from surface, *in every discovery hole*.

- In January 2025, Marmota announced that a geological review at Muckanippie identified a **regional scale palaeochannel** [see Fig. 4] interpreted to transect both Marmota's recent discovery of exceptional thick rich titanium mineralisation at Muckanippie (EL 6166) [ASX:MEU 13 Nov 2024] and Petratherm's discovery of thick rich titanium mineralisation also at Muckanippie [ASX:PTR 11 Sept 2024].
  The new interpretation of the Mesozoic palaeochannel has been aided by work published as recently as November 2024 by the Geological Survey of South Australia ('**GSSA'**) GP2 project [ASX:MEU 7 Jan 2025].

- **Marmota holds approximately 28km (in length) of the highly prospective titanium-bearing palaeochannel** on its tenements. Of the 28km, approximately 10km (in length) lies within Marmota's tenements to the west, and approximately 18km (in length) lies within Marmota's tenements to the east.

- Titanium is one of the critical minerals identified by governments worldwide with a range of uses in energy storage, defence, space, semiconductors, surgical implants, pigments and the production of metal alloys.

- The discovery holes featured exceptional **TiO_2 grades over 10%** [ASX:MEU 13 Nov 2024], with every hole featuring remarkable intersections from surface.

- The titanium discovery is **located close to transport infrastructure**, adjacent to both the Adelaide to Darwin rail line, and the Adelaide to Perth rail line [see Fig. 5].

High-value Mineral assemblage

- First Heavy Mineral (HM) assemblage analysis from Marmota's new Titanium discovery at Muckanippie identified **outstanding high-value titanium feedstocks** [ASX:MEU 26 Mar 2025].
- HM Samples tested using X-Ray Diffraction (XRD) scanning reported **as high as 90% Valuable Heavy Mineral Content** (**VHM**) in the heavy mineral concentrates, with samples returning an average of **79% Valuable Heavy Mineral Content** [ASX:MEU 26 Mar 2025].
- HM Samples tested from the north (Hole 78: 0 to 12m) returned **very high rutile** (18% to 24%) and **pseudorutile content** (41% to 64%), such that the combined ultra-high value rutile/pseudorutile/anatase.
- Content ranged between 60% and 90% and averaged 73% ultra-valuable content [ASX:MEU 26 Mar 2025].
- Extremely low deleterious element concentrations (Uranium, Thorium): below 0.002% in all tested samples.
- Selected samples from the new Feb 2025 drilling are currently undergoing sachet scanning to identify mineral assemblage properties.

Table 2
Australian Mineral Sand Projects and Heavy Mineral HM %

Company	Project	HM %
Tronox[1]	Western Australia: COOLJARLOO - Dredge Mine	1.6
	Western Australia: DONGARA - Planned Dry Mine	3.9
	New South Wales: ATLAS-CAMPASPE - Dry Mine	3.0
	New South Wales: KARA/CYLINDER	4.1
Iluka Resources Ltd[2]	Eucla Basin : ATACAMA + JACINTH AMBROSIA	4.9
	Murray Basin: EUSTON, WIMMERA & BALRANALD	6.5
	Perth Basin: TUTUNUP, CATABY	5.5
Strandline Resources Ltd[3]	Coburn WA	1.2
Image Resources Ltd[4]	Various Dry Mining Deposits	1.5
	Various Dredge Mining Deposits	2.1
Diatreme Resources Ltd[5]	Cyclone, WA	2.3

Source:

1 Tronox (2023). *2023 Annual Report.* Available at: https://investor.tronox.com/financials/annual-reports
2 Iluka Resources Limited (2024), *21 Feb 2024 - Annual Report Including Appendix 4E*. Available at: https://www.iluka.com/investors-media/financial-results
3 Strandline Resources Limited (2024), *1 October 2024 - Annual Report to Shareholders.* Available at: https://strandline.com.au/announcement-category/annual-report
4 Image Resources (2024), *19 April 2024 – Annual Report to Shareholders.* Available at: https://imageres.com.au/investors-centre/reports
5 Diatreme Resources Ltd (2024), *22 April 2024 – Annual Report to Shareholders.* Available at: https://diatreme.com.au/company-reports

HM% is one component of the commercial viability of a mineral sands deposit. Other factors include the mineral assemblage, distribution and sizing fractions of the heavy minerals, metallurgical properties, proximity to infrastructure, size of the resource, depth of resource and method of mining.

