# **ASX Announcement**

ASX: PTR



23 June 2025

# Impressive Drilling Results continue to expand the area of high-grade mineralisation at Rosewood Highlights

- Drilling results from the remaining 63 Air Core (AC) holes at Rosewood Heavy Mineral (HM) Prospect have been received and continue to grow the footprint of the mineralised zone.
- New significant intersections confirm continuity, grade and thickness, including:
  - o 25RW021 9m @ 15.1% HM from 10m, incl. 3m @ 26.4% HM from 12m.
  - o 25RW023 12m @ 12.7% HM from 4m, incl. 7m @ 17.1% HM from 5m.
  - 25RW030 11m @ 16.4% HM from 6m, incl. 7m @ 23.8% HM from 6m, and incl. 1m @ 55.7% HM from 11m.
  - o 25RW034 10m @ 14.0% HM from 7m, incl. 6m @ 21.1% HM from 8m.
  - o 25RW037 **7m @ 17.4% HM from 6m**, incl. **3m @ 30.1 % HM** from 9m
  - o 25RW052 17m @ 7.8% HM from 8m, incl. 6m @ 15.2% HM from 19m
- HM Mineralisation now extends over an area exceeding 20km² and remains open to the north.

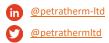
  Drilling ended in high-grade mineralisation indicating the prospect continues to expand to the north.

  Significant northernmost intersections include:
  - 25RW010 8m @ 13.1% HM from 6m, incl. 4m @ 20.5% HM from 7m.
  - 25RW032 11m @ 12.3% HM from 4m, incl. 5m @ 21.4% HM from 7m.
  - o 25RW033 9m @ 15.1% HM from 5m, incl. 6m @ 20.3% HM from 8m.
  - o 25RW038 11m @ 10.1% HM from 3m, incl. 5m @ 17.9% HM from 4m
  - o 25RW053 21m @ 6.0% HM from 6m, incl. 8m @ 9.4% HM from 9m.
- Within the broader mineralised envelope two high-grade, north-south trending mineralised zones have been identified at Rosewood East and Rosewood West.
- Further drilling is expected to commence later this week seeking further extensions to the highgrade mineralisation, particularly to the north where some of the strongest mineralisation has been encountered.
- Bulk sample metallurgical studies will now get underway to assess mineral recovery processing and potential product mix.

#### Petratherm CEO, Peter Reid, commented:

"The Phase 2 drill results have returned some of our best drill intercepts to date. These results have extended the high-grade mineralisation up to 1.6 kilometres further north with the mineralised envelope now exceeding 20 km². Two distinct zones of continuous mineralisation are now evident from the drilling, they are strongly mineralised and remain open to the north

"Step out extensional drilling will commence later this week which is expected to further extend the Rosewood strandline systems. In addition, bulk sample metallurgical studies are now getting underway which will provide an initial assessment of key elements of the project including mineral recovery processing and potential product mix. This will provide further insight into the quality of the Rosewood prospect."





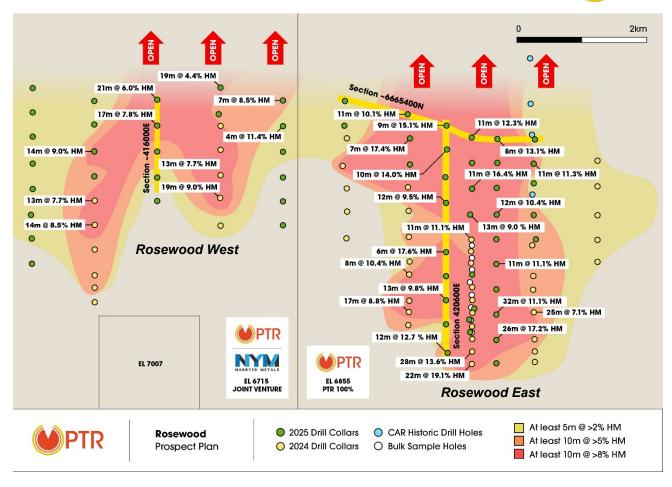


Figure 1 – Rosewood Prospect plan of drill collar locations, significant drill assay results and section locations.

## **Rosewood Prospect Drilling**

**Petratherm Limited** (ASX: PTR) ("**PTR**" or "the Company") is pleased to announce final HM assay results from the Phase 2 extensional drilling at the Rosewood Heavy Mineral Sand (HMS) Prospect. During April, the Company undertook a 128-hole vertical air-core drill program totalling 4,486 metres to test for titanium-bearing HM mineralisation at the Muckanippie Project in the northern Gawler Craton, South Australia.

As part of this Phase 2 program, 73 holes totalling 2,225 metres were drilled at the Rosewood Prospect to follow up the high-grade HM mineralisation discovered late last year. Fifty drill holes for 1,697m were drilled in 2024 with the best results from the previous drilling including 22m @ 19.1% HM from 8 metres in drill hole 24RW020¹ and over 90% of holes drilled intersecting at least 5m at >5% HM².

HM assay results from the first 10 drill holes from the Phase 2 program were announced recently (refer to PTR ASX release 29/5/2025)<sup>3</sup> and returned some of the best results to date at Rosewood, including **26m @ 17.2%** HM from 7 metres in drill hole **25RW002** and **32m @ 11.1%** HM from **10** metres in **25RW003**.

