# ASX Announcement

ASX: PTR

**7 May 2024**

# RIU Sydney Resources Round-up Presentation – Copper Focused Critical Minerals Explorer

**Petratherm Limited** (ASX: PTR) ("**PTR**" or "**the Company**") is pleased to release the following Company Presentation for the RIU Sydney Resources Round-up Conference (7-9 May 2024).

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 two major exploration projects in the 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 planning to drill test during the 2024 calendar period.

In addition, PTR has a major project holding in the northern Gawler Craton of South Australia. Recent exploration has uncovered significant concentrations of rare earths over large areas at several prospect sites. The rare earths are associated with a major intrusive complex, which has been found to be highly prospective for other critical minerals including Platinum Group Elements, Vanadium, and Titanium. At the Muckanippie Project area high concentrations of the critical minerals titanium and vanadium have been identified. This is an early-stage Greenfields project with exceptional upside potential.

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

## ENDS


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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 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.

# Copper Focused
# Critical Minerals Explorer

**Conference Presentation** May 2024
RIU Sydney Resources Round-up



**Petratherm Limited**
**ASX: PTR**

# Compliance Statements

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**JORC Information and Compliance Note:**

Further details (Including JORC 2012 Code Reporting Tables, where applicable) for the information included in this Presentation can be found in the following Petratherm Limited announcements previously lodged with the ASX:

**Footnotes**

1. Wilson Advisory Report, 27 March 2024 – Copper Deficits Now Likely in 2024
2. The purpose of the figure is to illustrate the geographical proximity ***only*** of the Project Area to other mineral occurrences and geographical locations.
3. Woomera Gravity Survey Defines Significant IOCG Target – 02 May 2024
4. Woomera Tenement Granted – 04 April 2022
5. Olympic Dam Geological Map – Ehrig, K., 2022 - Olympic Dam Geology - an overview: *in* NExUS-PD: South Australian IOCG Mineral Systems Workshop, Tonsley, South Australia, 29-30 September 2022. *Presentation compilation,* 34p
6. Quarterly Activities Report – 30 April 2019
7. Significant Copper-Gold Expansion at Mabel Creek – 14 August 2023
8. Mabel Creek – Drilling Results – 12 May 2020
9. Mabel Creek Project – Results of Drilling - 27 July 2021
10. Farm-in Agreement Expands Muckanippie Project – 18 April 2024

# Corporate Overview

**Shares on Issue**

**224.8M**

**Share Price** (3/05/2024)

**$0.026**

**Cash** (31/03/24)

**$1.4M**

**Options**

**1.9M**

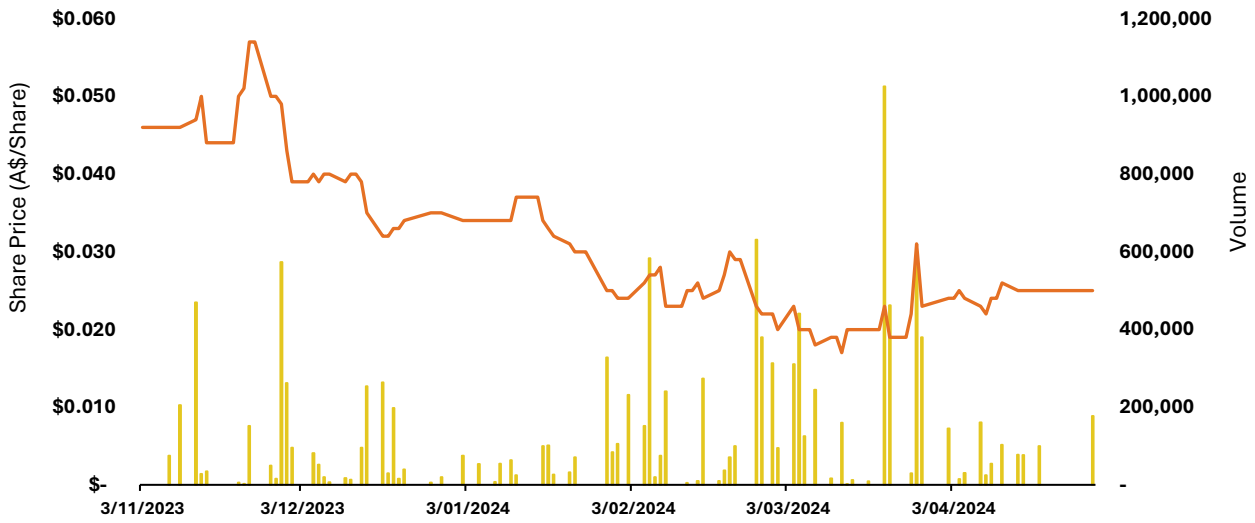
**Market Capitalisation**

**$5.8M** (undiluted)

**Enterprise Value**

**$4.4M**

**PTR Share Price and Volume Chart**






**Derek Carter** Non-Executive Chairman

Mr. Carter is a founder of the Minotaur group and a joint recipient of Explorer of the Year (AMEC) for the discovery of the Prominent Hill Copper Gold deposit. He was Chairman of Highfield Resources during the discovery and evaluation of the world-class Muga deposit and has been involved with numerous Government, Industry and ASX listed Company Boards. He is current Chairman of Hillgrove Resources. He is a geologist with over 45 years Corporate and field experience.



**Peter Reid** Chief Executive Officer

Mr. Reid is an exploration geologist with 30 years' experience. Part of the Minotaur team which discovered the Prominent Hill copper-gold deposit and then later heavily involved in the successful IPO spin offs of ASX listed, Mithril Resources Ltd and Petratherm Ltd. Founding CEO of Petratherm and the recipient of the Chairman's Award for his contribution to the Australian geothermal industry.



**Simon Taylor** Non-Executive Director

Simon Taylor is a resources industry executive with over 30 years' experience in geology, finance and corporate management at CEO and Board levels. Most recently, Simon was Managing Director of Oklo Resources Limited when it was acquired by B2Gold Corp in September 2022. He is the Non-Executive Chairman of Stellar Resources and a Non-Executive of Director Black Canyon Resources.



**Simon O'Loughlin** Non-Executive Director

Founder of O'Loughlins Lawyers, an Adelaide based specialist commercial law firm. Extensive Experience of equity capital markets, ASX and ASIC rules. Has held many Non-Exec Directorships on ASX listed companies. Non-Exec Director of Stellar Resources.



**Donald Stephens** Non-Executive Director

Chartered Accountant and corporate advisor with over 25 years' experience in the accounting, mining and services industries, including 14 years as partner of HLB Mann Judd (SA), a firm of Chartered Accountants.

# Projects Overview

## Exploring for World-Class Copper-Gold & Critical Mineral Deposits in South Australia

**Woomera Copper-Gold Project**

- Located in World-Class Copper-Gold Olympic Province
- High calibre Tier-1 sized drill ready targets

**Mabel Creek Copper-Gold Project**

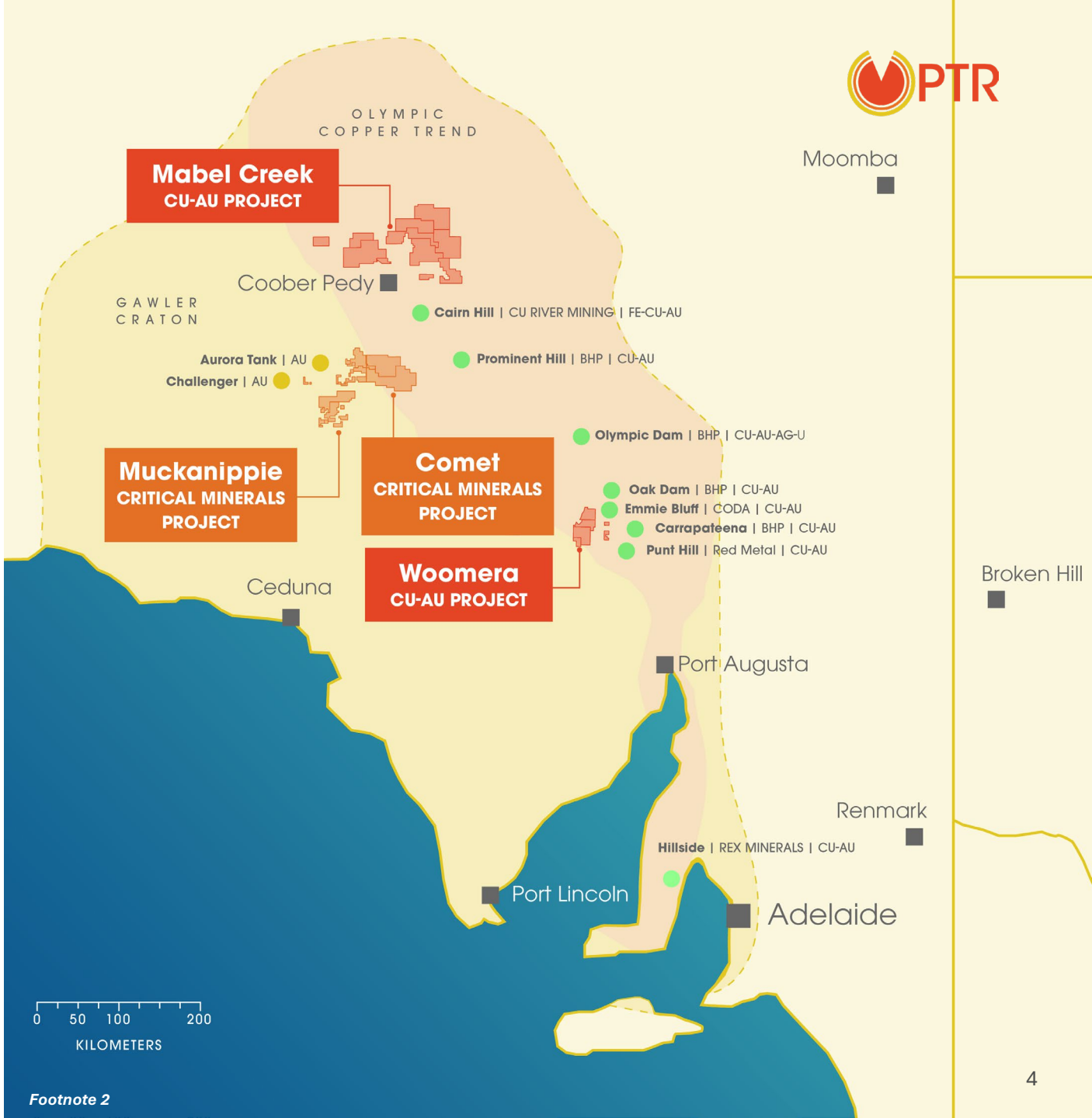
- Large holding over the northern Olympic Copper-Gold Province.
- Drilling has defined two Copper-Gold alteration systems
- Several drill ready Tier-1 sized targets