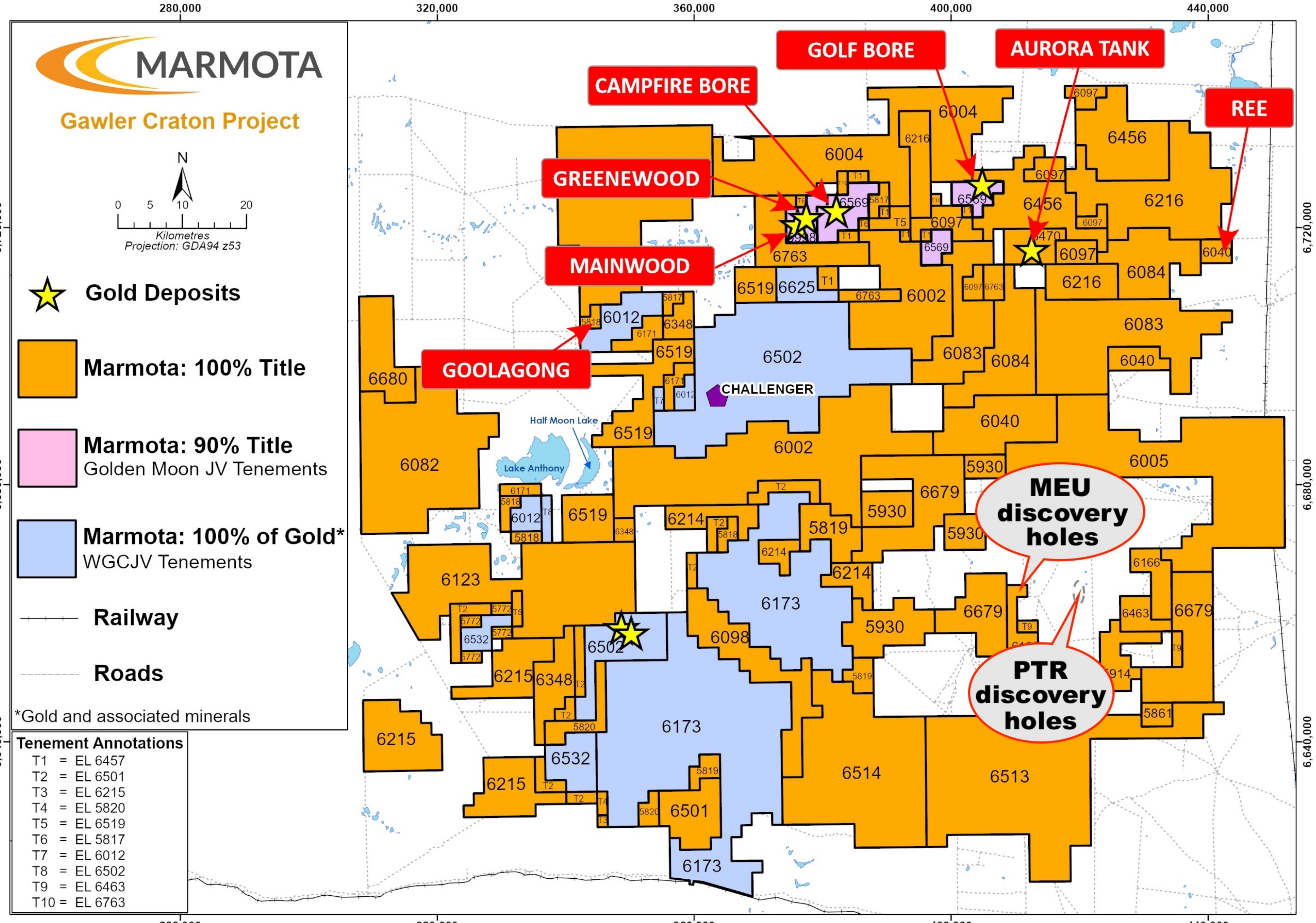

Figure 5: Titanium discovery holes on Marmota's Muckanippie tenement EL 6166 and Petratherm's Muckanippie tenement

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About Marmota Limited

Marmota Limited (ASX:MEU) is a South Australian mining exploration company focused on gold, titanium and uranium. Gold exploration is centred on the Company's gold discovery at Aurora Tank that is yielding outstanding intersections in the highly prospective and significantly underexplored Gawler Craton in the Woomera Prohibited Defence Area.