Results received from the remaining holes in the program have continued to delineate substantial shallow, thick, high-grade mineralisation, and include 11m @ 16.4% HM from 6 metres in drill hole 25RW030 and 12m at 12.7% HM from 4m in drill hole 25RW023 (refer to Table 1 and Table 2 for details). The current round of drilling has increased the mineralised footprint at Rosewood where drill holes intersecting at least 5m of greater than 2% HM now cover an area exceeding 20 square kilometres and which still remains open (Figure 1).

<sup>&</sup>lt;sup>3</sup> PTR ASX release 29 May 2025 – Drilling at Rosewood Returns Best Results to Date



<sup>&</sup>lt;sup>1</sup> PTR ASX release 04 December 2024 – Drill Results Confirm Major HMS Discovery at Rosewood

<sup>&</sup>lt;sup>2</sup> PTR ASX release 06 February 2025 – Drilling Confirms Potential for World-Class Titanium Project



Within the broader mineralised envelope, drilling has revealed two north-south trending high-grade zones, Rosewood East and Rosewood West, where drill holes returned mineralisation of at least 10 metres grading greater than 5% HM within the sedimentary units (Figure 1).

These high-grade zones are interpreted as marine strandlines associated with an ancient coastline (Figure 3). This map shows the important confluence of factors which make the Rosewood HM system unique: the presence of unusually Ti-rich basement source rocks (Muckanippie Suite) in concert with the presence of an ancient shoreline (sediments) concentrating the HM material into strandline sand deposits.

On both strandlines, mineralisation is open to the north. Drilling to test the northern extensions, where previous programs were restricted due to heritage survey constraints, is expected to commence later this week following additional heritage surveys completed in May.



Photo 1 – Exceptional HMC Assay sample from Drill hole 25RW030 returning 55.7% HM from 11-12m.





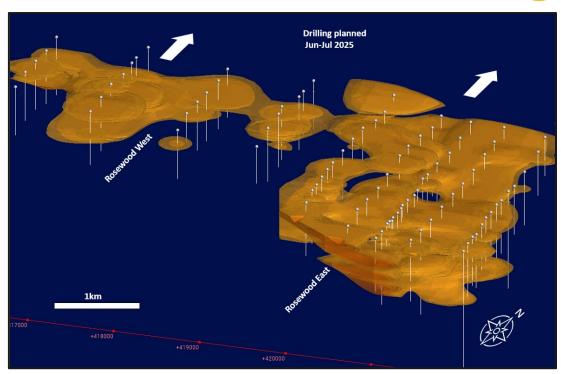


Figure 2 – Oblique view of Rosewood drill hole locations and computer-generated mineralised shells greater than 8% HM content (20 x vertical exaggeration).

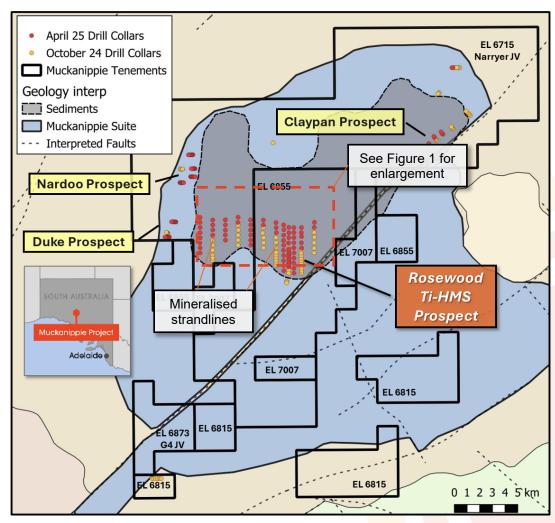


Figure 3 – Geology Map of Muckanippie Project Area, Tenements, Prospect Names and drill collars.