**Muckanippie Critical Minerals Project**

- Major differentiated layered intrusive complex prospective for Bushveld 'Reef' Style – Gold-Platinum Group Metals and Vanadium-Titanium.
- Largely un-explored, early-stage project with tremendous upside potential

**Comet Critical Minerals Project**

- Exceptional clay hosted Rare Earth drill intercepts – three advanced Prospects
- Large Layered Intrusions (equivalent to Muckanippie) – untested Au-PGE anomalies




*Footnote 2*

# Insufficient Copper Supply

## Reducing Production + Higher Costs

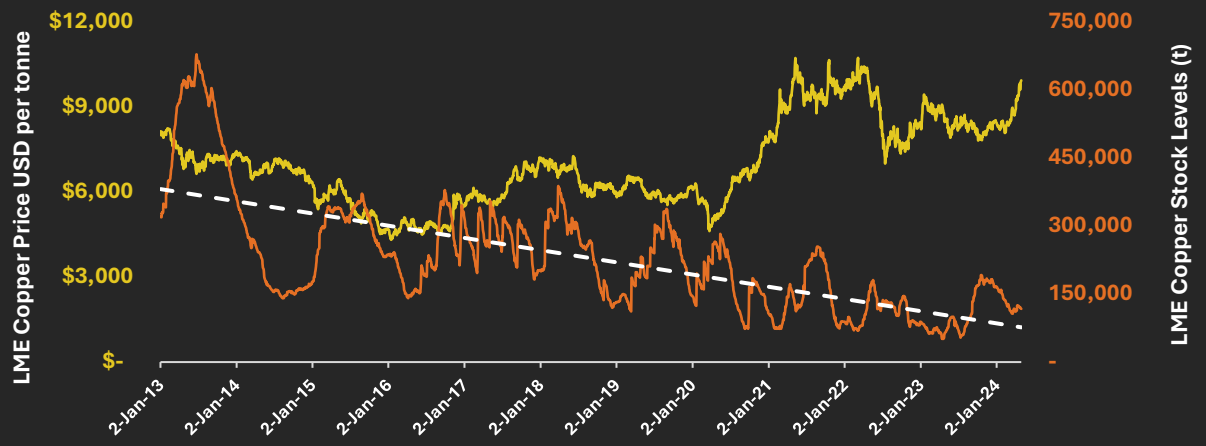
- Global production cuts from major copper producers has seen a sharp reduction in near-term supply.
- Escondida's average copper head grade has declined from **1.6% in 2008 to 0.9% in 2023**, coinciding with its unit **cash costs doubling from ~US$1/lb to >US$2/lb**.

## Higher Demand

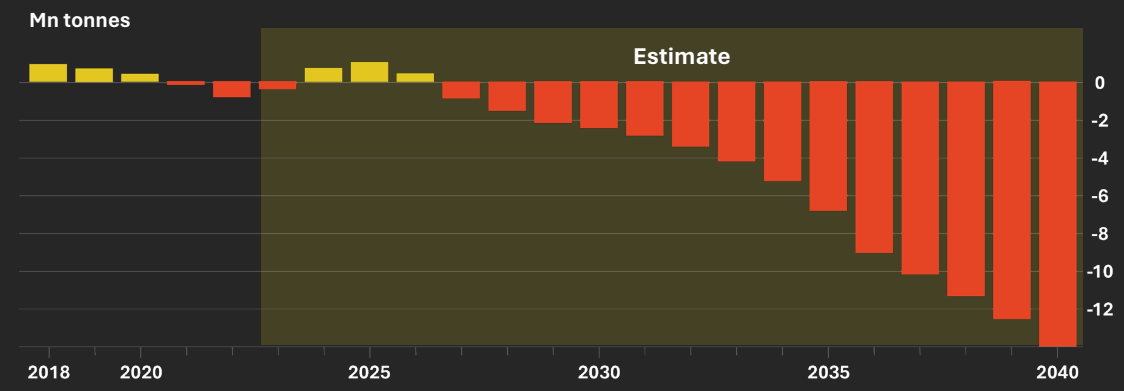
- **Copper supply shortfall is forecasted from 2027 onwards**, as demand rapidly outstrips supply to meet net zero scenarios.
- A standard internal combustion engine (ICE) has an estimated 23kg of copper. **In an EV there is typically 3 to 4 times the amount of copper required.**

*Footnote 1*

**LME Copper Price and Stock Levels**




**Big shortfall in copper supply predicted to open up from 2027**

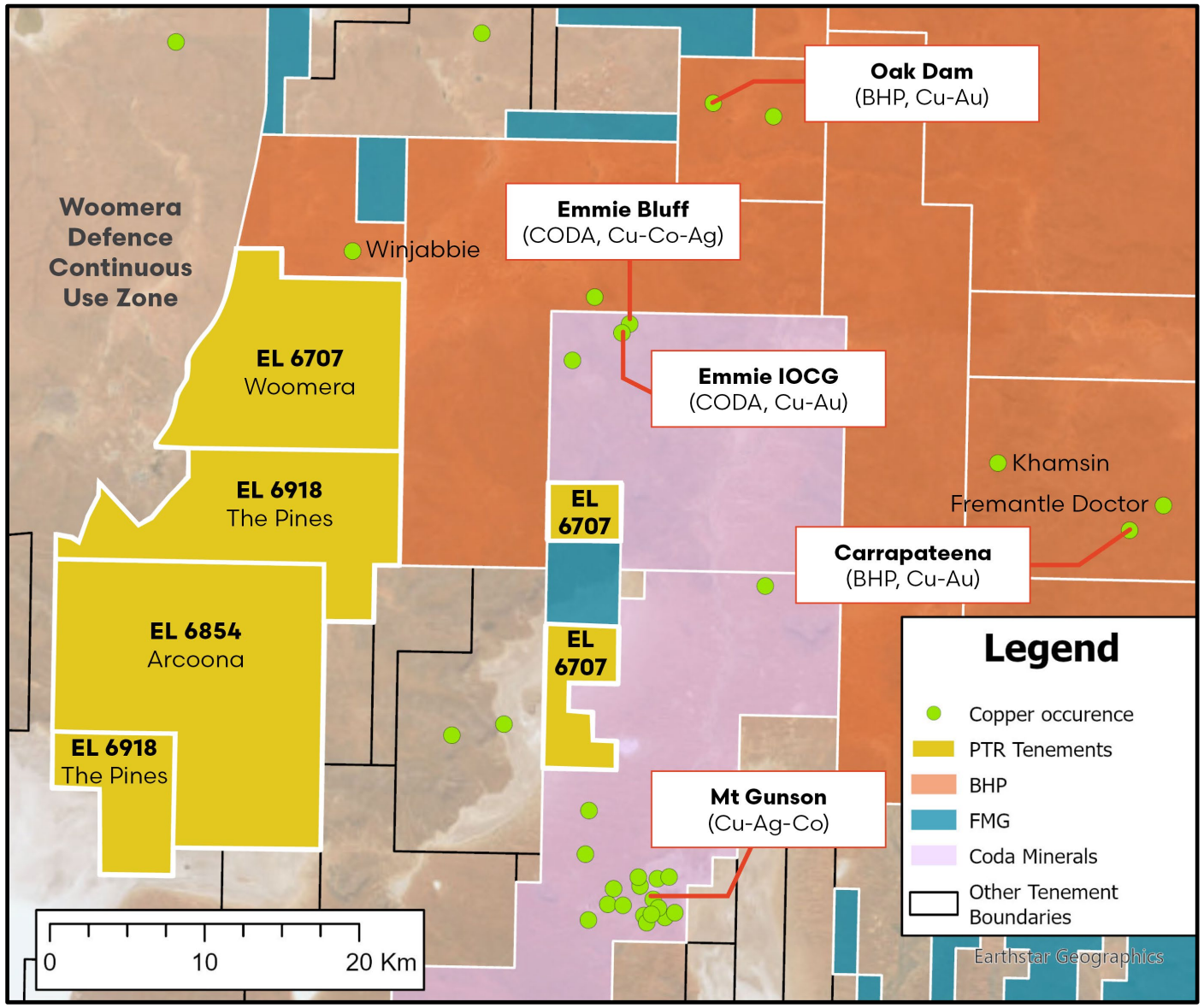



Source: Bernstein

# Woomera IOCG Project

## Highly Prized Tenure – In Area of Major IOCG Mineralisation

- Multiple high priority gravity targets – **Target Styles – IOCG, Stratabound IOCG and Sedimentary Copper.**
- Native Title Mining Exploration Agreement Completed.
- Recently completed (March 2024) gravity surveys now give complete coverage across the project – previously very poor
- **Inventory of drill ready Tier-1 sized Copper-Gold Targets.**