The Company's flagship uranium 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 and Executive Director of Exploration at Marmota. 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.

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

MARMOTA

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	• *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.*
		• Muckanippie (WI RAB Drillholes):
		○ A total of 106 RAB holes were drilled for 3,995 metres.
		○ 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.
		○ Titanium was tested by 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.
		○
		• Muckanippie Metallurgy HMC test work samples (4 initial WI RAB original discovery holes):
		○ Reserve (residue) samples were collected from the original Lab. The average weight of the residue samples was 2.2kg. The residue was then split using riffle splitting to obtain a subsample to submit for Metallurgical Heavy Mineral test work. The average weight of the sample sent to ALS for metallurgical test work was 0.9 kg: the remaining sample has been retained by Marmota.
		○ When the samples arrived at ALS, samples were split to an average size of 0.470kg for HMC % test work. These samples were then processed using the following steps:
		  ○ Wet screening at -1mm /+0.02mm to produce sample for Heavy Mineral Separation.
		  ○ Standard Heavy Minerals Separation on -1mm /+0.02mm sand using

Criteria	JORC Code explanation	Commentary

		Tetrabromoethane (TBE) with floats discarded.
		• Muckanippie Metallurgy HMC test work samples (2025 February AC Holes and Additional WI Holes):
		  ○ Where additional WI Holes were submitted for HLS, the reserve (residue) 4m composite samples were collected from the Lab and submitted to Diamantina using the same HLS Prep and TBE procedure as the 1m intervals from the 2025 February AC Drill holes (as below).
		  ○ Drill samples from the February 2025 AC drilling were collected at 1m intervals from the cyclone attached the drill rig.
		  ○ Selected 1m intervals from 89 drill holes were submitted to Diamantina in Perth for preparation and Heavy Liquid Separation (HLS). The average weight of the selected 1m sample submitted was 1.5kg. The samples were dried, and a split was taken using a rotary splitter for HMC % test work. The average sample split was 100grams. These sub-samples were then processed using the following steps:
		    ○ Wet screening at -2mm /+0.038mm to produce sample for Heavy Mineral Separation.
		    ○ Standard Heavy Minerals Separation on -2mm /+0.038mm sand using Tetrabromoethane (TBE) with floats discarded.
		• Results of historic drilling (including on adjacent tenements) has been sourced from SARIG (open source data) which has been compiled and maintained by Department of Energy and Mining. For such data, generally limited information or no information is available for sampling collection methods.

Drilling techniques	*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).*	• WI drilling method was RAB, with a hole diameter of 146.5 mm. • 2025 February drilling method was Aircore (AC) drilling, with a hole diameter of 86 mm. • Historic drilling by other companies has been sourced from SARIG where the drill technique has been sourced.
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.*	• 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.

Criteria	JORC Code explanation	Commentary
	• *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.*	• 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. • Historic drilling has been sourced from SARIG: no additional information of recovery is known.
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.*	• WI Holes: representative drill holes were geologically examined by Marmota geologists. • 2025 February drilling: all holes have been geologically logged. • the drillholes have not been geotechnically logged. • Geological logging is qualitative. • Historic drilling has been sourced from SARIG including logs where available.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Muckanippie Drilling (WI RAB Holes): ○ 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 homogenising 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 pulverising failed to meet sizing target in the sample batches relevant to the report. ○ Duplicate samples were introduced into the sample stream by the Company. • Muckanippie Metallurgy HMC testwork samples (4 initial WI RAB original discovery holes): ○ Reserve (residue) samples were collected from the Lab. The average weight of the residue samples was 2.2kg. The residue was then split using riffle splitting to obtain a subsample to submit for Metallurgical Heavy Mineral test work. The average weight of the sample sent to ALS for metallurgical test work was 0.9 kg; the remaining sample has been retained by Marmota. ○ When the samples arrived at ALS, samples were split to an average size of 0.47 kg for HMC % test work. These samples were then processed using the following steps: ○ Wet screening at -1mm /+0.02mm to produce sample for Heavy Mineral Separation.