**Table 1: Drilling Highlights** 

Drill hole	Thickness (metres)	НМ%	From (metres)	Including
25RW012	11	11.3%	13	6m @ 16.1% from 14m
25RW017	4	15.3%	18	2m @ 25.3% from 20m
25RW018	13	9.0%	4	5m @ 17.2% from 5m & <i>incl</i> . 2m @ 21.8% from 8m
25RW019	9	11.6%	6	5m @ 17.6% from 7m
25RW020	12	7.6%	5	6m @ 11.2% from 8m & incl. 2m @ 16.4% from 8m
25RW021	9	15.1%	10	3m @ 26.4% from 12m
25RW022	15	8.7%	7	3m @ 18.9% from 8m & incl. 1m @ 21.7% from 16m
25RW023	12	12.7%	4	7m @ 17.1% from 5m & incl. 1m @ 35.0% from 5m
25RW025	13	9.8%	8	3m @ 28.8% from 10m & incl. 1m @ 41.0% from 12m
25RW026	10	9.8%	6	5m @ 16.4% from 6m
25RW027	6	17.6%	7	3m @ 26.2% from 9m & incl. 1m @ 33.9% from 10m
25RW028	5	11.7%	2	3m @ 17.9% from 4m & incl. 1m @ 28.4 % from 5m
25RW029	12	9.5%	3	3m @ 29.1% from 6m & incl. 1m @ 46.8% from 7m
25RW030	11	16.4%	6	7m @ 23.8% from 6m & incl. 1m @ 55.7% from 11m
25RW031	13	8.1%	5	6m @ 14.1% from 6m & incl. 1m @ 27.9% from 8m
25RW032	11	12.3%	4	5m @ 21.4% from 7m & incl. 1m @ 33.3% from 10m
25RW033	9	15.1%	5	6m @ 20.3% from 8m
25RW034	10	14.0%	7	6m @ 21.1% from 8m & incl. 1m @ 30.5% from 11
25RW035	11	9.2%	4	4m @ 19.9% from 6m & incl. 2m @ 26.4% from 7m
25RW036	7	13.7%	3	4m @ 21.1% from 5m & incl. 2m @ 28.1% from 7m
25RW037	7	17.4%	6	3m @ <mark>30.1% from 9m</mark>
25RW038	11	10.1%	3	5m @ 17.9% from 4m & incl. 2m @ 28.4% from 5m
25RW041	7	8.5%	9	3m @ 13.5% from 9m
25RW044	19	4.4%	11	2 <mark>m @ 2</mark> 3.8 <mark>% f</mark> rom <mark>27m</mark>
25RW045	8	8.8%	11	4m @ 14.8% from 11m
25RW052	17	7.8%	8	6m @ 15.2% from 19m & incl. 1m @ 23.0% from 19m
25RW053	21	6.0%	6	8m @ 9.4% from 9m & incl. 1m @ 18.2% from 21m



#### **Rosewood Exploration Results**

At Rosewood East, the high-grade envelope ranges in width from 600 metres at its narrowest point to 3,000 metres at its widest. Importantly, this strandline system appears to widen towards the north, where it remains open with significant potential to extend the 3,600 metres of already defined mineralisation. In section, mineralisation appears as two stacked strandlines dipping very shallowly towards the north (Figure 4). Better results from this section include the two northern-most holes:

25RW033 - 9m @ 15.1% HM from 5m, incl. 6m @ 20.3% HM from 8m. 25RW034 - 10m @ 14.0% HM from 7m, incl. 6m @ 21.1% HM from 8m.

The current round of drilling has highlighted that mineralisation appears to strengthen to the north. Of the sixteen new holes drilled within the northern part of the Rosewood East strandline, all holes intersected at least 10 metres at greater than 8.5% HM. This drilling covered an area of 1.6 kilometres by 1.6 kilometres.

A section through the northern-most drill holes at Rosewood East (Figure 5) shows that the strandline here is approximately three kilometres wide with multiple thick, very high-grade intercepts:

- 25RW010 8m @ 13.1% HM from 6m, incl. 4m @ 20.5% HM from 7m.
- o 25RW032 11m @ 12.3% HM from 4m, incl. 5m @ 21.4% HM from 7m.
- o 25RW033 9m @ 15.1% HM from 5m, incl. 6m @ 20.3% HM from 8m.
- o 25RW038 11m @ 10.1% HM from 3m, incl. 5m @ 17.9% HM from 4m.

The potential for additional mineralisation north of Rosewood East is strongly supported by reported re-logging and assaying of historical South Australian Department of Mining drillholes (CAR series drill holes) which confirm that HM bearing sediments continue for at least another 1 kilometre north of current drill extents.

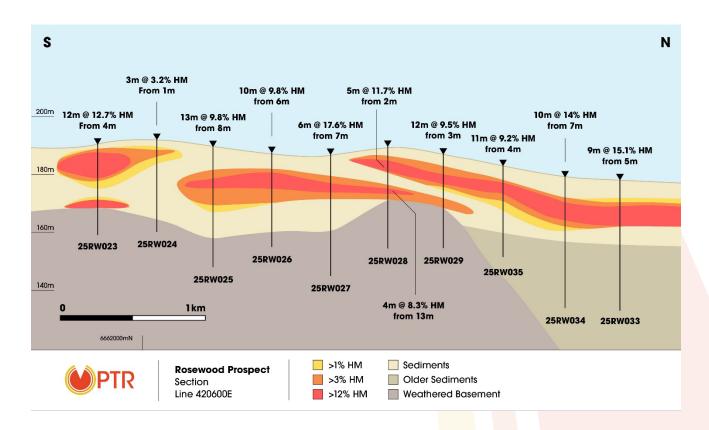
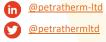


Figure 4 – Rosewood East, North-South Geological Section 420600E.





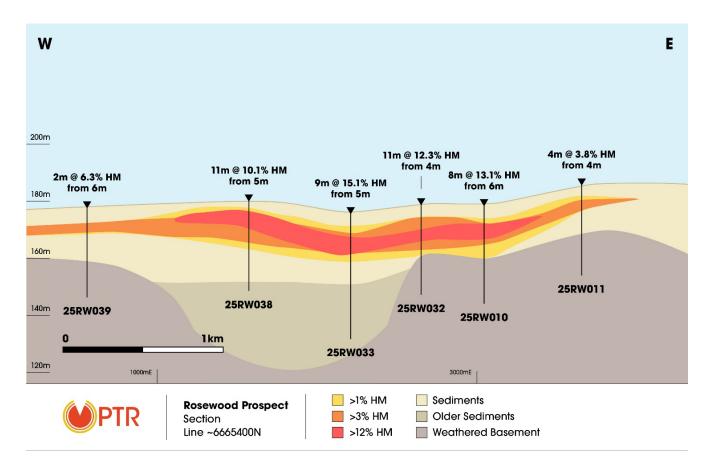


Figure 5 - Rosewood East, East-West Geological Section ~6665400N

At Rosewood West, the recent drilling also confirms that mineralisation remains open to the north (Figure 1). Section 416000E (Figure 6) shows two overlapping mineralised zones which are thickening to the north. The two northern most drill holes returned strong intercepts:

25RW052 – **17m @ 7.8% HM from 8m,** incl. **6m @ 15.2% HM** from 19m 25RW053 - **21m @ 6.0% HM from 6m,** incl. **8m @ 9.4% HM** from 9m

Future work at Rosewood West will include additional drilling to test the northern extents of the mineralised zone, and preliminary mineralogical and metallurgical test work to confirm that the HM species here are high-value TiO<sub>2</sub> minerals similar to Rosewood East. Rosewood West is situated in the Narryer JV tenure EL6715.<sup>4</sup>

<sup>&</sup>lt;sup>4</sup> PTR ASX release 18 April 2024 – Farm-in Agreement Expands Muckanippie Project





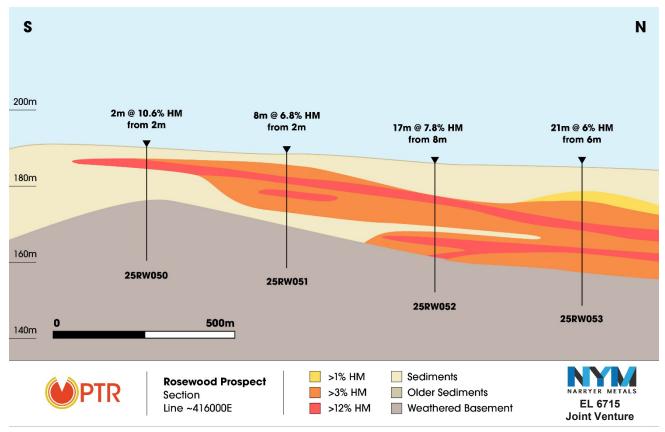


Figure 6 - Rosewood West, North-South Geological Section 416000E

#### **Next steps**

The drill crew has remobilised back to site, and extensional Phase 3 exploration drilling operations are expected to commence later this week. Work will test for extensions of the high-grade mineralisation at Rosewood East and West particularly to the north where it remains open. Assay results from 55 drill holes testing HMS saprolite targets at Duke, Nardoo and Claypan prospects (Figure 3) are expected in coming weeks. These saprolite targets are situated in the Narryer JV tenure EL6715.

At Rosewood East, a 1 tonne bulk sample from the upper mineralised zone was composited from 8 holes spaced 200m apart along a 1.4km trend. This material will undergo large scale metallurgical testing following completion of HM assaying. The bulk sample will be processed by IHC Mining in Brisbane using a wet concentrator plant, followed by magnetic and electrostatic separation to produce HM concentrates. The study aims to inform mineral recovery processing and potential mineral products.

Bench scale mineralogical and metallurgical studies are being performed on the HM concentrates at Rosewood and the other saprolite HM prospects with results to be released as they come to hand over the coming months.

## **ENDS**

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





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#### **Competent Persons Statement:**

The information in this report that relates to Exploration Targets and Exploration Results is based on information compiled by Mr Ian Warland, who is a Competent Person, and a Member of the Australian Institute of Geoscientists. Mr Warland is not aware of any new information or data that materially affects the historical exploration results included in this report. Mr Warland is an employee of Nile Exploration Pty Ltd and is currently consulting to Petratherm Limited. Mr Warland has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Warland consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.





Table 2: Rosewood Heavy Mineral Significant Intercepts (cut off >2% HM)

Drill Hole	From (metres)	<b>To</b> (metres)	Interval (metres)	HM % Original Samp
25RW011	5	8	3	4.4%
incl.	7	8	1	8.4%
25RW012	13	24	11	11.3%
incl.	14	20	6	16.1%
25RW013	13	15	2	5.6%
and	19	20	1	4.5%
25RW014	7	15	8	6.1%
incl.	10	12	2	9.8%
25RW015	3	14	11	3.3%
incl.	4	5	1	9.1%
25RW016	8	15	7	4.0%
incl.	11	12	1	10.5%
and	19	21	2	14.2%
25RW017	18	22	4	15.3%
incl.	20	22	2	25.3%
25RW018	4	17	13	9.0%
incl.	5	10	5	17.2%
incl.	8	10	2	21.8%
25RW019	6	15	9	11.6%
incl.	7	12	5	17.6%
25RW020	5	17	12	7.6%
incl.	8	14	6	11.2%
incl.	8	10	2	16.4%
and	21	26	5	3.8%
25RW021	10	19	9	15.1%
incl.	12	15	3	26.4%
incl.	13	14	1	30.1%
and	28	32	4	8.4%
incl.	30	32	2	13.4%
25RW022	7	22	15	8.7%
incl.	8	11	3	18.9%
incl.	10	11	1	26.5%
incl.	16	17	1	21.7%
25RW023	4	16	12	12.7%
	5	12	7	17.1%
incl.				
incl.	5	6	1	35.0%
	5 19	6 21	2	35.0% 13.3%