*PTR Exploration Licences, IOCG Mines/Prospects*

***Footnote 2***

# Woomera IOCG Project

## Three Distinct Styles of Mineralisation

1

### IOCG Breccia Bodies

**Rocky Well & Bernard Hill**

Cu-Au-Ag-U (i.e. Olympic Dam/ Carrapateena/Oak Dam & Prominent Hill)

2

### Stratabound IOCG's

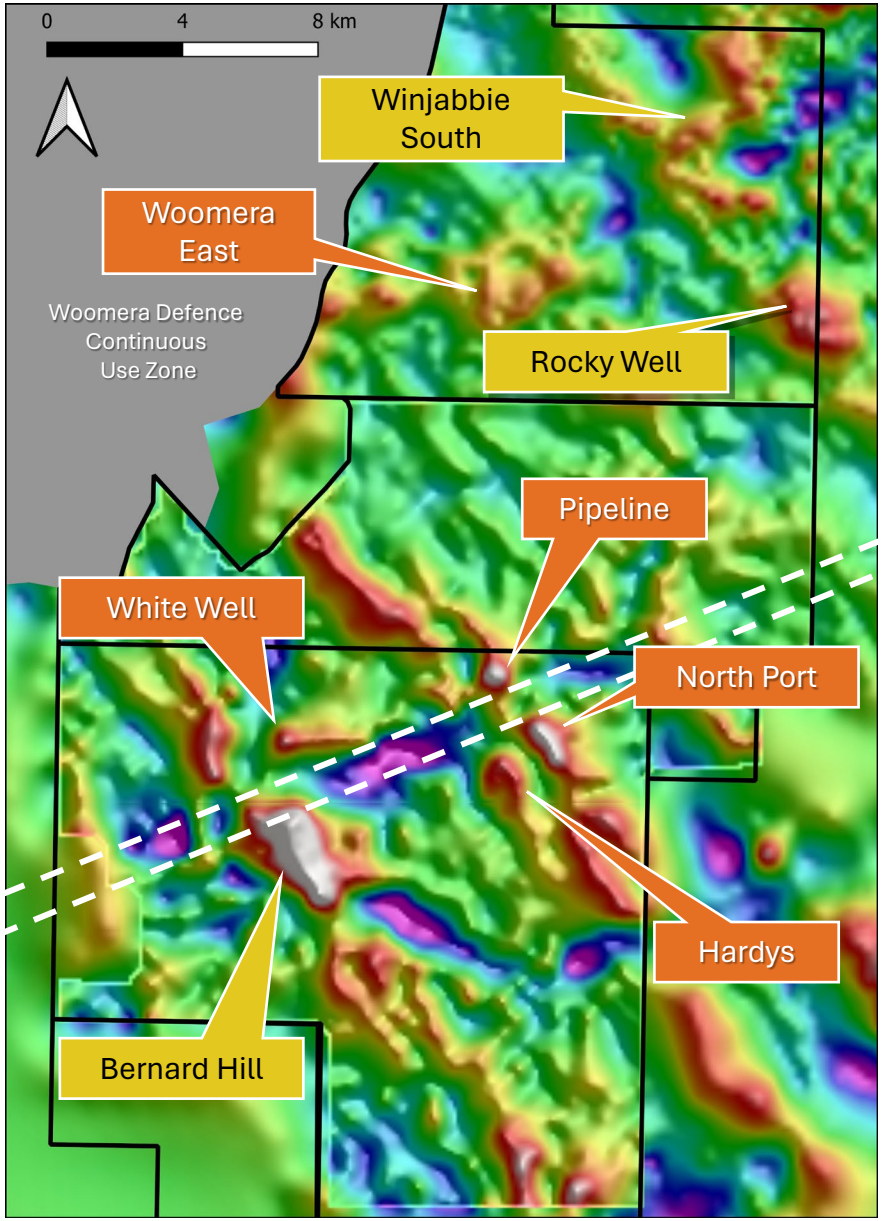
**Winjabbie South**

Cu-Au-Co (i.e. Emmie IOCG, Punt Hill & Hillside)

3

### Sedimentary Copper

Cu-Ag-Co in overlying cover rocks (i.e. Mt Gunson & Emmie Bluff – potentially remobilised from IOCG basement below).