Criteria	JORC Code explanation	Commentary
		◦ Standard Heavy Minerals Separation on -1mm /+0.02mm sand using Tetrabromoethane (TBE) with floats discarded. • Muckanippie Metallurgy HMC test work samples (2025 February AC Holes and Additional WI Holes): ◦ Where additional WI Holes were submitted for HLS, the reserve (residue) 4m composite samples were collected from the Lab and submitted to Diamantina using the same HLS Prep and TBE procedure as the 1m intervals from the 2025 February AC Drill holes (as below). ◦ Drill samples from the February 2025 AC drilling were collected at 1m intervals from the cyclone attached the drill rig. ◦ Selected 1m intervals from 89 drill holes were submitted to Diamantina in Perth for preparation and Heavy Liquid Separation (HLS). The average weight of the selected 1m sample submitted was 1.5kg. The samples were dried, and a split was taken using a rotary splitter for HMC % test work. The average sample split was 100grams. These sub-samples were then processed using the following steps: ◦ Wet screening at -2mm /+0.038mm to produce sample for Heavy Mineral Separation. ◦ Standard Heavy Minerals Separation on -2mm /+0.038mm sand using Tetrabromoethane (TBE) with floats discarded. • Historic drilling has been sourced from SARIG (open source data), which has been compiled and maintained by Department of Energy and Mining and generally limited information or no information is available for sampling collection methods.
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.*	• Muckanippie Drilling (Initial WI Discovery RAB Holes): ◦ Duplicate samples for HMC % was submitted at a ratio of one QA/QC for every 30 samples by company. The duplicates indicate acceptable levels of accuracy and precision have been established. • Muckanippie Metallurgy HMC test work samples (2025 February AC Holes and Additional WI Holes): ◦ Heavy Mineral standard samples for HMC % were submitted at a ratio of one QA/QC for every 40 samples by

Criteria	JORC Code explanation	Commentary
	• *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.*	company. The Lab additionally submitted an additional Heavy Mineral Standard at a ratio of one QA/QC for every 40 samples. ○ Repeat samples were completed by the Lab at a ratio of one QA/QC for every 25 samples. ○ Both the Company and laboratory QA/QC samples indicate acceptable levels of accuracy and precision have been established. Historic drilling has been sourced from SARIG (open source data), which has been compiled and maintained by Department of Energy and Mining and generally limited information or no information is available for sampling collection methods or QAQC protocols.
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.*	• An alternative company representative has checked the calculation of the quoted intersections. No twinned holes were drilled in the program.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• All drillhole coordinate information was collected using a handheld GPS system with an autonomous accuracy of ± 3m utilising GDA 94 Zone 53. • The area is generally of low topographic relief. Topographic control uses SRTM 90 DEM. • Where SARIG (open source data) has been shown this information has been plotted in GDA 94 Zone 53 and there is no known accuracy of this historic data.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• WI Drill holes: Drill hole spacing is irregular as indicated in Appendix 2. • 2025 February AC Drillholes: Drill hole spacing is irregular as indicated in Appendix 2.
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.*	• All holes have been drilled vertically into interpreted flat lying sediments of a palaeovalley, a sample bias should not have occurred.

Criteria	JORC Code explanation	Commentary
Sample security	• *The measures taken to ensure sample security.*	• Company staff collected all laboratory samples. • Samples submitted to the laboratory were transported and delivered by Company staff. • Historic Drilling (open source data): the sample security method is unknown
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• 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	• *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.*	• Muckanippie (EL 6166) is 100% owned by Marmota Limited. The EL is 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	• *Acknowledgment and appraisal of exploration by other parties.*	• Previous exploration drill holes on the tenement included: ○ 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). ○ Drilling AC by Marmota (2023) for Project X. • No previous Titanium exploration has occurred within the tenement.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• 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. • Marmota targeted near surface mineralisation. • See Geology section in ASX releases.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.*	• The required information on drill holes is incorporated into Appendix 2 to the ASX Release. • Historic drilling has been sourced from SARIG (open source data), which has been compiled and maintained by Department of Energy and Mining.