Table 2 (Continued): Rosewood Heavy Mineral Significant Intercepts (cut off >2% HM)

Drill Hole	From	То	Interval	HM %
	(metres)	(metres)	(metres)	Original San
25RW025	8	21	13	9.8%
incl.	10	13	3	28.8%
incl.	12	13	1	41.0%
25RW026	6	16	10	9.8%
incl.	6	11	5	16.4%
25RW027	7	13	6	17.6%
incl.	9	12	3	26.2%
incl.	10	11	1	33.9%
25RW028	2	7	5	11.7%
incl.	4	7	3	17.9%
incl.	5	6	1	28.4%
and	13	17	4	8.3%
25RW029	3	15	12	9.5%
incl.	6	9	3	29.1%
incl.	7	8	1	46.8%
25RW030	6	17	11	16.4%
incl.	6	13	7	23.8%
incl.	11	12	1	55.7%
25RW031	5	18	13	8.1%
incl.	6	12	6	14.1%
incl.	8	9	1	27.9%
25RW032	4	15	11	12.3%
incl.	7	12	5	21.4%
incl.	10	11	1	33.3%
25RW033	5	14	9	15.1%
incl.	8	14	6	20.3%
25RW034	7	17	10	14.0%
incl.	8	14	6	21.1%
incl.	11	12	1	30.5%
25RW035	4	15	11	9.2%
incl.	6	10	4	19.9%
incl.	7	9	2	26.4%
25RW036	3	10	7	13.7%
incl.	5	9	4	21.1%
incl.	7	9	2	28.1%
25RW037	6	13	7	17.4%
incl.	9	12	3	30.1%
25RW038	3	14	11	10.1%
incl.	4	9	5	17.9%





Table 2 (Continued): Rosewood Heavy Mineral Significant Intercepts (cut off >2% HM)

	From	То	Interval	HM %
Drill Hole	(metres)	(metres)	(metres)	Original Sam
25RW039	6	8	2	6.3%
25RW040	12	14	2	17.6%
incl.	12	13	1	24.8%
25RW041	9	16	7	8.5%
incl.	9	12	3	13.5%
25RW042	11	15	4	11.4%
incl.	12	13	1	25.6%
25RW043	11	16	5	5.5%
incl.	11	12	1	14.1%
25RW044	11	30	19	4.4%
incl.	27	29	2	23.8%
25RW045	11	19	8	8.8%
incl.	11	15	4	14.8%
incl.	12	13	1	22.6%
25RW046	6	11	5	7.8%
25RW047	7	8	1	8.2%
25RW048	5	8	3	8.6%
incl.	7	8	1	14.3%
25RW050	2	4	2	10.6%
25RW051	2	10	8	6.8%
incl.	5	6	1	25.4%
25RW052	8	25	17	7.8%
incl.	19	25	6	15.2%
incl.	19	20	1	23.0%
25RW053	6	27	21	6.0%
incl.	9	17	8	9.4%
incl.	21	22	1	18.2%
25RW054	5	6	1	4.0%
25RW055	0	6	6	4.2%
25RW056	0	14	14	9.0%
incl.	3	5	2	16.0%
25RW057	0	6	6	4.1%
25RW058	0	5	5	2.5%
25RW059	8	11	3	3.5%
25RW060	0	8	8	5.0%
incl.	7	8	1	10.4%
25RW061	0	8	8	3.6%
25RW062	0	6	6	4.5%
25RW063	0	9	9	4.5%
incl.	1	3	2	11.1%
25RW064	2	9	7	2.3%
25RW065	0	2	2	3.4%





#### **About Petratherm Limited**

Petratherm Limited (ASX: PTR) is a copper and critical minerals explorer focused on the discovery of world-class deposits in both frontier and mature mineral provinces. The Company has a major project holding in the northern Gawler Craton of South Australia. Recent exploration has uncovered significant concentrations of titanium rich heavy mineral sands (HMS) over large areas at its Muckanippie Project Area. The Project contains 100% owned Petratherm tenure and the JV tenements, EL 6715 (Narryer Metals Limited, ASX:NYM)<sup>5</sup> and EL6873 (G4 Metals)<sup>6</sup>. The mineral sands are associated with the weathering of a major intrusive complex, the Muckanippie Suite, which has been found to be highly prospective for critical minerals including Platinum Group Elements, Vanadium, and Titanium. This is an early-stage Greenfields project with exceptional upside potential.

The Company has two major exploration projects in the world-class Olympic Copper-Gold Province of South Australia. Work in the region has uncovered Iron-Oxide Copper-Gold style alteration/mineralisation at both its Mabel Creek and Woomera Project Areas. Geophysical targeting work has defined several compelling Tier-1 Copper-Gold targets which the Company is aiming to drill test during the 2025 calendar period.



