

31 October 2024

## Quarterly Activities Report for the Period Ended 30 September 2024

### Highlights:

#### Muckanippie Project<sup>1</sup>

- Mapping, surface sampling, and re-assaying of historic drilling has discovered high-grade Titanium rich heavy mineral sands (HMS) over several kilometres at the Muckanippie Project.
- Exceptional sample grades ranging from **10% to 50% TiO<sub>2</sub>** from two large Prospect Areas. **79% of samples >10% TiO<sub>2</sub>**, with **28% > 30% TiO<sub>2</sub>**
- At the Rosewood Prospect, outcropping mineralisation is recorded over 9 kilometres West to East. Wide spaced drilling confirms HMS extend at least 6 kilometres to the North.
- Re-Assaying of Historical Rosewood drill intercepts include:
  - CAR 39 – **20m @ 4.2% TiO<sub>2</sub>** from 4m, including **4m @ 9.1% TiO<sub>2</sub>** from 4m
  - CAR 38 – **36m @ 4.0% TiO<sub>2</sub>** from 0m, including **6m @ 7.8% TiO<sub>2</sub>** from 8m
- An accompanying Exploration Target for the initial planned drill area over the Rosewood Target highlights excellent upside potential.
- At Claypan Prospect, samples of the mineral sandstone horizons assaying **>5% TiO<sub>2</sub>** and up to **31.5% TiO<sub>2</sub>** have been traced over a 1.5 kilometre trend before passing under cover.
- A historical drill hole, 6 kilometres South of Claypan outcrop, intersected the heavy mineral sand layer assaying **12.1% TiO<sub>2</sub>**, and underlying **source rocks were intersected** returned grades up to **21.0% TiO<sub>2</sub> and 0.44% V<sub>2</sub>O<sub>5</sub>**.
- After the reporting period, an air core drilling program commenced at Muckanippie

#### Mabel Creek Copper-Gold Project

- Gravity surveying results identified three high-priority Copper-Gold targets.<sup>2</sup>
- The new targets are dense, non-magnetic features which may represent iron and copper-gold rich alteration within Proterozoic basement.
- Target BCG1 is a significant IOCG style target, adjacent to historical drilling which intersected copper-bearing hematite alteration
- Two targets are within 10km of known hematite alteration with modelled densities of 3.4 g/cm<sup>3</sup> which is comparable to known IOCG deposits such as Prominent Hill, Carrapateena and the Oak Dam Project.

#### Corporate

- Successful placement of \$1.6 million plus \$1.3 million Share Purchase Plan (SPP) to underpin drilling at Muckanippie<sup>3</sup>
- The Company held \$2.0 million in cash at the end of the period with a further \$1.3 million received subsequent to the period end.

<sup>1</sup> PTR ASX Release 11/9/24 – High-Grade Titanium Rich Heavy Mineral Sands at Muckanippie

<sup>2</sup> PTR ASX Release 4/07/24 – Mabel Creek Gravity Survey Defines Significant Copper-Gold Targets

<sup>3</sup> PTR ASX Release 17/9/24 – Successful Placement to Underpin Drilling at Muckanippie

## Company Summary

**Petratherm Limited (ASX: PTR) (PTR or the Company)** is pleased to present its Quarterly Activities Report for the period ended 30 September 2024 (**September Quarter**). The Company has built an enviable project portfolio in South Australia focused on copper and critical minerals.

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.

In addition, PTR has a major project holding in the northern Gawler Craton of South Australia. Recent exploration has uncovered significant concentrations titanium rich heavy mineral sandstone over large areas. 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 other critical minerals including Platinum Group Elements, Vanadium, and Titanium. This is an early-stage Greenfields project with exceptional upside potential.

During the period the company completed a successful placement of \$1.6 million and announced a SPP which closed on 8 October 2024 raising a further \$1.3 million. The Company is in a strong cash position to fund its exploration activities. The funds raised in the placement and SPP will be used to expedite the Muckanippie Project with a drilling program commencing in October 2024.



**Figure 1 - PTR Project Locations in South Australia**

## Muckanippie Project

During the reporting period, the Company announced a high-grade heavy mineral sand (HMS) discovery at its Muckanippie Project area southwest of Coober Pedy in South Australia (Figure 2). Reconnaissance mapping and surface sampling along with assaying of historic drill core stored at the South Australian Government's Core Library has identified previously unknown high-grade Titanium mineralisation spanning many square kilometres at two prospect sites, Rosewood and Claypan.

Recent outcrop samples recorded exceptional grades ranging between 10% and 50% titanium dioxide (TiO<sub>2</sub>) (Table 1 & 2). The mineralisation occurs from or near surface (<10 metres) and is present as heavy mineral bands forming sheet-like Heavy Mineral Sand (HMS) mineralisation. At Claypan significant Titanium-Vanadium mineralisation has also been identified in the underlying basement source rock, and additionally has potential for primary basement mineralisation.

The Australian Government along with the United States, the European Union, India, Japan, South Korea and the United Kingdom designated Titanium as a critical mineral for essential modern technologies, economies and national security. Titanium has uses in electric vehicles and battery storage, wind technology, pigments, and as an alloy in steel and superalloys. The global market size of titanium in 2022 amounted to 28.6 billion U.S. dollars and is forecast to grow over the coming years, to nearly 52 billion U.S. dollars in 2030.

An Exploration Target for the Rosewood Prospect is defined over the initial planned drill area and represents approximately 10% of the total interpreted prospective HMS area. The Rosewood target and grade range reports:

### Rosewood Exploration Target (Phase 1 – proposed drill program area)

|                            | Low | High |
|----------------------------|-----|------|
| Tonnes (Mt)                | 237 | 377  |
| Grade (TiO <sub>2</sub> %) | 5.3 | 7.9  |

**Cautionary Statement:** *The potential quantity and grade of the Exploration Target is conceptual in nature and there has been insufficient exploration to estimate a Mineral Resource, and it is uncertain if further exploration will result in the estimation of a Mineral Resource*

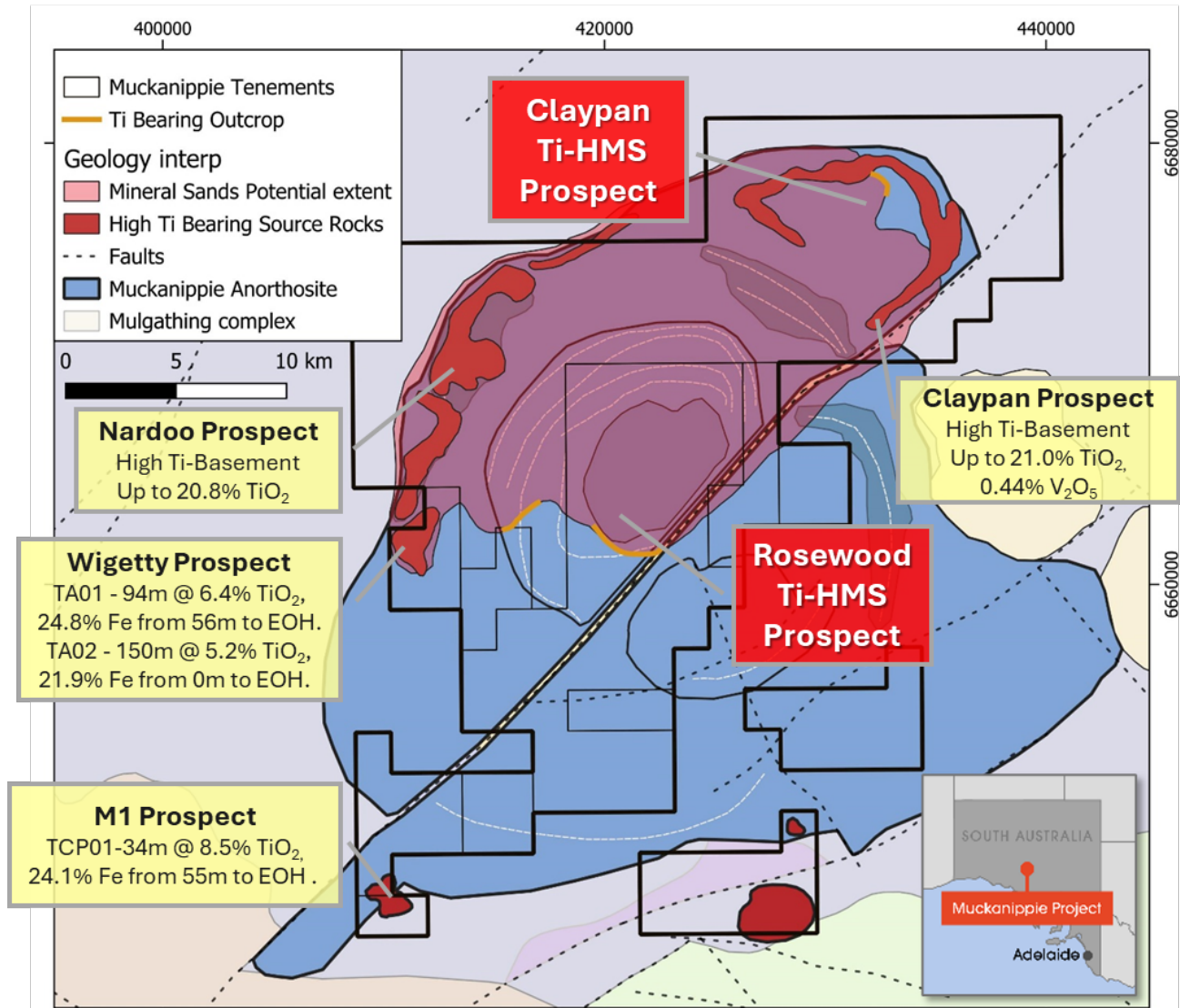


Figure 2 – Interpreted Geology Map of Muckanippie Project Area, High TiO<sub>2</sub> basement source rock prospects (yellow)<sup>4</sup>, HMS Titanium Prospects (red) and interpreted extent of Titanium Rich Mineral Sands.