Criteria	JORC Code explanation	Commentary
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Muckanippie WI Drillholes HMC Test work: ○ 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. ○ WI081 at 12-16m: there was not sufficient sample to complete HMC Testwork over this 4m interval. To enable the calculation of the comparative continuous HM% intervals from surface, the 4m interval was inferred as the simple average of the HM % from the 2 samples above and 2 samples below [see Fig. 1] (i.e. average of the surrounding 16m of samples), noting that the hole features exceptional geological continuity from surface [see Fig. 1]. Given the strong positive correlation between TiO_2 and HMC%, and that this simple recorded the highest TiO_2 % of all samples, the averaging of surrounding samples is conservative and likely to underestimate HM%. ○ No metal equivalents are reported. • 2025 February AC Drillholes HMC Test Work: ○ Any intersections are calculated by simple averaging of 1m 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	• *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 (e.g. 'down hole length, true width not known').*	• 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	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being*	• See Figures within ASX release • A plan of the collar location of each drill hole has been provided within Appendix 2 and Figure 6 of this ASX announcement.

Criteria	JORC Code explanation	Commentary
	reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
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.*	• A cut-off grade of 10% Heavy Mineral Concentrate (HMC) 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	• *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.*	• See previous ASX releases relating to drilling and results for the Muckanippie (EL 6166) Titanium Discovery: ASX:MEU 26 March 2025, 24 Feb 2025, 10 Feb 2025, 24 Jan 2025, 16 Jan 2025, 14 Jan 2025, 7 Jan 2025 and 13 Nov 2024
Further work	• *The nature and scale of planned further work (e.g. 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.*	• Marmota is reviewing results received to date and preparing additional work programs including mineralogy test working, additional infill and extensional drilling.

APPENDIX 2 Summary of all Drillhole collars submitted within Muckanippie Titanium project area EL6166 (also see Figure 6)

Tenement	Hole ID	Drill Type	Easting (MGA94 z53)	Northing (MGA94 z53)	RL	Dip	Azimuth (Mag)	EOH Depth
Muckanippie	WI078	RAB	411,080	6,663,729	186	-90	0	34
Muckanippie	WI079	RAB	411,007	6,663,473	185	-90	0	39
Muckanippie	WI080	RAB	410,880	6,663,252	186	-90	0	36
Muckanippie	WI081	RAB	410,661	6,663,101	188	-90	0	36
Muckanippie	WI072	RAB	411,731	6,662,681	191	-90	0	33
Muckanippie	WI073	RAB	411,631	6,662,681	189	-90	0	39
Muckanippie	WI074	RAB	411,530	6,662,681	188	-90	0	39
Muckanippie	WI075	RAB	411,731	6,662,882	185	-90	0	39
Muckanippie	WI077	RAB	411,531	6,662,882	185	-90	0	34
Muckanippie	WI088	RAB	410,041	6,662,752	191	-90	0	39
Muckanippie	WI092	RAB	410,140	6,662,652	191	-90	0	37
Muckanippie	WI093	RAB	410,241	6,662,652	192	-90	0	39
Muckanippie	WI076	RAB	411,630	6,662,880	185	-90	0	39
Muckanippie	WI082	RAB	410,140	6,662,850	190	-90	0	34
Muckanippie	WI083	RAB	410,040	6,662,850	190	-90	0	34
Muckanippie	WI084	RAB	409,940	6,662,850	191	-90	0	39
Muckanippie	WI085	RAB	410,340	6,662,750	192	-90	0	34
Muckanippie	WI086	RAB	410,240	6,662,750	191	-90	0	35
Muckanippie	WI087	RAB	410,140	6,662,750	191	-90	0	34
Muckanippie	WI089	RAB	409,940	6,662,750	191	-90	0	39
Muckanippie	WI090	RAB	409,940	6,662,650	191	-90	0	39
Muckanippie	WI091	RAB	410,040	6,662,650	191	-90	0	39
Muckanippie	WI094	RAB	410,340	6,662,650	193	-90	0	34
Muckanippie	WI095	RAB	410,190	6,662,600	191	-90	0	34
Muckanippie	WI096	RAB	410,140	6,662,550	191	-90	0	39
Muckanippie	WI097	RAB	410,140	6,662,450	192	-90	0	34
Muckanippie	WI098	RAB	410,040	6,662,450	192	-90	0	39
Muckanippie	WI099	RAB	410,040	6,662,550	191	-90	0	39
Muckanippie	25MKAC001	AC	411,756	6,663,201	185	-90	0	39
Muckanippie	25MKAC002	AC	411,758	6,663,402	184	-90	0	29
Muckanippie	25MKAC003	AC	411,758	6,663,606	184	-90	0	32
Muckanippie	25MKAC004	AC	411,756	6,663,804	185	-90	0	32
Muckanippie	25MKAC005	AC	411,757	6,664,003	185	-90	0	39
Muckanippie	25MKAC006	AC	411,754	6,664,204	184	-90	0	39
Muckanippie	25MKAC007	AC	411,552	6,664,198	186	-90	0	39
Muckanippie	25MKAC008	AC	411,556	6,664,000	185	-90	0	32
Muckanippie	25MKAC009	AC	411,555	6,663,803	185	-90	0	39
Muckanippie	25MKAC010	AC	411,556	6,663,601	185	-90	0	39
Muckanippie	25MKAC011	AC	411,561	6,663,400	185	-90	0	39
Muckanippie	25MKAC012	AC	411,565	6,663,204	185	-90	0	39