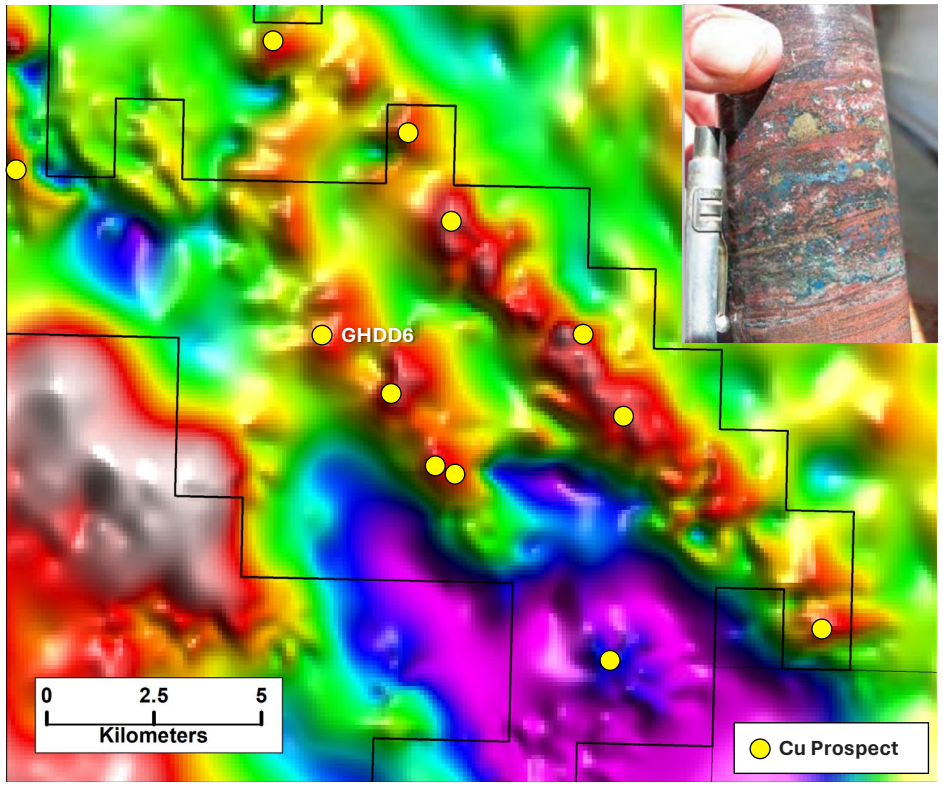

*Gravity data*



***Footnote 3***

# Major Stratabound Style IOCG Prospects in the Region

## Punt Hill IOCG (Red Metals ASX:RDM)

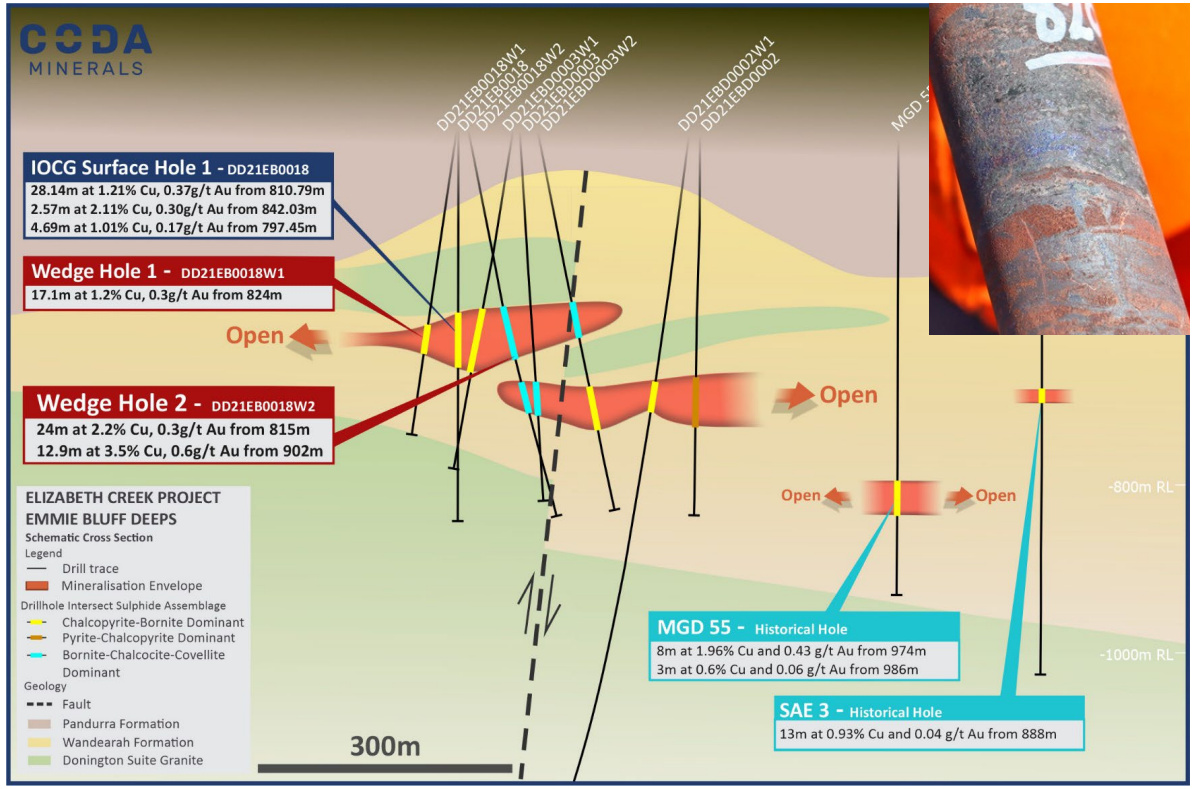



**Residual Gravity Image**

- Northwest trending gravity high (ridge) defines extent of the mineralisation, intercepting thick intervals of copper
- i.e. GHDD6 - **159m @ 0.47%Cu**, 0.12g/t Au & 5.3g/t Ag, from 846m.

**(Source: SA. Govt - SARIG)**

## Emmie Bluff Deeps (Coda Minerals ASX:COD)




**Source: Coda Minerals 06/10/2021 ASX release.**

- Emmie IOCG drilling highlights – stratabound IOCG mineralised zones
- Higher grades closer to “feeder faults?”

# Woomera - Stratabound IOCG Target – Winjabbie South

## Winjabbie South Area - Tier-1 Sized Copper Potential.

- Historic drilling indicates copper mineralisation is regionally extensive, extending over several kilometres.
- WJE001: **5m @ 0.85% Cu** from 813m

  inc. **1m @ 3.6% Cu, 0.23 g/t Au** from 813m
- WJD1: **63m @ 0.31% Cu** from 864m
- 07WJ01: **75m @ 0.30% Cu** from 812m

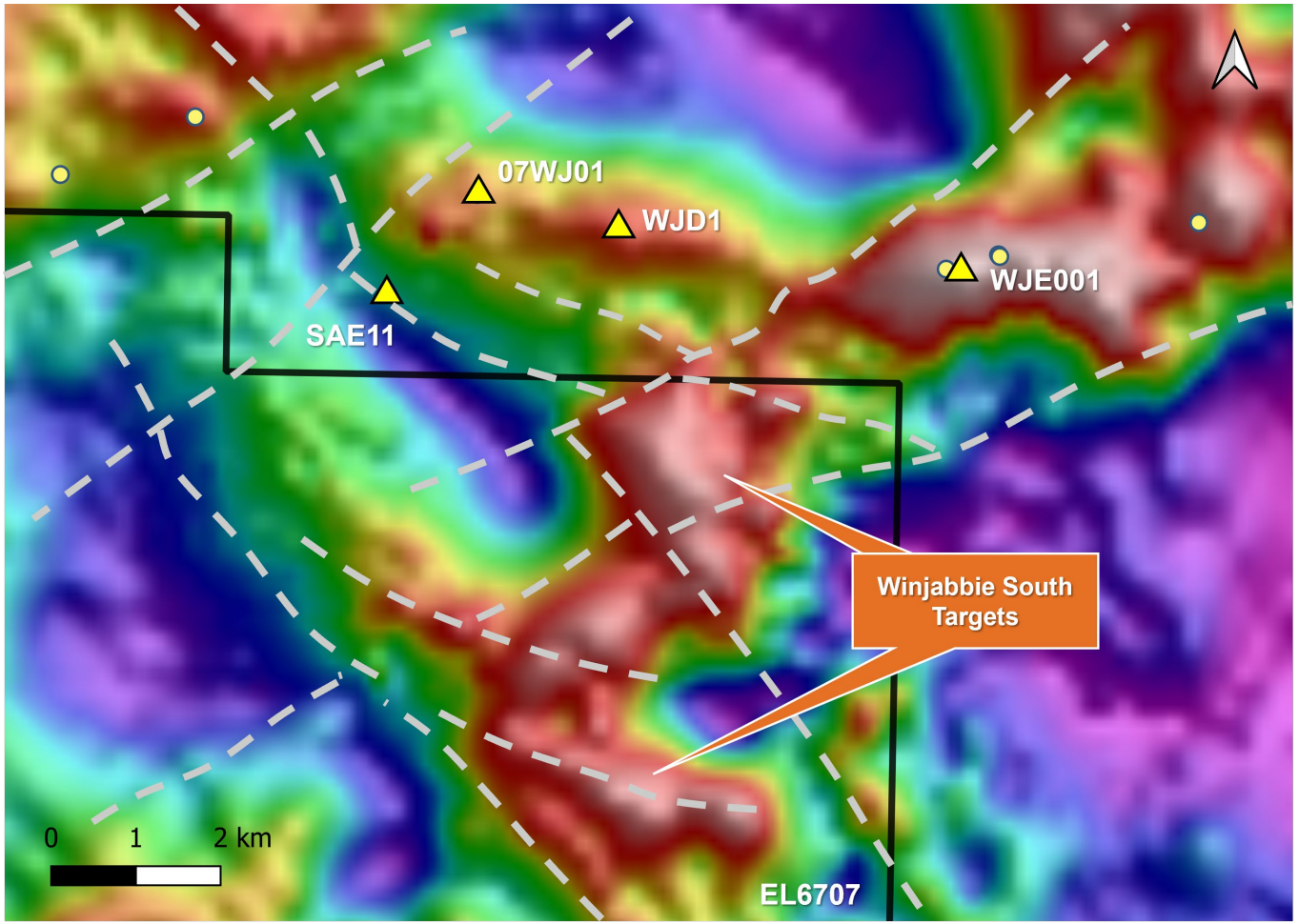
  inc. **7m @ 0.88% Cu** from 826m
- SAE11: **94m @ 0.21% Cu** from 1005m

  inc. **7m @ 0.48% Cu** from 1006m

  inc. **9m @ 0.52% Cu** from 1086m

  and **42m @ 0.28% Cu** from 1123m

  inc**. 5m @ 1.1% Cu** from 1160m
- Grade and thickness increasing westward – fault controlled.