## Rosewood Titanium Heavy Mineral Sands Prospect

At the Rosewood Prospect reconnaissance mapping identified outcrops of high-grade heavy mineral banded, partly indurated sandstone on the side of a low escarpment (Photo 1). This unit has subsequently been traced over a length of 9 kilometres. PTR geologists took 31 surface rock chip samples to test for the presence of Titanium-bearing minerals with multiple samples returning **bonanza TiO<sub>2</sub>-grades of >25%, and up to 49.4%** (Figure 3, Table 1).

Notable rock chip samples results include:

- G01989      Rosewood East      - **49.4% TiO<sub>2</sub>** and 0.16% V<sub>2</sub>O<sub>5</sub>
- S10471c      Rosewood West      - **38.5% TiO<sub>2</sub>** and 0.22% V<sub>2</sub>O<sub>5</sub>
- S10465      Rosewood East      - **33.6% TiO<sub>2</sub>** and 0.23% V<sub>2</sub>O<sub>5</sub>
- PTR011045      Rosewood East      - **33.2% TiO<sub>2</sub>** and 0.19% V<sub>2</sub>O<sub>5</sub>

<sup>4</sup> PTR ASX release 14/11/2022- Muckanippie Project Tenement Granted

The Rosewood Prospect straddles EL 6855, 100% owned by PTR, and EL 6715 where PTR completed a Mining Farm-in and Joint Venture Agreement with Narryer Metals (ASX:NYM). PTR can earn up to a 70% interest in EL6715, via a 2 Stage Farm-in with further provisions, dependent on NYM's elections, to earn up to an 80% equity in the project<sup>5</sup>.

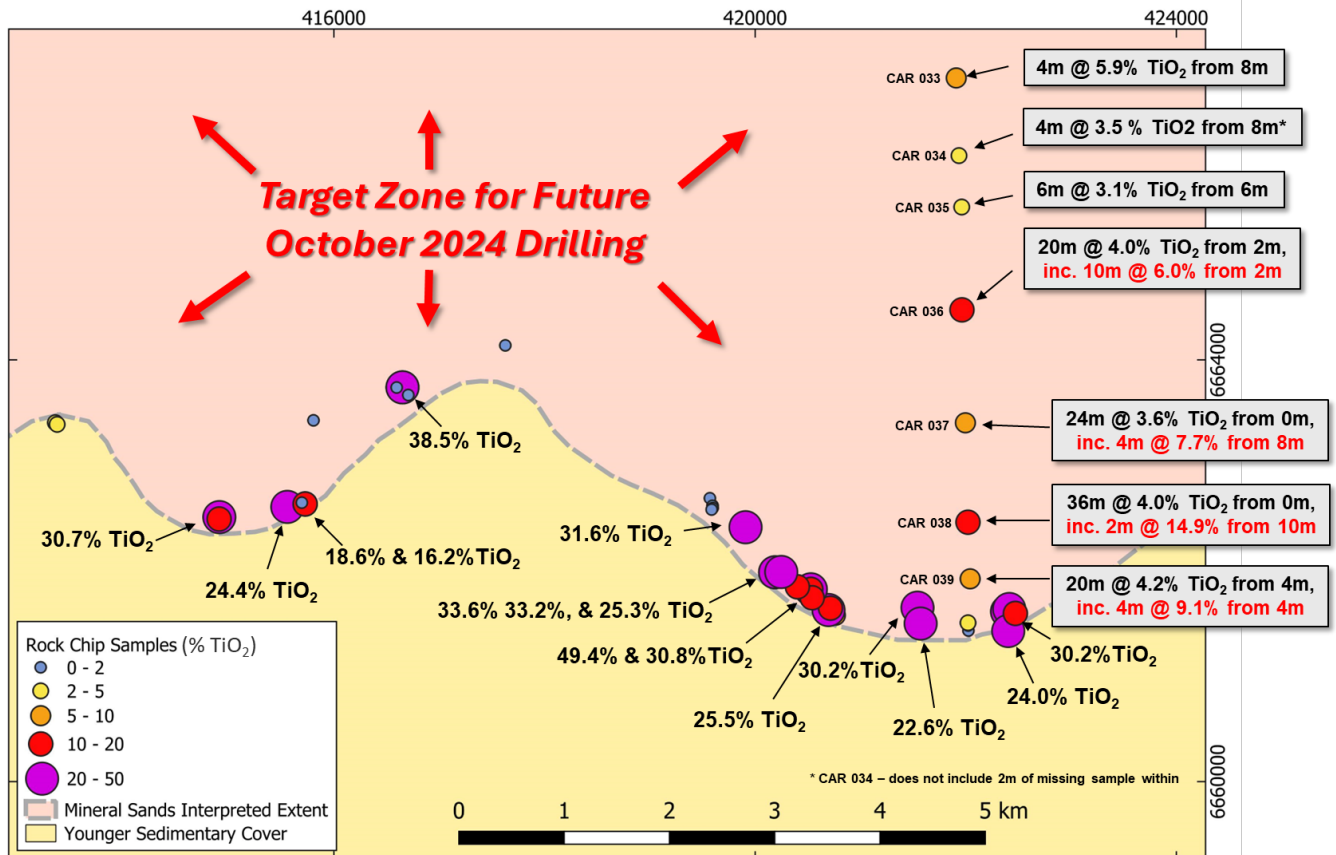


Figure 3 – Location of rock chip and historic drilling samples at Rosewood Prospect.



Photo 1 – Low escarpment at Rosewood Prospect showing tertiary silcrete cap and exposures of underlying HMS horizon

<sup>5</sup> PTR ASX release 18/04/2024 – Farm-in Agreement Expands Muckanippie Project



**Photo 2 – Left** – Typical outcrop of HMS titanium ore (dark minerals) in white silts. **Right** – high-grade ores (>30% TiO<sub>2</sub>) from the Rosewood Prospect. The brown-black minerals are the Titanium-bearing mineral ores comprising ilmenite, leucoxene and rutile.

North of the high-grade escarpment outcrop, PTR has obtained samples from wide-spaced air core drilling undertaken by the Mines Department in 1991 and stored at the South Australian Core Reference Library. These samples had not previously been subject to analysis for TiO<sub>2</sub> and the new assaying shows that the mineralisation continues at least 6 kilometres North (Figure 3). The drill holes were drilled along an existing North-South track at approximately 1 kilometre spacing.

Notable intercepts from historic drill core include:

- CAR 36 – **20m @ 4.0 % TiO<sub>2</sub>** from 2m, including **10m @ 6.0% TiO<sub>2</sub>** from 2m
- CAR 37 – **24m @ 3.6 % TiO<sub>2</sub>** from 0m, including **4m @ 7.7% TiO<sub>2</sub>** from 8m
- CAR 38 – **36m @ 4.0 % TiO<sub>2</sub>** from 0m, including **6m @ 7.8% TiO<sub>2</sub>** from 8m,  
including **2m @ 14.9 % TiO<sub>2</sub>** from 10m
- CAR 39 – **20m @ 4.2 % TiO<sub>2</sub>** from 4m, including **4m @ 9.1% TiO<sub>2</sub>** from 4m