Muckanippie	25MKAC013	AC	411,358	6,663,201	186	-90	0	24
Muckanippie	25MKAC014	AC	411,362	6,663,403	186	-90	0	36
Muckanippie	25MKAC015	AC	411,358	6,663,600	186	-90	0	39
Muckanippie	25MKAC016	AC	411,358	6,663,803	186	-90	0	32
Muckanippie	25MKAC017	AC	411,361	6,663,997	187	-90	0	37
Muckanippie	25MKAC018	AC	411,354	6,664,202	189	-90	0	39
Muckanippie	25MKAC019	AC	411,255	6,663,603	186	-90	0	39
Muckanippie	25MKAC020	AC	411,158	6,663,602	187	-90	0	39
Muckanippie	25MKAC021	AC	411,058	6,663,601	187	-90	0	34
Muckanippie	25MKAC022	AC	410,964	6,663,608	187	-90	0	39
Muckanippie	25MKAC023	AC	410,857	6,663,602	188	-90	0	39
Muckanippie	25MKAC024	AC	410,758	6,663,602	189	-90	0	39
Muckanippie	25MKAC025	AC	410,557	6,663,600	190	-90	0	39
Muckanippie	25MKAC026	AC	410,355	6,663,599	190	-90	0	39
Muckanippie	25MKAC027	AC	410,157	6,663,604	190	-90	0	39
Muckanippie	25MKAC028	AC	409,762	6,663,605	190	-90	0	33
Muckanippie	25MKAC029	AC	409,158	6,663,606	189	-90	0	39
Muckanippie	25MKAC030	AC	408,669	6,663,604	190	-90	0	39
Muckanippie	25MKAC031	AC	409,159	6,663,809	189	-90	0	39
Muckanippie	25MKAC032	AC	409,156	6,664,006	188	-90	0	39
Muckanippie	25MKAC033	AC	409,757	6,664,208	188	-90	0	39
Muckanippie	25MKAC034	AC	409,757	6,664,009	189	-90	0	39
Muckanippie	25MKAC035	AC	409,756	6,663,801	189	-90	0	39
Muckanippie	25MKAC036	AC	409,756	6,663,401	191	-90	0	39
Muckanippie	25MKAC037	AC	409,756	6,663,201	192	-90	0	39
Muckanippie	25MKAC038	AC	409,154	6,663,198	191	-90	0	34
Muckanippie	25MKAC039	AC	409,154	6,663,409	190	-90	0	39
Muckanippie	25MKAC040	AC	410,159	6,663,202	191	-90	0	39
Muckanippie	25MKAC041	AC	410,359	6,663,000	191	-90	0	39
Muckanippie	25MKAC042	AC	410,563	6,663,000	191	-90	0	34
Muckanippie	25MKAC043	AC	410,760	6,662,995	189	-90	0	39
Muckanippie	25MKAC044	AC	410,960	6,663,002	187	-90	0	22
Muckanippie	25MKAC045	AC	411,161	6,663,001	187	-90	0	24
Muckanippie	25MKAC046	AC	411,156	6,663,201	187	-90	0	34
Muckanippie	25MKAC047	AC	410,956	6,663,199	187	-90	0	34
Muckanippie	25MKAC048	AC	410,753	6,663,194	189	-90	0	39
Muckanippie	25MKAC049	AC	410,556	6,663,195	190	-90	0	39
Muckanippie	25MKAC050	AC	410,359	6,663,201	190	-90	0	39
Muckanippie	25MKAC051	AC	410,158	6,663,403	190	-90	0	39
Muckanippie	25MKAC052	AC	410,361	6,663,399	190	-90	0	39
Muckanippie	25MKAC053	AC	410,562	6,663,403	190	-90	0	19
Muckanippie	25MKAC054	AC	410,762	6,663,405	189	-90	0	17
Muckanippie	25MKAC055	AC	410,960	6,663,399	188	-90	0	39
Muckanippie	25MKAC056	AC	411,167	6,663,401	187	-90	0	39
Muckanippie	25MKAC057	AC	411,156	6,663,804	187	-90	0	39
Muckanippie	25MKAC058	AC	410,960	6,663,804	188	-90	0	16