PTR's Project Locations in South Australia

<sup>&</sup>lt;sup>6</sup> PTR ASX release 29 Feb 2024 – Farm-In Agreement Executed – Muckanippie Project Expansion



<sup>&</sup>lt;sup>5</sup> PTR ASX release 18 April 2024 – Farm-in Agreement Expands Muckanippie Project



**Table 3: Drill Hole Collars** 

	Easting	Northing				EOH
Hole ID	MGA94	MGA94	RL	Dip	Azimuth	Depth
	Z53	Z53	metres	Deg.	Deg.	metres
		Ro	sewood			
25RW001	421405	6661805	188	90	0	38
25RW002	421403	6662192	187	90	0	52
25RW003	421396	6662599	186	90	0	51
25RW004	421403	6662988	181	90	0	51
25RW005	421407	6663397	182	90	0	51
25RW006	421400	6663805	180	90	0	37
25RW007	421402	6664203	179	90	0	51
25RW008	421407	6664611	180	90	0	63
25RW009	421398	6665006	180	90	0	30
25RW010	421396	6665388	182	90	0	33
25RW011	422000	6665400	184	90	0	30
25RW012	421992	6665000	185	90	0	24
25RW013	422006	6664690	186	90	0	27
25RW014	421998	6664201	183	90	0	33
25RW015	422006	6663784	184	90	0	30
25RW016	422999	6665415	191	90	0	30
25RW017	423021	6665810	184	90	0	30
25RW018	420981	6664192	181	90	0	27
25RW019	421012	6663225	182	90	0	30
25RW020	421021	6662694	188	90	0	39
25RW021	420985	6662497	189	90	0	42
25RW022	421000	6662315	187	90	0	36
25RW023	420613	6661999	189	90	0	30
25RW024	420599	6662403	191	90	0	30
25RW025	420595	6662789	189	90	0	33
25RW026	420599	6663197	188	90	0	30
25RW027	420581	6663603	186	90	0	39
25RW028	420604	6664001	189	90	0	33
25RW029	420588	6664382	185	90	0	30
25RW030	421002	6664601	180	90	0	24
25RW031	421007	6664989	181	90	0	25
25RW032	421001	6665411	179	90 <mark></mark>	0	30
25RW033	420599	6665606	175	9 <mark>0</mark>	0	42
25RW034	420611	6665226	180	9 <mark>0</mark>	0	42





Table 3 (Continued): Drill Hole Collars

Hole ID	Easting MGA94	Northing MGA94	RL	Dip	Azimuth	EOH Depth	
11016 12	Z53	Z53	metres	Deg.	Deg.	metres	
Rosewood							
25RW035	420600	6664798	182	90	0	30	
25RW036	420020	6665001	183	90	0	15	
25RW037	420004	6665394	180	90	0	33	
25RW038	419992	6665789	180	90	0	30	
25RW039	418998	6665984	176	90	0	30	
25RW040	418997	6665598	177	90	0	27	
25RW041	417990	6666003	183	90	0	30	
25RW042	418005	6665602	180	90	0	30	
25RW043	417991	6665199	186	90	0	30	
25RW044	417003	6666212	180	90	0	39	
25RW045	416988	6665804	183	90	0	30	
25RW046	418012	6664026	185	90	0	30	
25RW047	418002	6664405	185	90	0	18	
25RW048	418001	6664809	184	90	0	30	
25RW049	416008	6664408	190	90	0	30	
25RW050	415998	6664811	190	90	0	30	
25RW051	416002	6665198	184	90	0	30	
25RW052	416001	6665604	185	90	0	33	
25RW053	415997	6666008	186	90	0	36	
25RW054	415002	6665993	187	90	0	30	
25RW055	415005	6665606	185	90	0	21	
25RW056	415008	6665213	183	90	0	24	
25RW057	414003	6665407	179	90	0	21	
25RW058	414001	6665810	182	90	0	10	
25RW059	413999	6666197	181	90	0	21	
25RW060	415003	6664798	182	90	0	21	
25RW061	414006	6664994	184	90	0	27	
25RW062	414006	6664588	182	90	0	24	
25RW063	413988	6664181	184	90	0	21	
25RW064	414003	6663798	184	90	0	24	
25RW065	414004	6663401	185	90	0	30	
25RWBUL01	421000	6662303	187	90	0	22	
25RWBUL02	420995	6662499	189	90	0	22	
25RWBUL03	421001	6662700	187	90	0	22	
25RWBUL04	421002	6662908	187	90 <mark></mark>	0	22	
25RWBUL05	420986	6663102	184	90	0	22	
25RWBUL06	421002	6663302	184	90	0	22	
25RWBUL07	421003	6663497	185	90	0	19	
25RWBUL08	421001	6663703	184	90	0	16	

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#### EL6815, EL6855, EL6715, EL6873 & EL7007 (Muckanippie Project) JORC Table 1

#### 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 pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse Au that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.