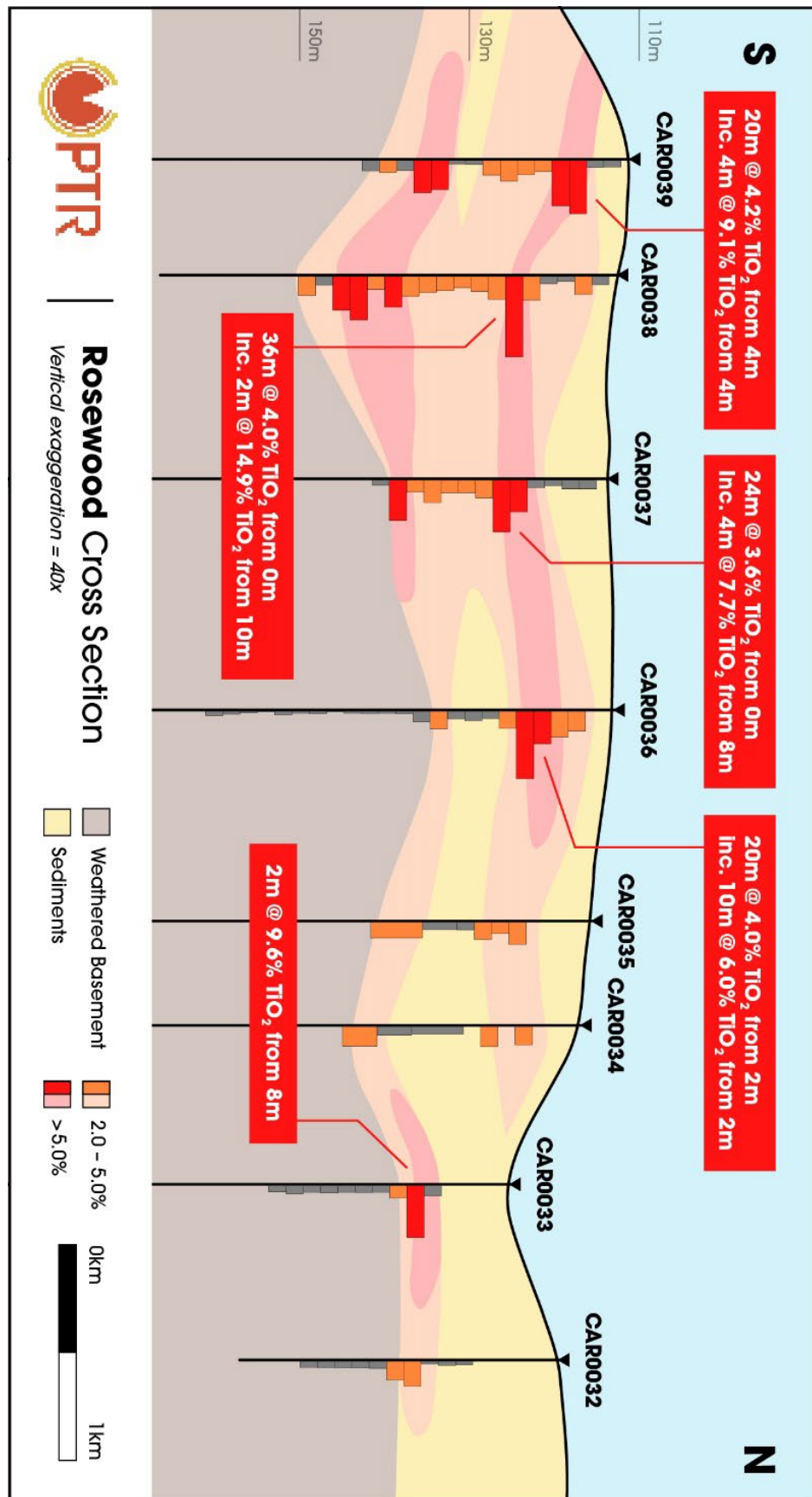


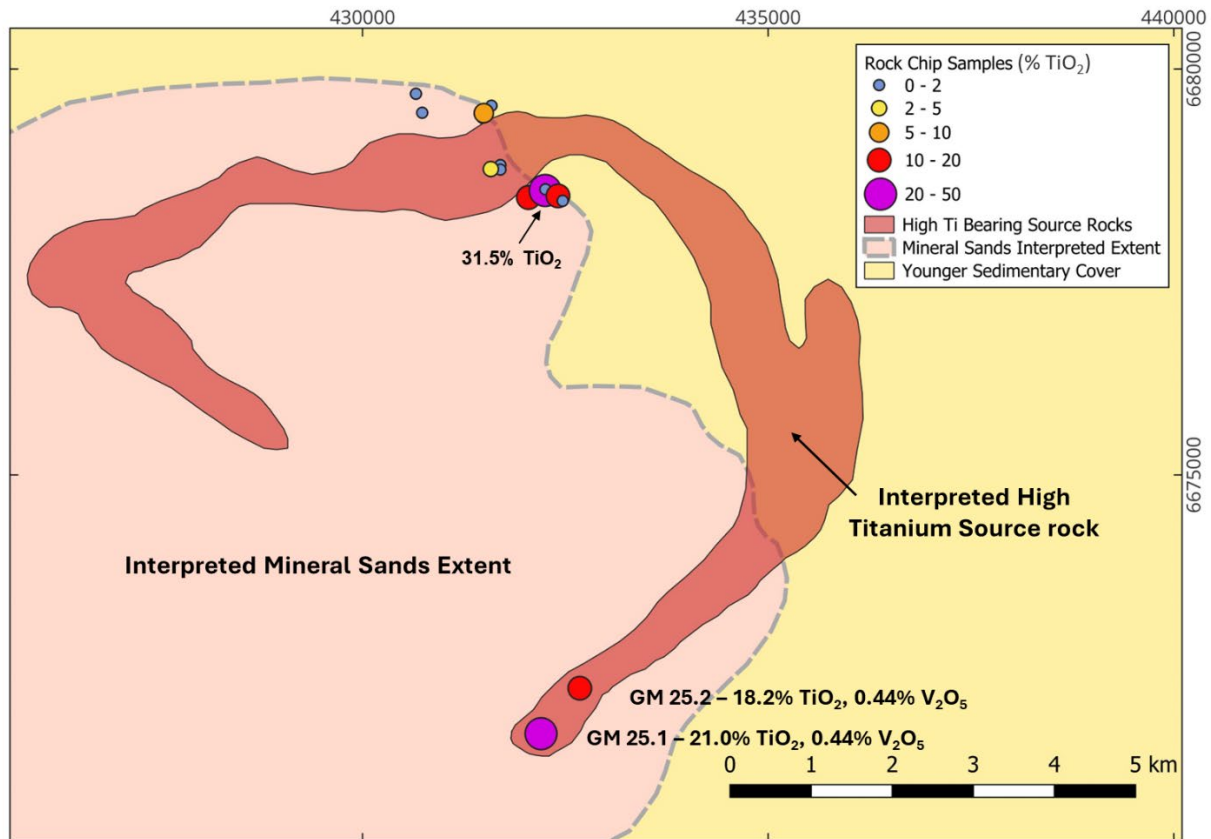
Figure 4 – Section showing Titanium assays from CAR drillholes at the Rosewood Prospect

Table 1 – Rosewood Prospect – High Titanium Surface Samples

| Rosewood Prospect Surface Sampling >5% TiO <sub>2</sub> |               |                    |                     |                       |                                    |
|---------------------------------------------------------|---------------|--------------------|---------------------|-----------------------|------------------------------------|
| Sample ID                                               | Prospect      | Easting<br>(GDA94) | Northing<br>(GDA94) | TiO <sub>2</sub><br>% | V <sub>2</sub> O <sub>5</sub><br>% |
| S10452                                                  | Rosewood East | 422460             | 6661585             | 10.1                  | 0.06                               |
| S10453                                                  | Rosewood East | 422382             | 6661579             | 6.9                   | 0.04                               |
| S10454                                                  | Rosewood East | 422392             | 6661614             | 24.0                  | 0.12                               |
| S10455                                                  | Rosewood East | 422414             | 6661638             | 21.3                  | 0.11                               |
| S10456                                                  | Rosewood East | 421542             | 6661650             | 30.2                  | 0.22                               |
| S10457                                                  | Rosewood East | 420763             | 6661578             | 6.8                   | 0.04                               |
| S10458                                                  | Rosewood East | 420697             | 6661628             | 9.6                   | 0.06                               |
| S10459                                                  | Rosewood East | 420697             | 6661628             | 25.5                  | 0.15                               |
| S10460                                                  | Rosewood East | 420716             | 6661646             | 18.0                  | NS                                 |
| S10461                                                  | Rosewood East | 420530             | 6661824             | 30.8                  | 0.22                               |
| G01989                                                  | Rosewood East | 420530             | 6661824             | 49.4                  | 0.16                               |
| S10462                                                  | Rosewood East | 420530             | 6661824             | 12.8                  | 0.08                               |
| S10463                                                  | Rosewood East | 420542             | 6661744             | 19.5                  | NA                                 |
| S10464                                                  | Rosewood East | 420402             | 6661848             | 14.9                  | 0.08                               |
| S10465                                                  | Rosewood East | 420190             | 6661986             | 33.6                  | 0.23                               |
| S10466                                                  | Rosewood East | 420190             | 6661986             | 25.3                  | 0.12                               |
| S10467                                                  | Rosewood East | 419909             | 6662413             | 31.6                  | 0.25                               |
| S10469                                                  | Rosewood West | 415557             | 6662606             | 24.4                  | 0.18                               |
| S10470                                                  | Rosewood West | 415734             | 6662648             | 8.5                   | 0.05                               |
| S10471a                                                 | Rosewood West | 416651             | 6663740             | 34.8                  | 0.20                               |
| S10471b                                                 | Rosewood West | 416651             | 6663740             | 35.0                  | 0.20                               |
| S10471c                                                 | Rosewood West | 416651             | 6663740             | 38.5                  | 0.22                               |
| PTR01123                                                | Rosewood West | 414912             | 6662509             | 30.7                  | 0.21                               |
| PTR01125                                                | Rosewood West | 414910             | 6662491             | 12.7                  | 0.10                               |
| PTR01126                                                | Rosewood West | 415727             | 6662634             | 18.6                  | 0.10                               |
| PTR01127                                                | Rosewood West | 415727             | 6662634             | 16.2                  | 0.08                               |
| S10085                                                  | Rosewood East | 422404             | 6661429             | 24.0                  | 0.15                               |
| S10086                                                  | Rosewood East | 422472             | 6661596             | 10.2                  | 0.06                               |
| PTR01140                                                | Rosewood East | 421572             | 6661500             | 22.6                  | 0.11                               |
| PTR01145                                                | Rosewood East | 420248             | 6661989             | 33.2                  | 0.19                               |