*Residual Gravity Image, historical drilling and interpreted faults*



***Footnote 4***

# Woomera IOCG Project

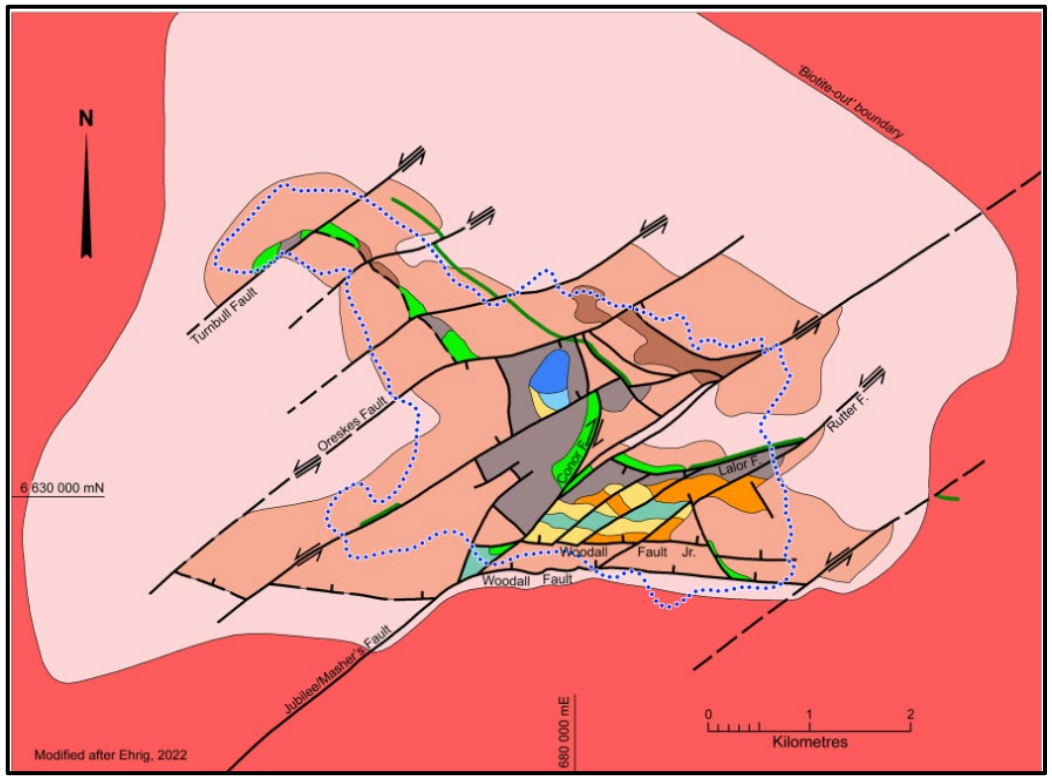
## Priority IOCG Breccia Style Targets

**Rocky Well**

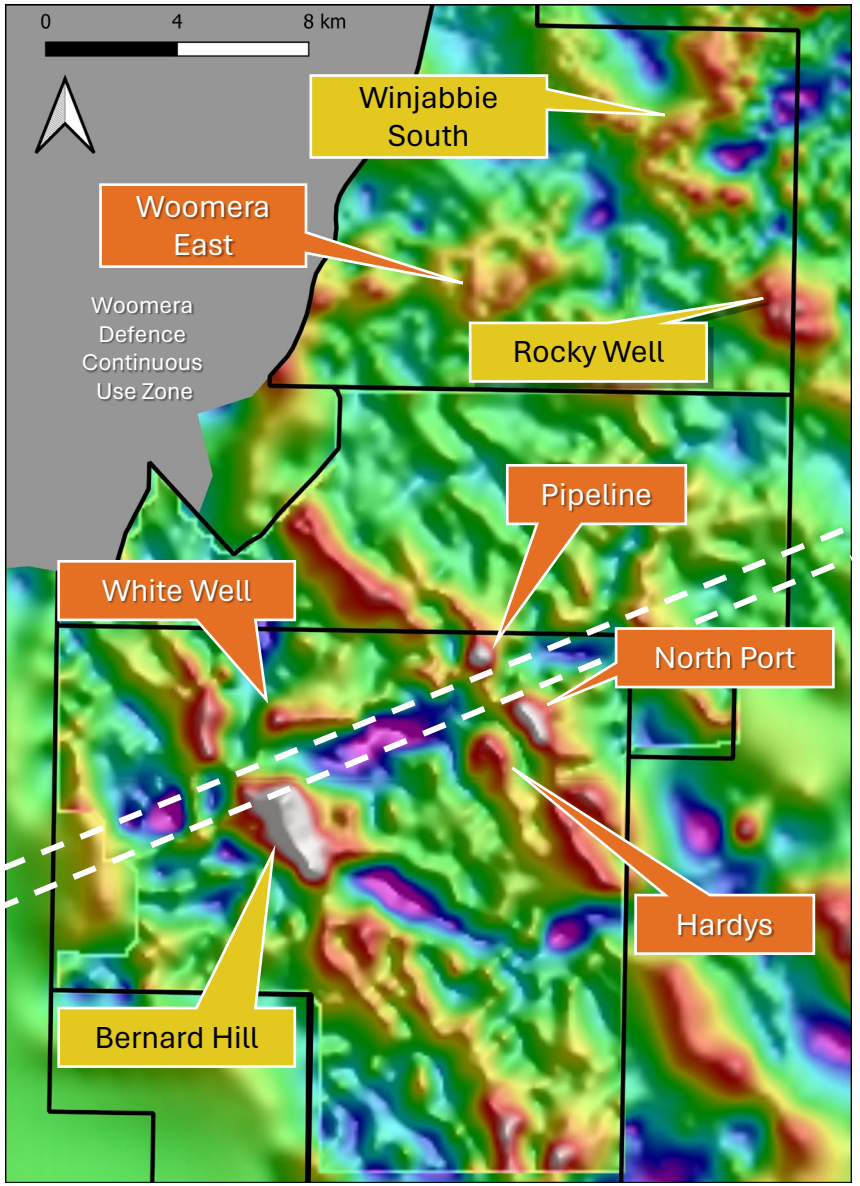
- ~1km diameter feature, high amplitude.
- Modelling indicates potential for a pipe-like IOCG.

**Bernard Hill**

- High amplitude feature, >2km strike length.
- Adjacent to ENE trending fault (similar to faults at Olympic Dam).




*Outline of Olympic Dam geology showing major controlling structures*



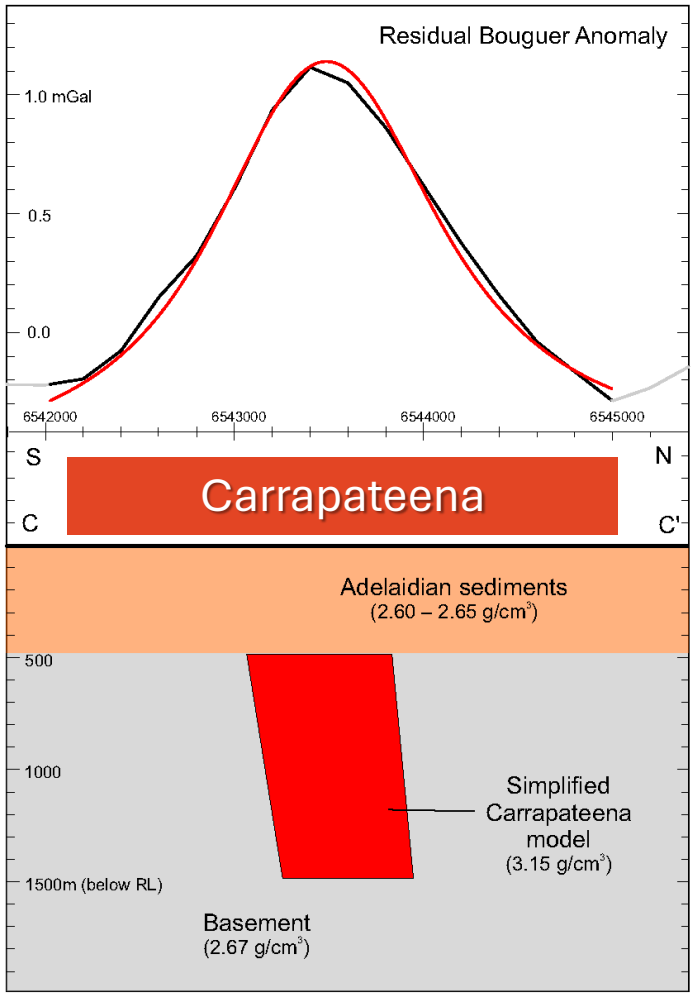

*Gravity data*

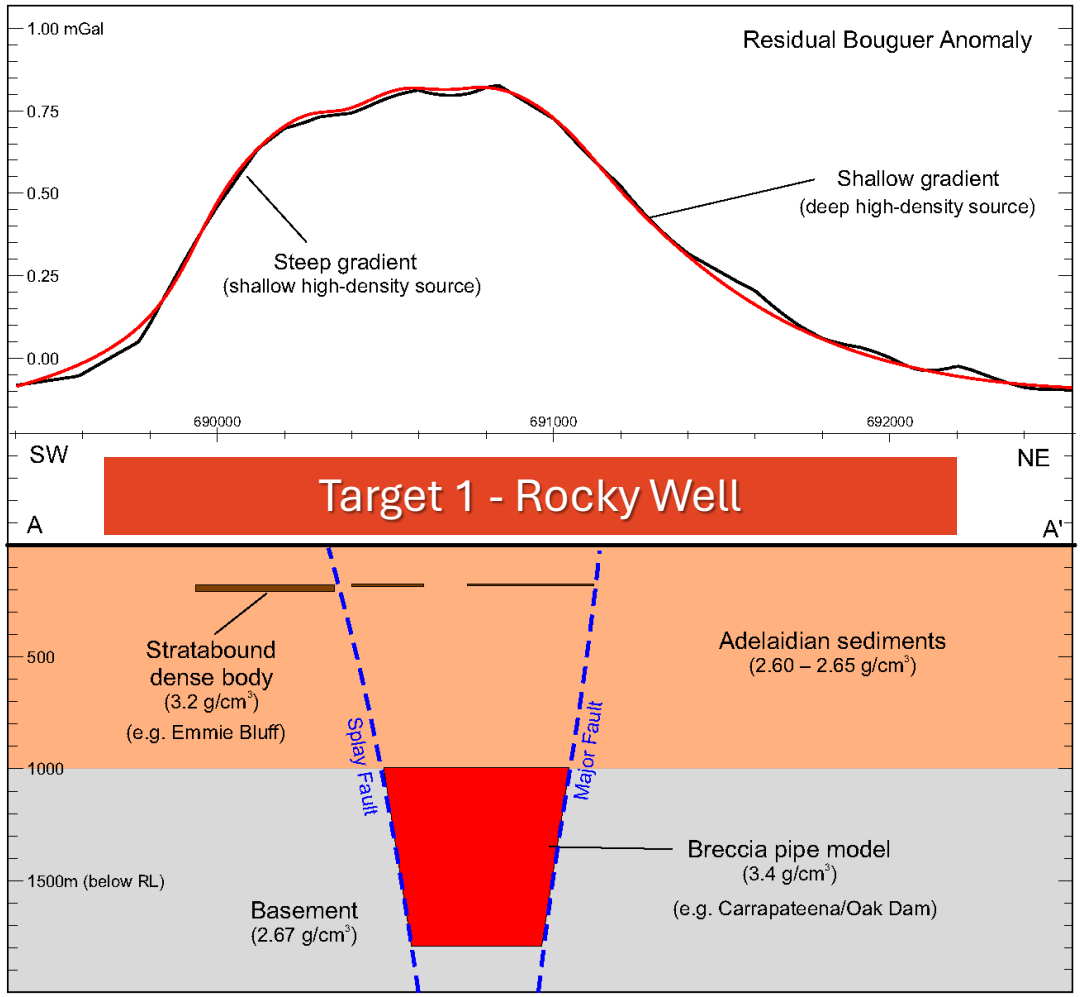
***Footnote 3 & 5***

# Woomera – IOCG Breccia Bodies – Rocky Well Target

## Rocky Well Gravity Anomaly Comparison with Carrapateena Gravity Anomaly

- Rocky Well Target is an IOCG Breccia Body Style – **Displays a Comparable gravity response to the Carrapateena Orebody.**
- Steep gravity gradient on west side of Rocky Well may indicate additional shallow Sedimentary mineralisation in the overlying cover strata. (**i.e. Emmie Bluff, Mt Gunson Style Cu-Ag-Co mineralisation potenital)**