Muckanippie	25MKAC059	AC	410,758	6,663,799	189	-90	0	39
Muckanippie	25MKAC060	AC	410,558	6,663,800	190	-90	0	39
Muckanippie	25MKAC061	AC	410,358	6,663,800	190	-90	0	29
Muckanippie	25MKAC062	AC	410,158	6,663,802	190	-90	0	39
Muckanippie	25MKAC063	AC	410,156	6,664,000	189	-90	0	36
Muckanippie	25MKAC064	AC	410,359	6,664,003	190	-90	0	39
Muckanippie	25MKAC065	AC	410,559	6,664,001	190	-90	0	39
Muckanippie	25MKAC066	AC	410,760	6,664,000	190	-90	0	33
Muckanippie	25MKAC067	AC	410,959	6,664,000	189	-90	0	31
Muckanippie	25MKAC068	AC	411,159	6,664,000	189	-90	0	39
Muckanippie	25MKAC069	AC	411,158	6,664,197	192	-90	0	39
Muckanippie	25MKAC070	AC	411,759	6,664,302	184	-90	0	39
Muckanippie	25MKAC071	AC	410,958	6,664,202	191	-90	0	39
Muckanippie	25MKAC072	AC	410,753	6,664,202	190	-90	0	13
Muckanippie	25MKAC073	AC	410,544	6,664,211	190	-90	0	39
Muckanippie	25MKAC074	AC	410,356	6,664,206	190	-90	0	39
Muckanippie	25MKAC075	AC	410,154	6,664,203	189	-90	0	19
Muckanippie	25MKAC076	AC	409,160	6,664,202	188	-90	0	39
Muckanippie	25MKAC077	AC	409,460	6,664,205	188	-90	0	25
Muckanippie	25MKAC078	AC	409,452	6,664,004	188	-90	0	39
Muckanippie	25MKAC079	AC	409,455	6,663,808	189	-90	0	39
Muckanippie	25MKAC080	AC	409,458	6,663,604	189	-90	0	39
Muckanippie	25MKAC081	AC	409,456	6,663,402	191	-90	0	39
Muckanippie	25MKAC082	AC	409,456	6,663,198	192	-90	0	35
Muckanippie	25MKAC083	AC	408,908	6,663,203	191	-90	0	39
Muckanippie	25MKAC084	AC	408,906	6,663,402	190	-90	0	39
Muckanippie	25MKAC085	AC	408,908	6,663,600	189	-90	0	39
Muckanippie	25MKAC086	AC	408,913	6,663,801	190	-90	0	39
Muckanippie	25MKAC087	AC	408,907	6,664,000	190	-90	0	39
Muckanippie	25MKAC088	AC	408,677	6,664,001	190	-90	0	39
Muckanippie	25MKAC089	AC	408,679	6,663,800	191	-90	0	39
Muckanippie	25MKAC090	AC	408,672	6,663,404	191	-90	0	39
Muckanippie	25MKAC091	AC	408,675	6,663,201	192	-90	0	39