## Claypan Prospect

Outcrop of HMS sandstone at the Claypan Prospect located on EL 6715<sup>6</sup>, comprises a series of low escarpments outcropping over 2 kilometres of trend. Rock chip sampling returned  $\text{TiO}_2$  assays ranging between **5.7% and 31.5%  $\text{TiO}_2$**  (Table 2, Figure 5). Higher-grade mineralised horizons were found on the southern side of an interpreted high Titanium-Vanadium basement source rock horizon (**see below - Claypan Basement Titanium Target**). The source rock horizon has a distinctive magnetic signature, and its outline is shown overlain in Figure 5 below.



**Figure 5** – Location of rock chip and drilling samples at Claypan Prospect, outline of prospective HMS extent and outline of underlying interpreted high titanium-Vanadium basement source rocks horizon.

**Table 2** – Claypan Prospect – High Titanium Surface Samples

| Claypan Prospect Surface Sampling >5% $\text{TiO}_2$ |          |                    |                     |                     |                             |
|------------------------------------------------------|----------|--------------------|---------------------|---------------------|-----------------------------|
| Sample ID                                            | Prospect | Easting<br>(GDA94) | Northing<br>(GDA94) | $\text{TiO}_2$<br>% | $\text{V}_2\text{O}_5$<br>% |
| G01997                                               | Claypan  | 432042             | 6678437             | 8.3                 | NA                          |
| PTR01108                                             | Claypan  | 432046             | 6678420             | 13.4                | 0.067                       |
| PTR01112                                             | Claypan  | 432046             | 6678417             | 13                  | 0.034                       |
| PTR01113                                             | Claypan  | 432252             | 6678504             | 31.5                | 0.075                       |
| PTR01115                                             | Claypan  | 432410             | 6678438             | 12.1                | 0.044                       |
| S10450                                               | Claypan  | 431495             | 6679457             | 5.66                | 0.022                       |

<sup>6</sup> EL 6715 – Petrathern Mining Farm-in and Joint Venture Agreement with Narryer Metals (ASX: NYM) refer to JORC Table 1

## Claypan Basement Titanium Target

Claypan Prospect has additional high potential for basement-hosted Ti-V targets immediately below and adjacent to the HMS mineralisation. Approximately 6 kilometres south of the outcropping Titanium-bearing sandstone, Flinders Mines drilled two shallow holes in 2008 at two magnetic anomalies, as part of a regional exploration program for diamonds (Figure 5).

Drill holes GM 25.1 and GM 25.2 were selectively assayed for a wide range of elements over short down hole intervals. Both drill holes record exceptional concentrations of vanadium (**up to 0.44%**), titanium (**up to 21% TiO<sub>2</sub>**) and iron (**up to 47.5% Fe**) along with highly anomalous phosphate and chrome (Table 3)<sup>7</sup>. Although only limited sampling was undertaken by Flinders Mines, almost all samples returned significant TiO<sub>2</sub> assays throughout the hole (Figure 6).

In drill hole GM25.2, a single cover sediment sample was taken of the overlying HMS unit returning **10.1% TiO<sub>2</sub>**. Further down the hole it passes into weathered high titanium and vanadium basement rock recording up to **18.1% TiO<sub>2</sub> and 0.44% V<sub>2</sub>O<sub>5</sub>** (Figure 6).

The style of mineralisation intersected in the basement rock is indicative of Vanadiferous Titanomagnetite (VTM) deposits, which supply approximately 88% of the world's vanadium<sup>8</sup>. These deposits are associated with layered intrusions like that identified at Muckanippie and the ores typically form stratiform horizons due to their association with the layered intrusions. At Claypan, the prospective magnetic horizon extends for approximately 18 kilometres (Figure 6) under shallow cover and will be a priority for follow up drilling.

**Table 3 - Historical drill assays from Claypan Prospect. Drill holes were not continuously sampled. Element assays reported show all sampled intervals. All but 2 samples reported significant assay concentrations.**

| Claypan Prospect - Historic Vanadium -Titanium Drillhole Assays |          |        |              |                                 |                    |             |                                 |                                  |
|-----------------------------------------------------------------|----------|--------|--------------|---------------------------------|--------------------|-------------|---------------------------------|----------------------------------|
| Drill Hole                                                      | From (m) | To (m) | Interval (m) | V <sub>2</sub> O <sub>5</sub> % | TiO <sub>2</sub> % | Fe %        | P <sub>2</sub> O <sub>5</sub> % | Cr <sub>2</sub> O <sub>3</sub> % |
| GM25.1                                                          | 20       | 21     | 1            | 0.07                            | 0.9                | <b>47.5</b> | 0.3                             | 0.1                              |
| GM25.1                                                          | 24.5     | 25     | 0.5          | <b>0.44</b>                     | <b>21.0</b>        | <b>43.5</b> | 0.2                             | <b>1.5</b>                       |
| GM25.1                                                          | 45       | 46     | 1            | 0.06                            | <b>5.3</b>         | 15.4        | 1.5                             | 0.1                              |
| GM25.1                                                          | 50       | 51     | 1            | 0.06                            | <b>8.6</b>         | 14.3        | <b>4.4</b>                      | 0.0                              |
| GM25.1                                                          | 54       | 55     | 1            | 0.01                            | 0.6                | 2.4         | 0.4                             | 0.0                              |
| GM25.1                                                          | 55       | 56     | 1            | 0.04                            | <b>8.3</b>         | 14.3        | <b>4.2</b>                      | 0.0                              |
| GM25.2                                                          | 10.5     | 11     | 0.5          | 0.05                            | <b>10.1</b>        | <b>27.6</b> | 0.8                             | 0.0                              |
| GM25.2                                                          | 24       | 24.5   | 0.5          | 0.05                            | <b>12.1</b>        | 16.6        | <b>3.1</b>                      | 0.0                              |
| GM25.2                                                          | 34.8     | 35     | 0.2          | <b>0.40</b>                     | <b>16.7</b>        | <b>43.5</b> | 0.1                             | <b>1.3</b>                       |
| GM25.2                                                          | 41       | 41.5   | 0.5          | <b>0.39</b>                     | <b>16.7</b>        | <b>44.5</b> | 0.1                             | <b>1.2</b>                       |
| GM25.2                                                          | 48.5     | 49     | 0.5          | <b>0.13</b>                     | <b>14.3</b>        | 17.3        | 0.0                             | 0.2                              |
| GM25.2                                                          | 52       | 52.5   | 0.5          | <b>0.44</b>                     | <b>18.2</b>        | <b>45.4</b> | 0.0                             | <b>1.4</b>                       |
| GM25.2                                                          | 53       | 53.2   | 0.2          | 0.07                            | 3.5                | 17.9        | 0.2                             | 0.2                              |
| GM25.2                                                          | 53.7     | 54     | 0.3          | 0.04                            | 1.9                | <b>21.8</b> | 0.1                             | 0.1                              |

<sup>7</sup> PTR ASX Release 18/04/2024 – Farm-in Agreement Expands Muckanippie Project.

<sup>8</sup> Simandl GJ & Paradis S 2022. Vanadium as a critical material: economic geology with emphasis on market and the main deposit types. *Applied Earth Science* 131 (4): 218-236.