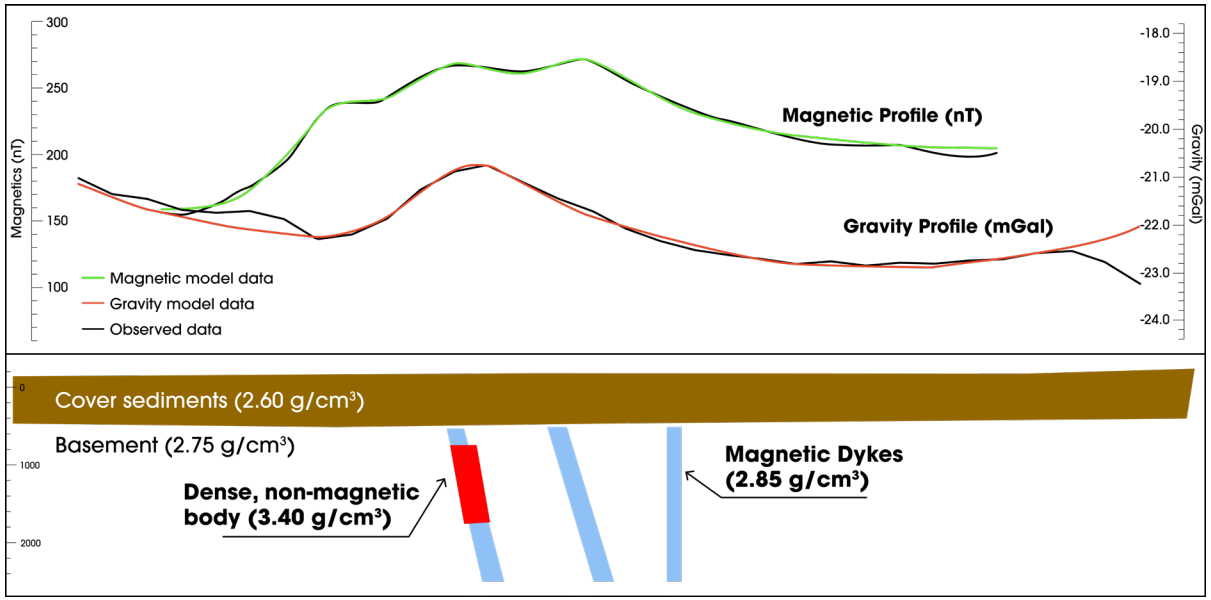



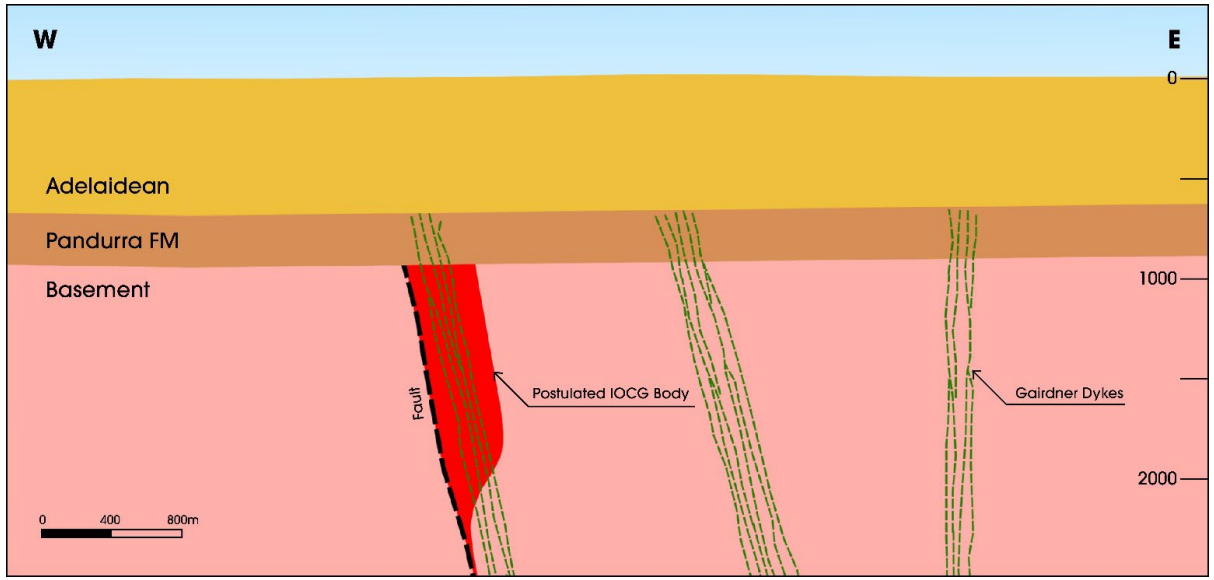

*Footnote 4*

# Woomera – IOCG Breccia Bodies – Bernard Hill Target

## Bernard Hill Model
## Geological Interpretation

- Use magnetic modelling to identify and constrain mafic (Gairdner) dykes.
- Apply known (from historic drill core) SG data of cover, basement and intrusive rocks to the model and compare with measured gravity data.
- Add additional dense bodies to correct discrepancies (using constraints on body depth, density etc).
- Modelled body has an SG of 3.4. g/cm$^3$ – equal to published data from Oak Dam, Carrapateena and Prominent Hill IOCG Bodies.
- **Body dimensions are 400m wide by 2800m length, with depth extent of 1000m, target depth 850m.**