#### **Drilling**

- 128 air core drillholes have been selected for Heavy Liquid Separation (HLS) testing, from recently completed Petratherm drilling.
- Assay results presented in the report comprise 63 drill holes from the Rosewood Prospect
- A rotary cone splitter attached to the bottom of the cyclone was used to collect a representative sample (25% split) for each 1m interval drilled and collected into a prenumbered calico bag, with the remainder of the sample collected in a green plastic bag and retained
- A handful of sample from each 1m interval was panned to estimate HM% and other parameters by the on-site rig geologist.
- Based on the results of the panning sample intervals were selected for laboratory HM assay
- Samples were sent to Diamantina Laboratory in WA for assaying.
- Diamantina is considered to be a mineral sands industry leading laboratory.
- Samples were weighed on arrival. The laboratory sample was dried and passed through a rotary splitter to take 100 g sub-sample.
- This sub-sample is then wet screened on a Sweco vibrating screen deck at a top aperture of 2 mm (oversize 'OS') and a bottom screen of 38 µm (SLIMES fraction).
- The sand fraction containing the THM (-2 mm and +38 µm) is used for heavy liquid separation using funnels and a heavy liquid, Tetrabromoethane (TBE), with a density of between 2.92 and 2.96 gcm-3 to determine total heavy mineral (THM) content.
- Historic drill hole information has been sourced from open file public records managed by the South Australian Department of Primary Industries and Resources.
- Additional details from historic drilling are unknown.



Criteria	JORC Code explanation	Commentary
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.).	<ul> <li>The air core drilling was completed by Mcleod Drilling using a 6-wheel Landcruiser mounted drill rig with face sampling blade bits with a diameter of 85mm and NQ diameter (76mm) rods</li> <li>All holes were drilled vertically</li> <li>Air core is the standard industry technique for HMS exploration.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>Air core drilling methods were utilised throughout the duration of the program.</li> <li>A geologist was on site for every drill hole and air core samples were recorded as wet or dry and recoveries monitored to ensure that they were appropriate. Excellent recoveries were recorded.</li> <li>1m sample intervals were collected in buckets or large sample bags and a 1 metre split (~ 25%) sample taken using a rotating cone splitter attached to the drill cyclone into pre-numbered calico bags.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All samples were geologically logged by the on-site geologist via digital entry into a Microsoft excel spreadsheet.</li> <li>Geological logging is qualitative.</li> <li>The logging consisted of lithology, colour, grainsize, sorting, hardness, sample condition, washability, estimated HM%, SLIMES and INDURATION.</li> <li>A mineral sands consultant was present during some of the logging of mineral sands.</li> <li>A small handful of sample (~ 50g) was selected from each metre and panned on site by a geologist, with samples &gt; 0.5% estimated HM selected for laboratory assay. Additional samples were taken for laboratory assay above and below mineralised zones as appropriate.</li> <li>Representative chip trays containing 1m geological sub-samples were collected.</li> </ul>
Sub- sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures</li> </ul>	<ul> <li>Representative samples were taken every 1m and collected by a 25% split cone splitter mounted on the bottom of the cyclone.</li> <li>Samples sizes ranged from 1 to 1.5kg for laboratory assay</li> <li>25% sample split from each metre is considered representative of the drill sample collected.</li> <li>The cyclone and splitter were checked and cleaned regularly and kept clear of</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>blockages to prevent contamination between samples.</li> <li>No contamination has been noted.</li> <li>PTR inserted standards and duplicate samples at rate of approximately 1 in 30.</li> <li>Field duplicates were collected with a PVC spear through the green bag from top to bottom</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>Samples were sent to Diamantina Laboratory in WA for assaying.</li> <li>Diamantina is considered to be a mineral sands industry leading laboratory.</li> <li>Samples were weighed on arrival. The laboratory sample was dried for up to 24 hours @ 105 – 110 degrees Celsius.</li> <li>The sample was loosened until friable and passed through a rotary splitter to take 100 g sub-sample.</li> <li>The sub-sample was soaked overnight using TKPP solution , then washed and dried.</li> <li>This sub-sample is then wet screened on a Sweco vibrating screen deck at a top aperture of 2 mm (oversize 'OS') and a bottom screen of 38 µm (SLIMES fraction).</li> <li>The sand fraction containing the THM (-2 mm and +38 µm) is then dried and used for heavy liquid separation using funnels and a heavy liquid, Tetrabromoethane (TBE), with a density of between 2.92 and 2.96 gcm-3 to determine total heavy mineral (THM) content.</li> <li>Field duplicates and the HM standards are inserted into the sample string at a frequency rate of 1 per 30 primary samples.</li> <li>Diamantina also completed their own internal QA/QC checks by inserting laboratory repeats at a rate of 1 in 30 and the insertion of Standard Certified Reference Material at a rate of 1 in 40.</li> <li>The nature, quality and appropriateness of sample preparation has been achieved.</li> <li>Laboratory analytical charge sizes are standard sizes and considered adequate for the material being assayed. The nature, quality and</li> </ul>



Criteria	JORC Code explanation	Commentary
		appropriateness of the assaying is considered total.
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Verification of intercepts has been undertaken by PTR Geologists and independent geological contractors, who have collectively visually assessed drill samples and examined the laboratory data.</li> <li>No Twinned holes have been drilled at this stage</li> <li>Primary data was digitally entered via a Panasonic Toughbook using in house logging codes. The data was validated and loaded into MX Deposit database.</li> <li>No adjustments have been made to the assay data received.</li> <li>A check of the field and laboratory QAQC has confirmed they are all within specification</li> <li>All data used is from primary sources.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>All maps and locations are in UTM grid (MGA94 Z53) and have been measured by a GPS with a lateral accuracy of ± 5 metres.</li> <li>Elevation data provided by PhotoSat with an accuracy of 20-50cm (dependant on vegetation coverage).</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Petratherm has completed regional step out exploration drilling along wide spaced drill traverses and over magnetic anomalies. Drill hole traverses extend from 600 metres to 3.6 kilometres.</li> <li>Data spacing will be insufficient to establish the degree of geological and grade continuity required for a Mineral Resource estimation.</li> <li>No compositing was used.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>At Rosewood Prospect step out vertical drilling is targeting extensions of flat lying HMS mineralisation and will provide an accurate account of thickness and extent once assaying is completed.</li> <li>At Duke, Nardoo and Claypan Prospects mineralisation is hosted in saprolite and drilling is orientated perpendicular to magnetic features and drilled at 50-100m to give an indication of mineralised width.</li> </ul>