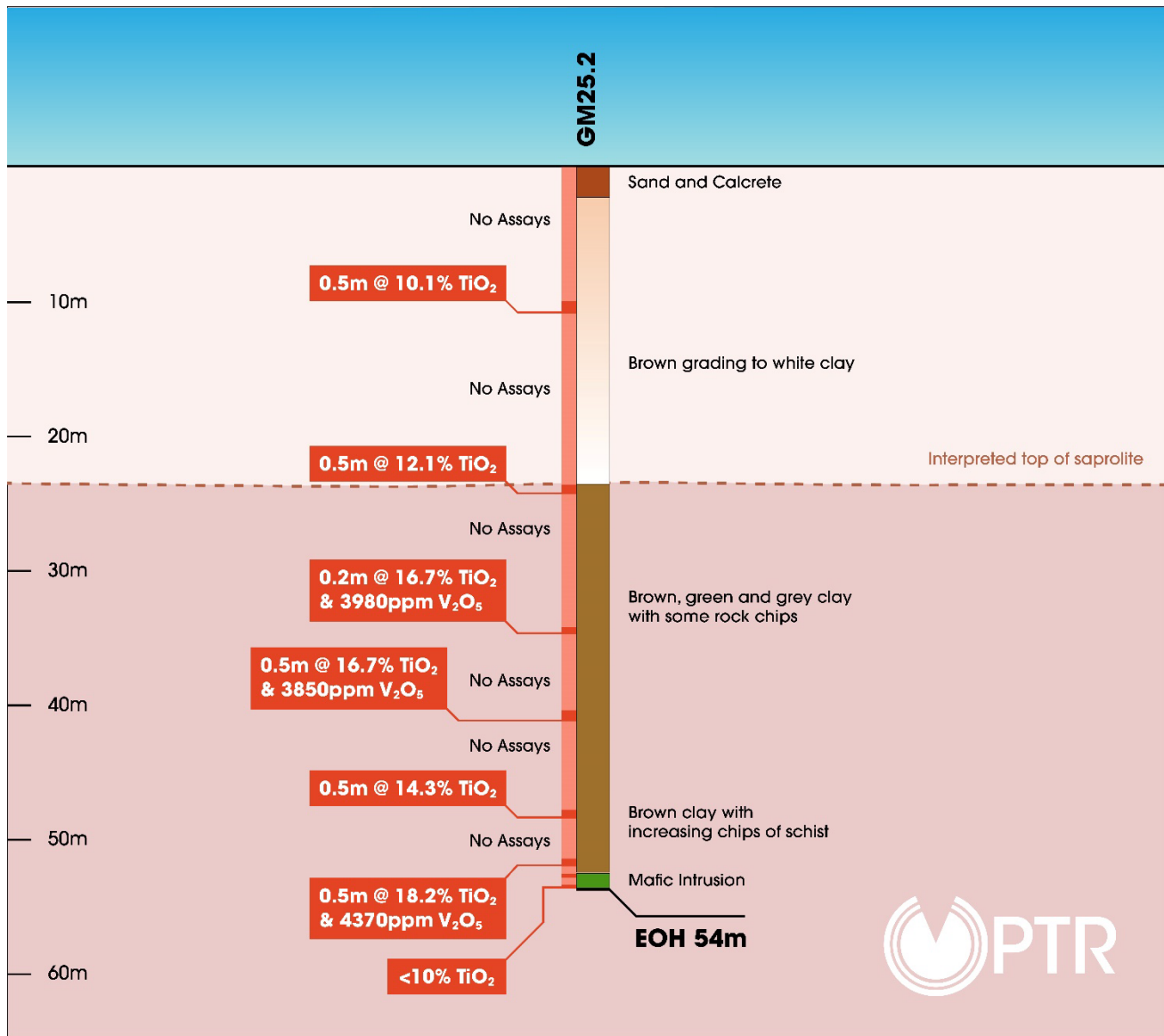


Figure 6 – Section through historic drill hole GM25.2 at the Claypan Prospect showing limited Ti assays and interpreted geology.

## High Value Titanium Heavy Mineral Sands

The Titanium HMS form horizons in a recent white silt and sand sequence. It is postulated the underlying high Titanium-Vanadium bearing Muckanippie Suite basement rocks are softer than surrounding strata forming an ancient lowland lake depositional centre. The distinctive white silts are the result of breakdown of aluminous feldspar (anorthite) which make up a large portion of the Muckanippie Suite layered Complex.

Typically, HMS occurrences contain high percentages of deleterious iron rich minerals that need to be removed, however at Muckanippie the HMS comprise >90% titanium minerals. The associated iron rich minerals (originally mostly magnetite and some haematite) have broken down and have been removed leaving only titanium minerals which are more resistant to weathering.

Preliminary petrological assessment of titanium bearing minerals, describes original ilmenites which have undergone varying degrees of leaching and removal of iron to produce higher value titanium enriched leucoxene. Iron leaching is pronounced in some specimens with replacement to high value rutile around mineral grains and other free rutile grains being observed. At this stage average mineral compositions cannot be determined until detailed metallurgical testing is completed.

## Rosewood Exploration Target

An initial Exploration Target over the proposed Rosewood drilling program area is defined and represents approximately 10% of the total interpreted prospective HMS area (Figure 7). The target area is limited to the extent of historical higher-grade CAR drill hole intercepts and mapped extent of outcropping mineralisation.

Mapping observations and sampling of outcropping mineralised HMS showed mineralisation was continuous, flat lying and had little grade and thickness variation. The outcropping sequence extends over a 7.5 kilometre west-east trend. The exploration target area was limited north-south to the Southern 4 CAR drill holes (CAR036 to CAR039) closest to the outcropping mineralisation. These 4 holes demonstrate good continuity between drill holes in terms of average  $\text{TiO}_2$  grade, intercept thickness and mineralisation depth (Figure 4) providing a higher-level of confidence. Drill hole spacing ranges from 537 metres to 1070 metres. Mineralisation does continue further North but at an overall lower grade and thickness.

In total, 81 two metre composite drill samples were analysed from the CAR drill holes. Samples analysed were the sedimentary cover sequence through to the upper saprolite (weathered basement) boundary. Samples were analysed by ALS, prepared via lithium borate fusion and analysed with ICP-AES.

Due to potential biases being introduced from the surface sampling, grade and thickness data was based solely on CAR drilling intercepts. The surface mapping served only to map the extent of mineralisation. Grade ranges and interval thicknesses are based on calculation of the weighted average CAR drillhole intercepts within the defined Exploration Target Area. A nominal 6%  $\text{TiO}_2$  average cut-off grade was applied. This was deemed as having prospects of eventual economic extraction. Only the higher-grade top zone of mineralisation was selected for the calculation ranging from 4 to 10 metres of intercept thickness and starting from 2 to 8 metres from surface.

A dry density range of 1.6 to 1.7  $\text{t/m}^3$  was applied based on range of typical Eocene cover sediment indicative of the host rock. The Exploration target and grade range is determined by applying a +20% and -20% threshold to determine the upper and lower limits of the Exploration Target grade range.

Rosewood Exploration Target (Phase 1 proposed drill program area)

|                            | Low | High |
|----------------------------|-----|------|
| Tonnes (Mt)                | 237 | 377  |
| Grade ( $\text{TiO}_2\%$ ) | 5.3 | 7.9  |

The potential quantity and grade of the Exploration Target is conceptual in nature and there has been insufficient exploration to estimate a Mineral Resource, and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Future work could comprise:

- Obtaining measured density data.
- Metallurgical test work to determine titanium mineral assemblage and mineral recoveries.
- Complete drilling to determine a Mineral Resource.