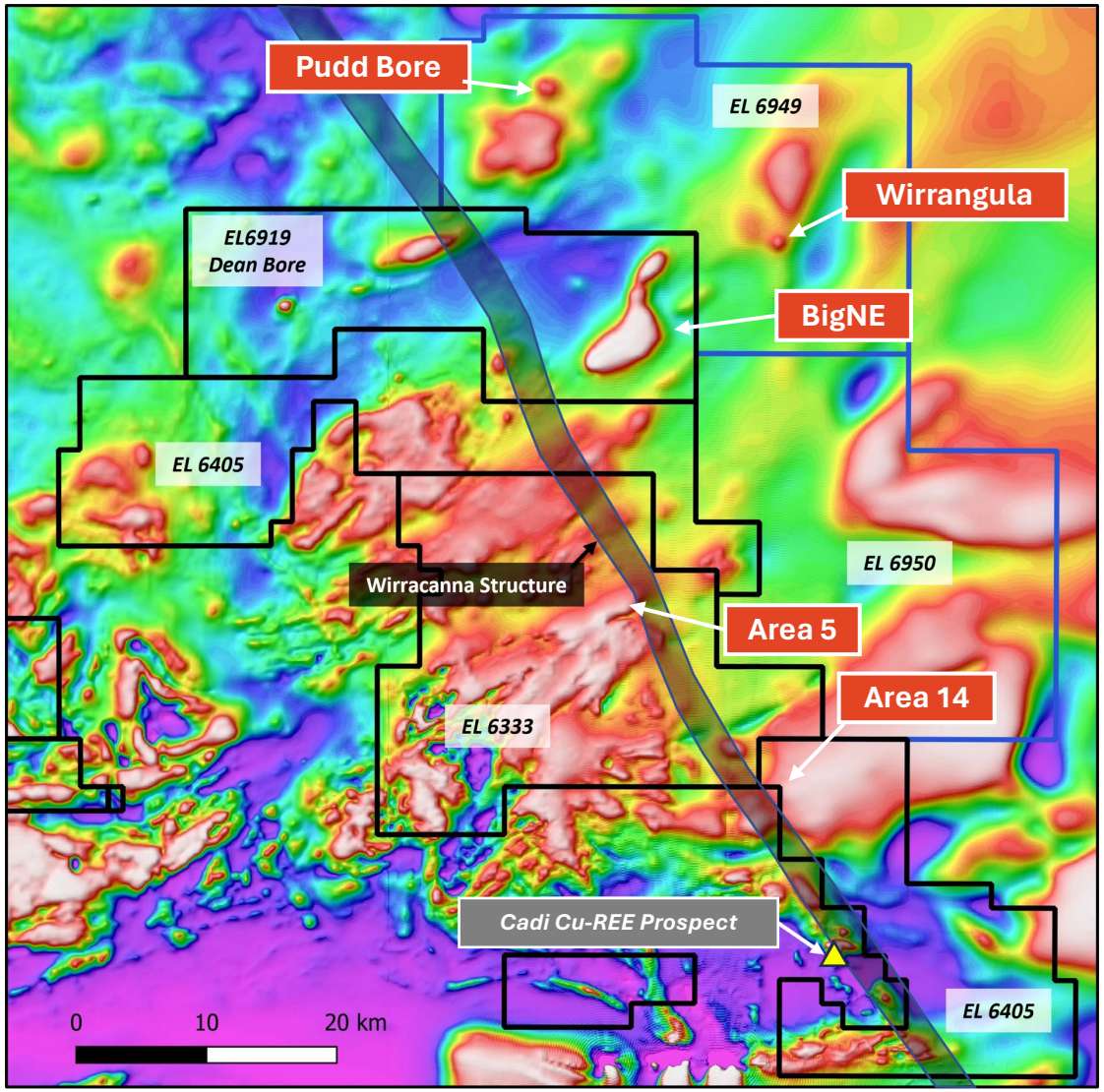




*Footnote 3*

# Mabel Creek IOCG Project

## World-Class Olympic Copper Gold Province

- Northern Olympic Province - **Large holding of 3,798km²**.
- Iron Oxide-Copper-Gold (IOCG) alteration/mineralisation at 3 Prospect Sites (BigNE, Cadi and Area 5) highlight fertility of the region.
- Cadi Prospect:
  - NC9202 - **44m @ 0.10% Cu**, 0.5% Ce + La from 148m
  - 99WS003 - **16m @ 0.57% Cu** & 0.17% Ce + La from 184m to end of hole
- Major copper players – **RIO, BHP & FMG** in surrounding areas.
- Mines Department has recently quarantined the surrounding areas – **NO NEW APPLICATIONS UNTIL JULY 2026**
- Significant parts of the project still with no gravity coverage




*Magnetic Image of Eastern Mabel Creek Project Area – Targets and New Tenement areas*



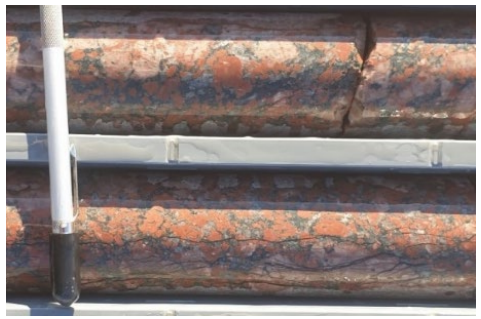
***Footnote 6 & 7***

# Mabel Creek – Area 5 Target

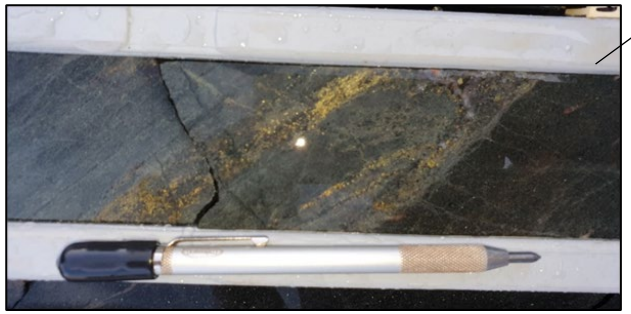
## Untested "Gravity Only" Targets

- Drilling of combined magnetic / gravity targets has intersected moderate levels of hydrothermal alteration.
- Anomalous rare earths up to 0.2% in altered granite.
- Anomalous copper occurs in metasediments surrounding highly altered granite.
    - MCDA5-01 - **4m@ 0.18%** from 168m.

**Red rock altered granite (high REE's up to 0.2%)**

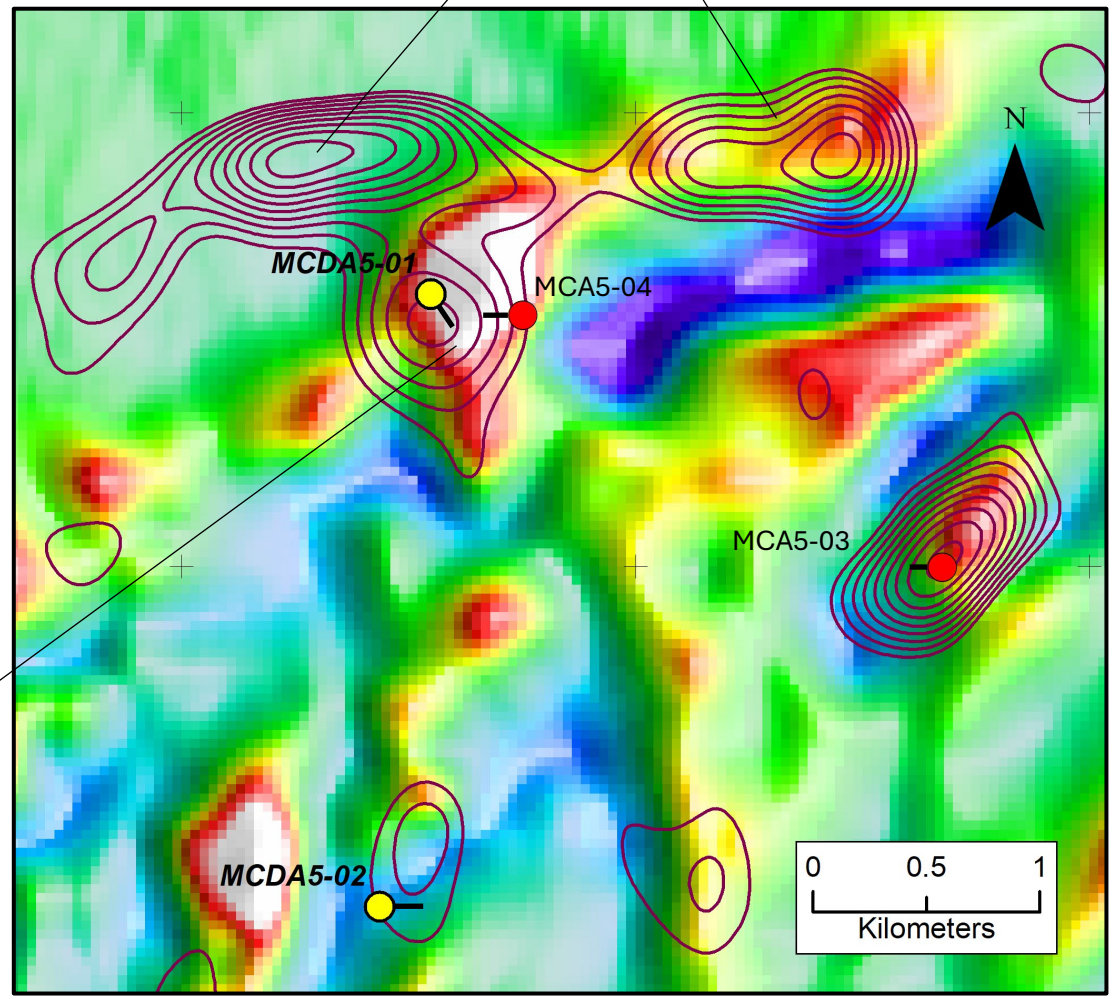


**MCA5-01 – chalcopyrite mineralisation in surrounding metasediment**



*Hydrothermal alteration overprints all rocks at varied levels - comparable to IOCG alteration*