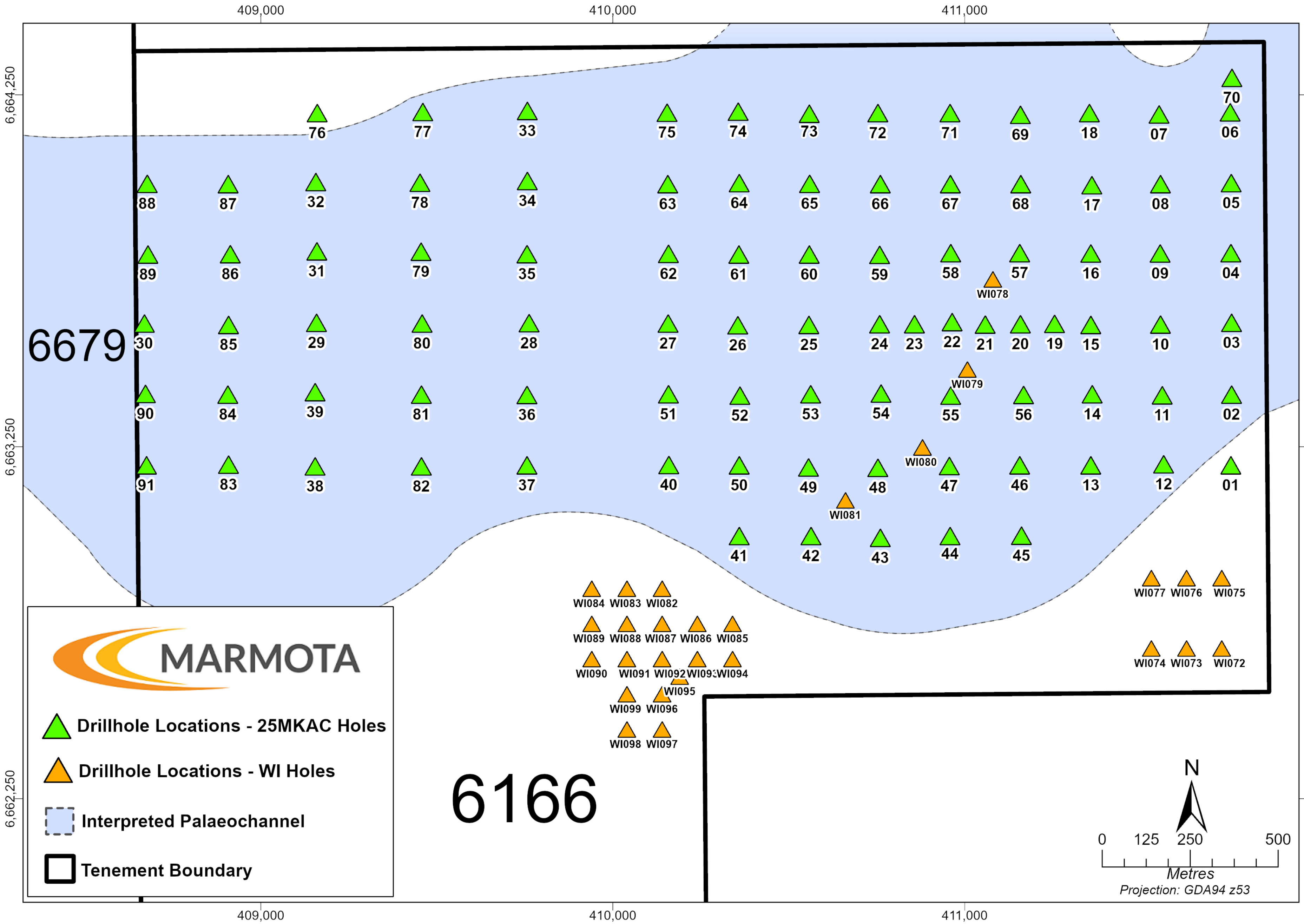

Figure 6: **Titanium discovery hole locations and hole numbers on Marmota's Muckanippie EL 6166 tenement**