Criteria	JORC Code explanation	Commentary
Sample security	<ul> <li>The measures taken to ensure sample security.</li> </ul>	<ul> <li>Samples were taken directly from the field to Petratherm's warehouse and then couriered to Diamantina Laboratories in Perth.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	There is currently a review into the methods used to improve HM recoveries.

### 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> <li>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.</li> <li>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.</li> </ul>	<ul> <li>EL6815 was granted 100% to Petratherm Limited on 12/08/2022 for a period of 6 years.</li> <li>EL 6855 was granted 100% to Petratherm Limited on 18/10/22 for a period of 6 years.</li> <li>EL 7007 was granted 100% to Petratherm Limited on 15/08/24 for a period of 6 years.</li> <li>EL6873 was granted to G4 Metals Pty. Ltd. on 18/11/2022 for a period of 6 years. Petratherm Ltd may earn up to a 70% interest via a 2 Stage Farm-in with further provisions, dependent on elections, to earn up to a 100% equity in the project. Refer to PTR ASX release 29/02/2024.</li> <li>EL6715 was granted on 06/04/2022 to Leasingham Metals Pty. Ltd. a, wholly owned subsidiary of ASX listed Narryer Metals Ltd. for a period of 6 years. Petratherm Ltd may earn up to an 70% interest, via a 2 Stage Farm-in with further provisions, dependent on elections, to earn up to an 80% equity in the project. Refer to PTR ASX release 18/04/2024</li> <li>The tenements are located approximately 120 km south southwest of Coober Pedy overlapping Bulgunnia, Mulgathing and Commonwealth Hill Pastoral Stations.</li> <li>The tenements are located within the Woomera Prohibited Area (Green Zone).</li> <li>Native Title Claims: SCD2011/001 Antakirinja Matu-Yankunytjatjara.</li> <li>The tenements are in good standing and no known impediments exist.</li> </ul>



Criteria	JORC Code explanation	Commentary
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Previous exploration work includes;</li> <li>Surface Geochemical Sampling: Calcrete         Airborne Geophysics: Magnetics &amp; Radiometrics.         Ground Geophysics: Prospect scale Magnetics, Gravity and EM.         Exploration Drilling: Open file records indicate 296 RAB / Air core, 2 sonic &amp; 51 RC reconnaissance and prospect scale holes drilled over Project Group.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	Petratherm is exploring for Ti-Fe-V-P, rare earths, and Au-PGM associated with the Muckanippie Suite. Targets include primary basement mineralisation and secondary enrichments as HMS placer deposits in overlying younger cover strata.
Drill hole Information	<ul> <li>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> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	Drill hole collar locations, RL, dip and azimuth of reported drill holes contained in Table 3 of this report.
Data aggregation methods	<ul> <li>In reporting Exploration         Results, weighting averaging         techniques, maximum and/or         minimum grade truncations         (e.g. cutting of high grades) and         cut-off grades are usually         Material and should be stated.</li> <li>Where aggregate intercepts         incorporate short lengths of         high-grade results and longer         lengths of low-grade results, the</li> </ul>	<ul> <li>All reported drill results are true results as reported by the Laboratory.</li> <li>All results above 2% HM are reported in Table 2 of Significant Intercepts. Maximum of 2 metres of internal dilution used below that cut-off.</li> </ul>



Criteria	JORC Code explanation	Commentary
Relationship	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.  These relationships are	The mineralisation viewed in
between mineralisati on widths and intercept lengths	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').	drillholes is interpreted to be flat lying fluvio-deltaic marine sediments.  • Drilling is vertical and should give a true reflection of mineralisation thickness.
Diagrams	<ul> <li>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.</li> </ul>	See figures in main body of release attached.
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.	Petratherm has completed drilling of 128 drill holes totalling 4,486 metres at 4 prospects on the Muckanippie Project (see Figures 1 & 3) with the potential to host titanium-bearing Heavy Minerals.
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.	No other substantive exploration data has been collected by Petratherm.
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-</li> </ul>	<ul> <li>A range of exploration techniques are being considered to progress exploration.</li> <li>Extensive assay, mineralogical</li> </ul>



Criteria	JORC Code explanation	Commentary
	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.	<ul> <li>and metallurgical test work will be conducted on current drill samples to determine grade, mineralogy and nature of the heavy mineral mineralisation.</li> <li>Bulk sample testing will be undertaken to determine</li> </ul>
		recovery's and potential mineral products.
		<ul> <li>Further infill and extension drilling is likely to occur in the near future.</li> </ul>