**Untested Gravity Targets**



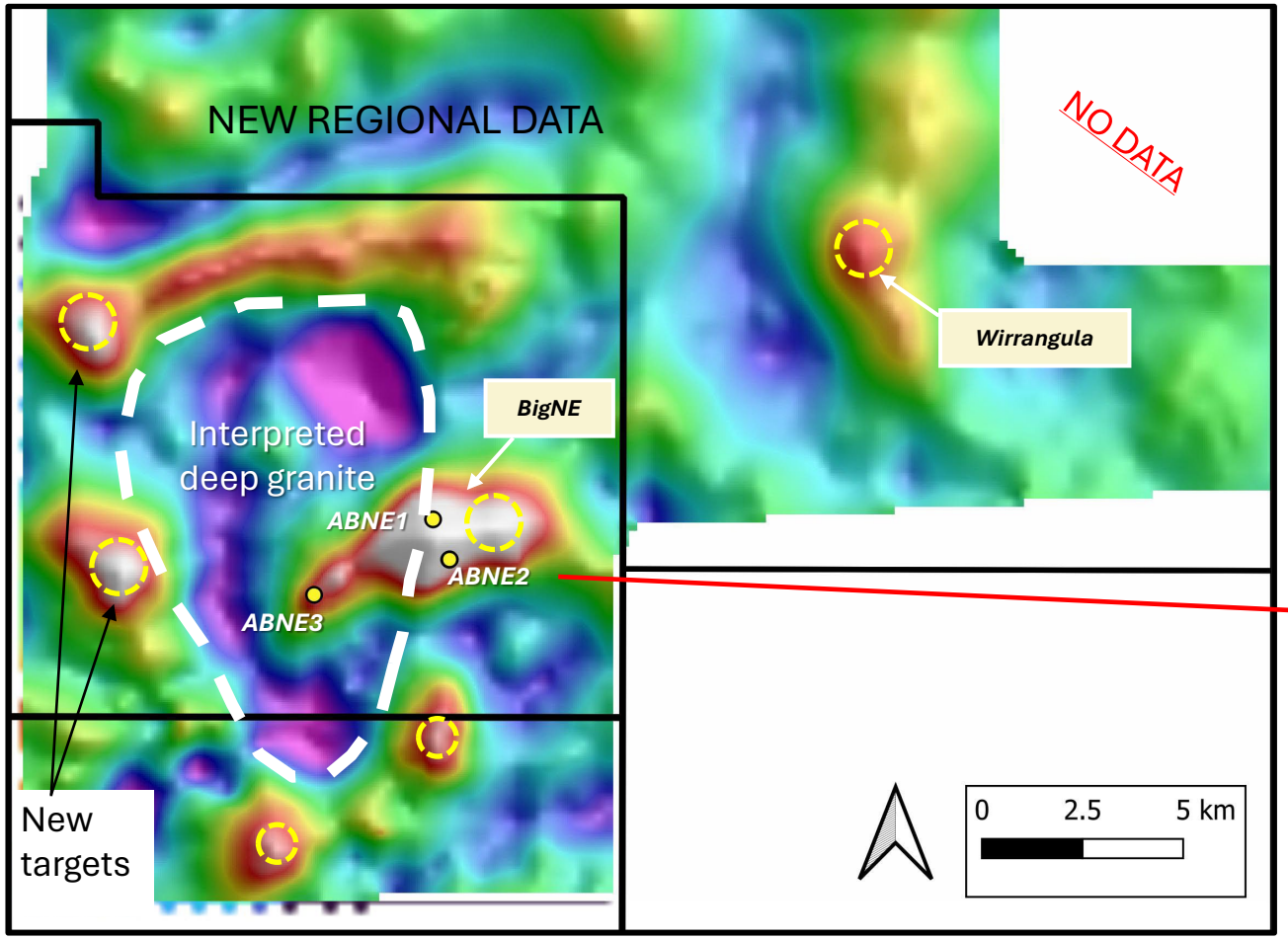

Magnetic Image overlain by Residual Gravity Contours



***Footnote 8 & 9***

# Mabel Creek – New Gravity Targets

## 2024 gravity surveys identify 6 new targets close to strong IOCG alteration




*Bouguer Gravity Anomaly Image*

## BigNE Prospect

- Historic drilling intersected late iron rich alteration/brecciation, consistent with IOCG alteration.
- Anomalous copper up to 0.32% over short intervals
- Eastern side is a gravity only target and not drill tested

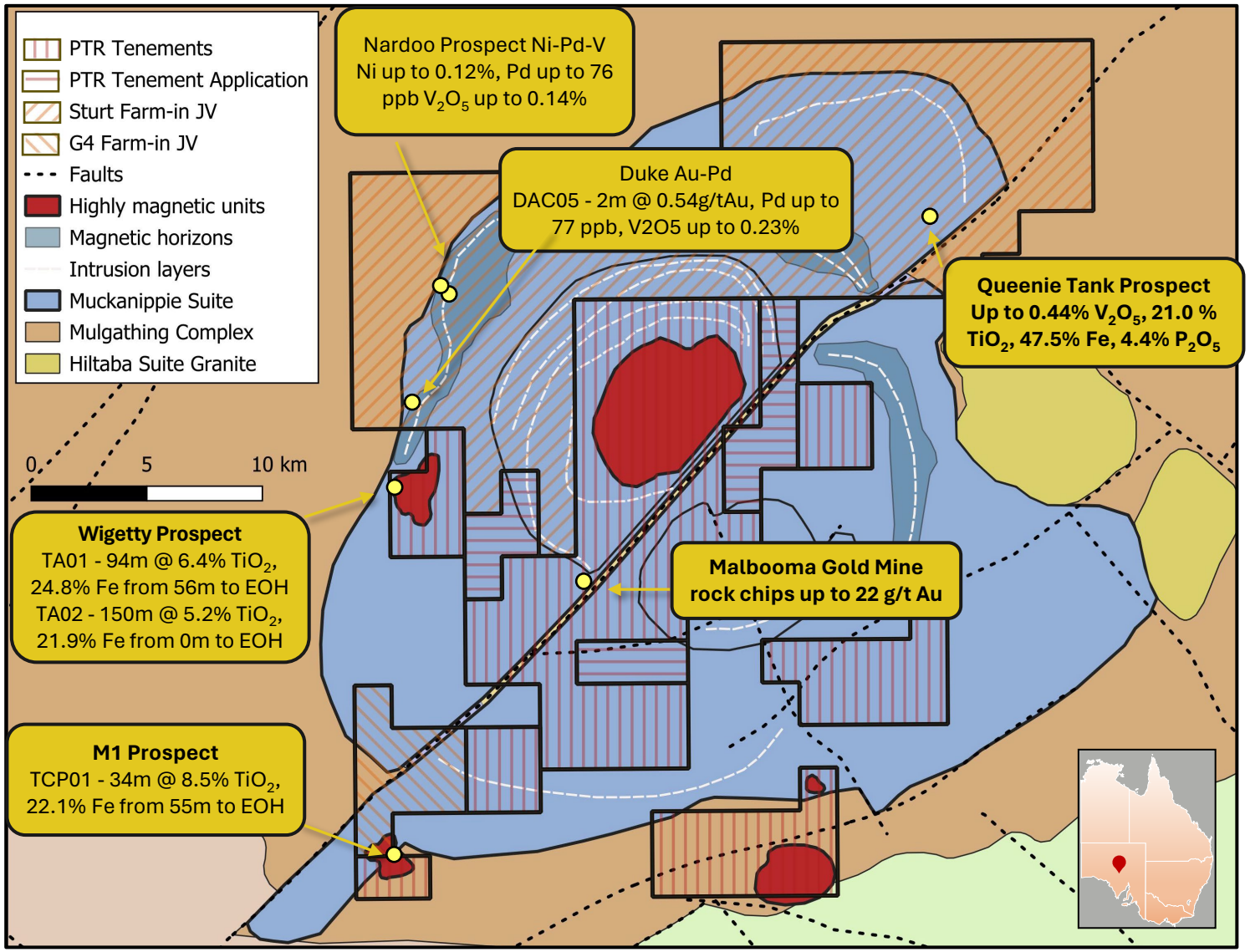



Zone of strong hematite IOCG style alteration (rust red colouration) in hole ABNE 2 (interval 417.9m – 426 m)

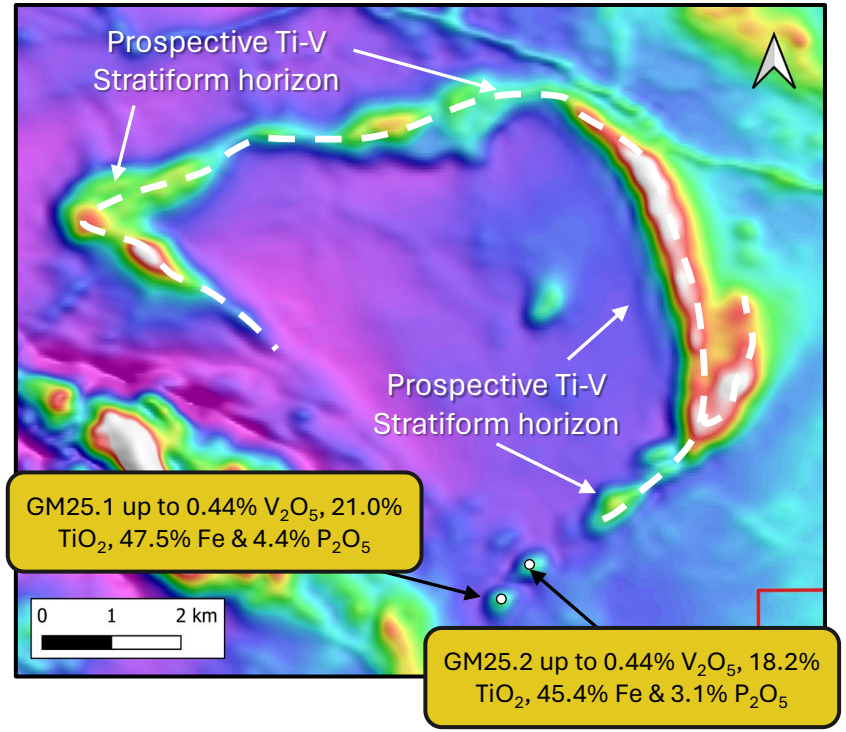
***Footnote 7***

# Muckanippie Project – Bushveld Type Layered Intrusion

## Geology Map of Muckanippie Area, Tenements and Prospects.




## Queenie Prospect - exceptional Ti-V assays




**Similar geology and anomalous metal associations to the globally significant Bushveld Complex, South Africa**

Largely un-explored due to shallow cover (<10 metres)

**Exploration targeting**

- Gold-Platinum Group Metals
- Vanadium-Titanium-Iron-Phosphate

*Footnote 10*

# PTR 2024 Forward Program

| Exploration Activity | Jun-24 | Sep-24 | Dec-24 |
|---|---|---|---|
| **Woomera Cu-Au Project** | | | |
| Gravity Targets Defined | | | |
| Heritage Surveying | | | |
| Drilling Programs | | | |
| **Mabel Creek Cu-Au Project** | | | |
| Gravity Targets Defined | | | |
| Heritage Surveying | | | |
| Drilling Programs | | | |
| **Muckanippie Critical Mineral Project** | | | |
| Rock chip / soil surveys | | | |
| Heritage Surveying | | | |
| Drilling Programs | | | |
| **Comet Critical Mineral Project** | | | |
| Drilling Programs | | | |



# Investment Summary

- World Class Cu-Au Targets
- Favourable Location
- Exploration Upside

# Contact

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Petratherm Limited
**ASX: PTR**