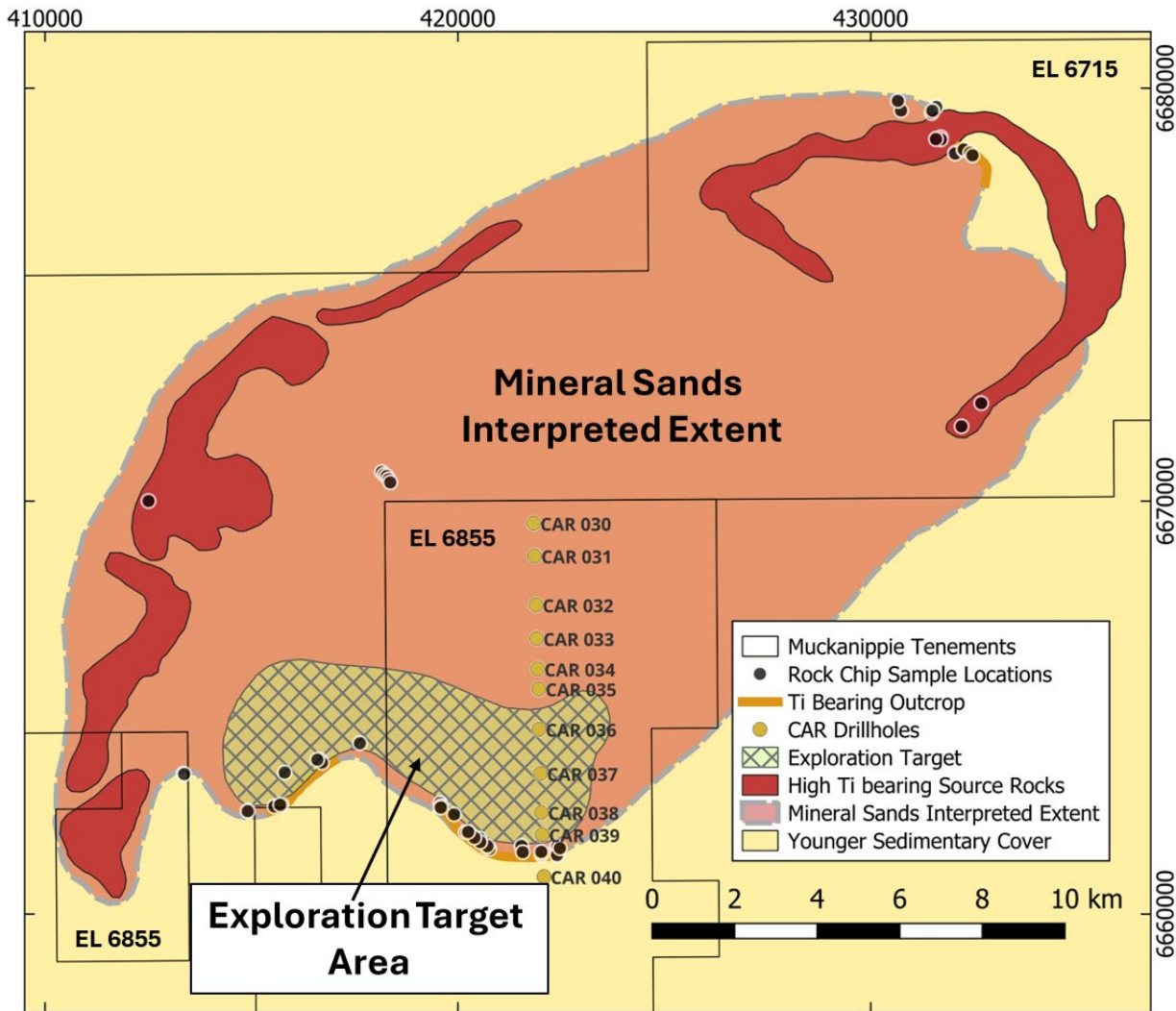


Figure 7 - Outline of the initial Exploration Target for Rosewood Prospect

## Muckanippie Titanium Drilling

After the reporting, the company announced that drilling has commenced at the Muckanippie Titanium Project in the northern Gawler Craton of South Australia. An approximate 4,000 metre drill program will assess at a regional scale the Rosewood and Claypan Prospect titanium rich heavy mineral sands (HMS) mineralisation. Drilling is also planned over high Titanium-Vanadium bearing source rock horizons for primary Vanadiferous Titanomagnetite (VTM) style mineralisation (Figure 2).

The air core drilling program will comprise of wide spaced (1 kilometre) drill traverses over prospective mineral sand areas with holes spaced at approximately 200 metres along lines and include some closer infill drilling in zones of interest. The previously reported shallow HMS mineralisation, starts from near surface to approximately 30 metres depth, and maximum hole depth's are expected to range between 30 to 40 metres.

Testing of VTM prospective areas such as at Claypan (EL 6715 Narryer JV area<sup>9</sup>) is likely to involve slightly deeper drilling to the top of fresh basement rock ranging between 40 and 70 metres depth. Targeting of potential VTM horizons is more discrete and hole spacing along drill lines will typically be at 50 metres. Mineral assays will be despatched for heavy mineral calculations, mineral testing, and geochemistry in stages during the drilling, with reporting of initial assay results scheduled to commence from late November.

<sup>9</sup> PTR ASX release 18/04/2024 – Farm-in Expands Muckanippie Project



**Photo 3 – Drilling underway at Claypan Prospect**

## Mabel Creek Copper-Gold Project

In April the Company completed a Gravity Survey program over the Mabel Creek Project. The new gravity data identified three priority drill targets, all around the edge of a circular gravity low which is interpreted as potentially being caused by an underlying granite intrusion. On the eastern side of the interpreted deep granite are several drill holes drilled by Alliance Resources between 2003 and 2009 which intersected strong iron-rich (hematite) alteration in Proterozoic metasediments overlying strongly magnetic Banded Iron Formation (BIF) units.<sup>10</sup>

While the strongly magnetic, deep, BIF units are not considered a target, the dense hematite-only zones have the potential to host IOCG-style copper-gold mineralisation, and in the historical drilling this alteration was associated with strongly elevated copper assays (up to 0.32% Cu over 1.1 metres). Combined 3D magnetic and gravity inversion modelling was undertaken over this area and a significant gravity-only target, BCG1, was resolved. This target has the potential to be a significant zone of hematite-alteration.

2D gravity modelling was undertaken on the other gravity features rimming the interpreted deeper granite. To the south the two gravity features modelled as being very dense but deep (>1000 metres below surface), however the two features to the west both produced models of significant density but at depths more amenable to drill testing. For example, the southern of these two features, BCG2, models as a large (450m x 1070m x >4000m) body at 500 metres below surface. The produced model density of 3.4 g/cm<sup>3</sup> is consistent with the measured density of known IOCG deposits in the Olympic Domain.

<sup>10</sup> PTR ASX Release 14/08/2023 – Significant Copper-Gold Expansion at Mabel Creek

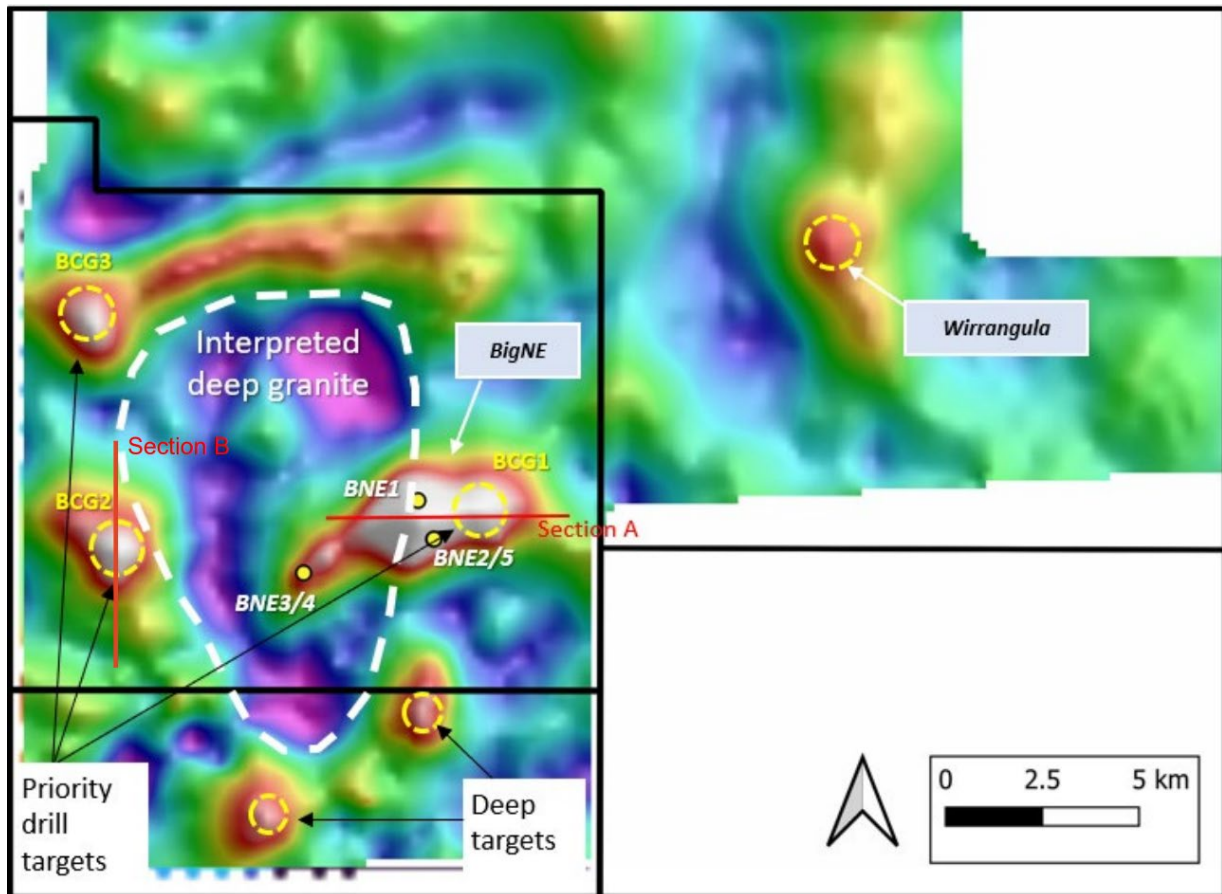


Figure 8 - New gravity survey data and copper-gold targets.

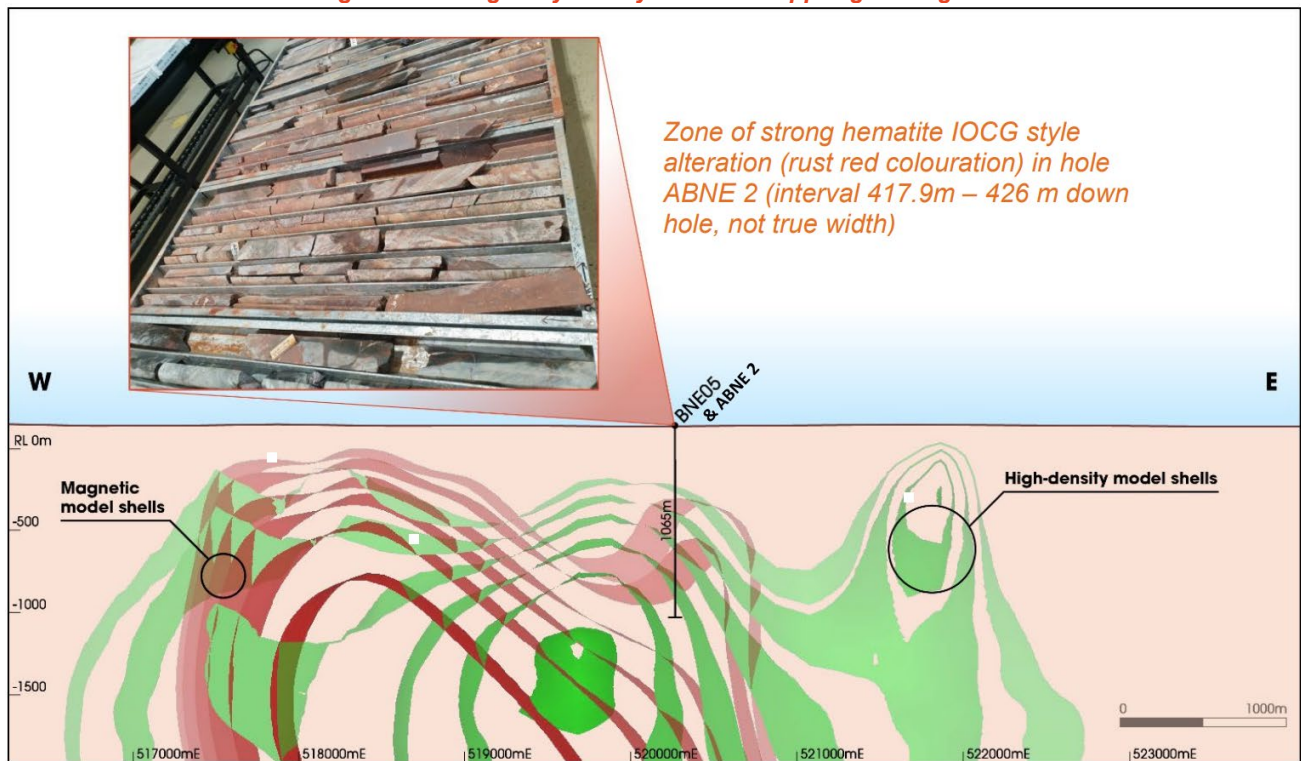


Figure 9 - Section A – BCG01 target 3D magnetic and gravity inversions with existing drilling.

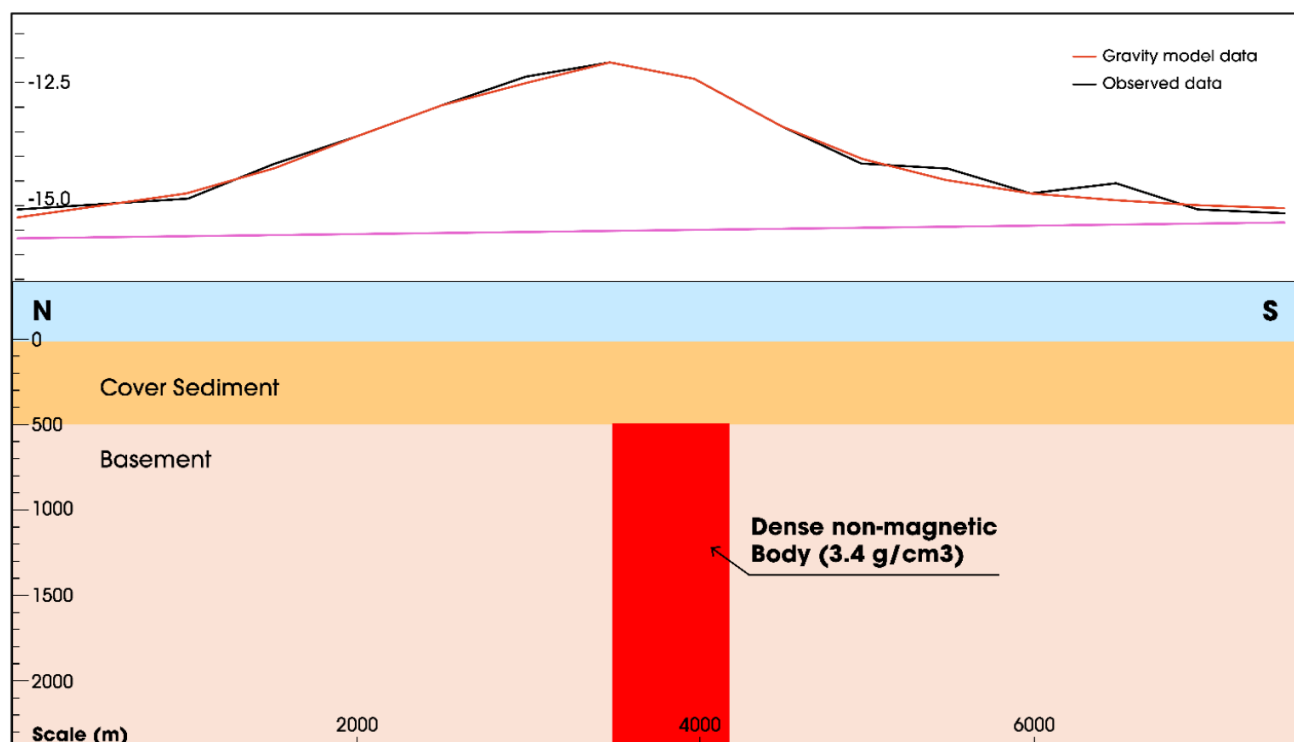


Figure 10 - Section B - Gravity model for BCG2 target.

## Woomera Copper-Gold Project

No work was completed during the quarter.

## Corporate

The Company had exploration and evaluation costs of \$202,000 relating principally to ground exploration activities at the Muckanippie Project. Administration and corporate costs totalled \$167,000. The Company held \$2 million cash at the end of the Period.

In September, the Company received firm commitments to raise \$1.6M (before costs) through a share placement (the "Placement"). The Placement was strongly supported by existing and new investors. CEO, Peter Reid, has contributed \$20,000 and PTR's Directors have agreed, subject to shareholder approval, to contribute \$200,000 to the Placement.

To provide shareholders the opportunity to participate in the issue of new shares in the Company, the Directors resolved to offer eligible retail shareholders participation in the equity raising through a Share Purchase Plan ("SPP") to raise up to an additional \$1M by subscribing for up to \$30,000 each at the same price as the Placement.

After the reporting period, the Company announced that the Share Purchase Plan (SPP) closed oversubscribed on 8 October 2024, with approximately \$4.2m received from valid subscriptions, significantly above the original target of \$1m. In accordance with the terms and conditions of the SPP, the Directors elected to accept approximately \$1.3m and undertook a scaleback of acceptances of approximately \$2.9m.

The proceeds of the placement and SPP will be used to underpin the drilling operations at Muckanippie, advance Petratherm's Copper Projects, as well as providing for general working capital and costs of the offer.

Further, the Company has informed shareholders that it has been advised by the Australian Taxation Office (ATO) that the in-specie distribution of shares in Outback Goldfields Corp. (Outback Goldfields or OZ (formerly Skarb Exploration)) to the Group's shareholders in April 2021, is an unfranked dividend for taxation purposes. For additional information please refer to the announcement dated 23 February 2024.

In accordance with ASX Listing Rules Guidance Note 23, the aggregate number of payments to related parties of the Company and its associates disclosed under section 6.1 of the Appendix 5B totalled \$24,000 and comprised of Director's fees.

### September 2024 Quarter – ASX Announcements

This Quarterly Activities Report contains information extracted from ASX market announcements reported in accordance with the 2012 edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves” (2012 JORC Code). Further details (including 2012 JORC Code reporting tables where applicable) of exploration results referred to in this Quarterly Activities Report can be found in the following announcements lodged on the Company's ASX platform:

| Date of Release | Title of Release                                             |
|-----------------|--------------------------------------------------------------|
| 15-Oct-24       | Muckanippie Titanium Drilling Underway                       |
| 14-Oct-24       | Heavily Oversubscribed Share Purchase Plan Results           |
| 24-Sep-24       | Share Purchase Plan Open                                     |
| 17-Sep-24       | Successful Placement to Underpin Drilling at Muckanippie     |
| 11-Sep-24       | High-Grade Titanium Rich Heavy Minerals Sands at Muckanippie |
| 4-Jul-24        | Mabel Creek Gravity Survey Defines Significant IOCG Targets  |
| 18-Apr-24       | Farm-In Agreement Expands Muckanippie Project                |

These announcements are available for viewing on the Company's website [petratherm.com.au/](http://petratherm.com.au/) under the investor tab. PTR confirms that is not aware of any new information or data that materially affects the information included in any original ASX Announcement.

**-ENDS-**

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

*For further information:*

**Peter Reid**

*Chief Executive Officer*

*[preid@petratherm.com.au](mailto:preid@petratherm.com.au)*

*0435 181 705*

*Media and Broker Contact*

**Jason Mack**

*White Noise Communications*

*[jason@whitenoisecomms.com](mailto:jason@whitenoisecomms.com)*

*0400 643 799*

### Competent Persons Statement:

The information in this report that relates to Exploration Targets and Exploration Results is based on information compiled by Mr Peter Reid, who is a Competent Person, and a Member of the Australian Institute of Geoscientists. Mr Reid is not aware of any new information or data that materially affects the historical exploration results included in this report. Mr Reid is an employee of Petratherm Ltd. Mr Reid 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 Reid consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## Appendix 5B

### Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

PETRATHERM LIMITED

ABN

17 106 806 884

Quarter ended ("current quarter")

30 September 2024

| Consolidated statement of cash flows |                                                       | Current quarter<br>\$A'000 | Year to date<br>(3 Months)<br>\$A'000 |
|--------------------------------------|-------------------------------------------------------|----------------------------|---------------------------------------|
| <b>1.</b>                            | <b>Cash flows from operating activities</b>           |                            |                                       |
| 1.1                                  | Receipts from customers                               |                            |                                       |
| 1.2                                  | Payments for                                          |                            |                                       |
|                                      | (a) exploration & evaluation                          | (2)                        | (2)                                   |
|                                      | (b) development                                       |                            |                                       |
|                                      | (c) production                                        |                            |                                       |
|                                      | (d) staff costs                                       |                            |                                       |
|                                      | (e) administration and corporate costs                | (167)                      | (167)                                 |
| 1.3                                  | Dividends received (see note 3)                       |                            |                                       |
| 1.4                                  | Interest received                                     | 18                         | 18                                    |
| 1.5                                  | Interest and other costs of finance paid              |                            |                                       |
| 1.6                                  | Income taxes paid                                     |                            |                                       |
| 1.7                                  | Government grants and tax incentives                  |                            |                                       |
| 1.8                                  | Other (provide details if material)                   |                            |                                       |
| <b>1.9</b>                           | <b>Net cash from / (used in) operating activities</b> | <b>(151)</b>               | <b>(151)</b>                          |
| <b>2.</b>                            | <b>Cash flows from investing activities</b>           |                            |                                       |
| 2.1                                  | Payments to acquire or for:                           |                            |                                       |
|                                      | (a) entities                                          |                            |                                       |
|                                      | (b) tenements                                         |                            |                                       |
|                                      | (c) property, plant and equipment                     |                            |                                       |
|                                      | (d) exploration & evaluation                          | (200)                      | (200)                                 |
|                                      | (e) investments                                       |                            |                                       |
|                                      | (f) other non-current assets                          |                            |                                       |

| <b>Consolidated statement of cash flows</b> |                                                       | <b>Current quarter<br/>\$A'000</b> | <b>Year to date<br/>(3 Months)<br/>\$A'000</b> |
|---------------------------------------------|-------------------------------------------------------|------------------------------------|------------------------------------------------|
| 2.2                                         | Proceeds from the disposal of:                        |                                    |                                                |
|                                             | (a) entities                                          |                                    |                                                |
|                                             | (b) tenements                                         |                                    |                                                |
|                                             | (c) property, plant and equipment                     |                                    |                                                |
|                                             | (d) investments                                       |                                    |                                                |
|                                             | (e) other non-current assets                          |                                    |                                                |
| 2.3                                         | Cash flows from loans to other entities               |                                    |                                                |
| 2.4                                         | Dividends received (see note 3)                       |                                    |                                                |
| 2.5                                         | Other (R& D Tax Offset )                              | 219                                | 219                                            |
| <b>2.6</b>                                  | <b>Net cash from / (used in) investing activities</b> | <b>19</b>                          | <b>19</b>                                      |

|             |                                                                                         |              |              |
|-------------|-----------------------------------------------------------------------------------------|--------------|--------------|
| <b>3.</b>   | <b>Cash flows from financing activities</b>                                             |              |              |
| 3.1         | Proceeds from issues of equity securities (excluding convertible debt securities)       | 1,400        | 1,400        |
| 3.2         | Proceeds from issue of convertible debt securities                                      |              |              |
| 3.3         | Proceeds from exercise of options                                                       |              |              |
| 3.4         | Transaction costs related to issues of equity securities or convertible debt securities | (126)        | (126)        |
| 3.5         | Proceeds from borrowings                                                                |              |              |
| 3.6         | Repayment of borrowings                                                                 |              |              |
| 3.7         | Transaction costs related to loans and borrowings                                       |              |              |
| 3.8         | Dividends paid                                                                          |              |              |
| 3.9         | Other (provide details if material)                                                     |              |              |
| <b>3.10</b> | <b>Net cash from / (used in) financing activities</b>                                   | <b>1,274</b> | <b>1,274</b> |

|           |                                                                              |       |       |
|-----------|------------------------------------------------------------------------------|-------|-------|
| <b>4.</b> | <b>Net increase / (decrease) in cash and cash equivalents for the period</b> |       |       |
| 4.1       | Cash and cash equivalents at beginning of period                             | 907   | 907   |
| 4.2       | Net cash from / (used in) operating activities (item 1.9 above)              | (151) | (151) |
| 4.3       | Net cash from / (used in) investing activities (item 2.6 above)              | 19    | 19    |
| 4.4       | Net cash from / (used in) financing activities (item 3.10 above)             | 1,274 | 1,274 |

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

| Consolidated statement of cash flows |                                                   | Current quarter<br>\$A'000 | Year to date<br>(3 Months)<br>\$A'000 |
|--------------------------------------|---------------------------------------------------|----------------------------|---------------------------------------|
| 4.5                                  | Effect of movement in exchange rates on cash held |                            |                                       |
| 4.6                                  | Cash and cash equivalents at end of period        | 2,049                      | 2,049                                 |

|     |                                                                                                                                                                   |                            |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| 5.  | Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts | Current quarter<br>\$A'000 |
| 5.1 | Bank balances                                                                                                                                                     | 2,049                      |
| 5.2 | Call deposits                                                                                                                                                     | -                          |
| 5.3 | Bank overdrafts                                                                                                                                                   |                            |
| 5.4 | Other (provide details)                                                                                                                                           |                            |
| 5.5 | Cash and cash equivalents at end of quarter (should equal item 4.6 above)                                                                                         | 2,049                      |

|                                                                                                                                                          |                                                                                         |                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------|
| 6.                                                                                                                                                       | Payments to related parties of the entity and their associates                          | Current quarter<br>\$A'000 |
| 6.1                                                                                                                                                      | Aggregate amount of payments to related parties and their associates included in item 1 | 24                         |
| 6.2                                                                                                                                                      | Aggregate amount of payments to related parties and their associates included in item 2 |                            |
| Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments. |                                                                                         |                            |

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

|                                                                                                                                                                                                                                                                                                                                                 |                                                         |                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------|
| <b>7. Financing facilities</b><br><i>Note: the term "facility" includes all forms of financing arrangements available to the entity.<br/>Add notes as necessary for an understanding of the sources of finance available to the entity.</i>                                                                                                     | <b>Total facility amount at quarter end<br/>\$A'000</b> | <b>Amount drawn at quarter end<br/>\$A'000</b> |
| 7.1 Loan facilities                                                                                                                                                                                                                                                                                                                             |                                                         |                                                |
| 7.2 Credit standby arrangements                                                                                                                                                                                                                                                                                                                 |                                                         |                                                |
| 7.3 Other (please specify)                                                                                                                                                                                                                                                                                                                      |                                                         |                                                |
| 7.4 <b>Total financing facilities</b>                                                                                                                                                                                                                                                                                                           |                                                         |                                                |
| 7.5 <b>Unused financing facilities available at quarter end</b>                                                                                                                                                                                                                                                                                 |                                                         |                                                |
| 7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well. |                                                         |                                                |

|                                                                                                                                                                                                                                     |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>8. Estimated cash available for future operating activities</b>                                                                                                                                                                  | <b>\$A'000</b> |
| 8.1 Net cash from / (used in) operating activities (item 1.9)                                                                                                                                                                       | (151)          |
| 8.2 (Payments for exploration & evaluation classified as investing activities) (item 2.1(d))                                                                                                                                        | (200)          |
| 8.3 Total relevant outgoings (item 8.1 + item 8.2)                                                                                                                                                                                  | (351)          |
| 8.4 Cash and cash equivalents at quarter end (item 4.6)                                                                                                                                                                             | 2,049          |
| 8.5 Unused finance facilities available at quarter end (item 7.5)                                                                                                                                                                   | -              |
| 8.6 Total available funding (item 8.4 + item 8.5)                                                                                                                                                                                   | 2,049*         |
| 8.7 <b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>                                                                                                                                                   | <b>5</b>       |
| <i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i> |                |
| 8.8 If item 8.7 is less than 2 quarters, please provide answers to the following questions:                                                                                                                                         |                |
| 8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?                                                                                   |                |
| Answer:                                                                                                                                                                                                                             |                |
| 8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?              |                |
| Answer:                                                                                                                                                                                                                             |                |

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer:

*Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.*

## Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 31 October 2024

Authorised by:  
Katelyn Adams, Company Secretary

## Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.