

04 October 2023

## Petratherm (PTR) Company Presentation

**Petratherm Limited** (ASX: PTR) ("**PTR**" or "**the Company**") is pleased to release the following Company Presentation which provides a summary of recent results and a forward program of activities. PTR is a critical minerals explorer focused on the discovery of world-class copper-gold and rare earth (REE) deposits.

PTR has defined several exciting Iron-Oxide Copper-Gold targets at its Mabel Creek and Woomera Projects located in the Olympic Copper-Gold Province of South Australia. Drill testing of the Olympus Gravity/EM Geophysical Target is scheduled to start in late October.

Exploration drilling at the Comet Project Area, in the northern Gawler Craton of South Australia has delineated three major REE occurrences. The Meteor, Artemis and Comet East REE Prospects occur at shallow depths, include high-grade blankets of mineralisation showing good lateral extent and ore thickness. Less than 10% of the project area has been explored for REE's and a systematic program of advancement of current prospects, testing of new areas and metallurgical recovery test work is ongoing.

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.



# Positioned for Growth

**Petratherm Limited (ASX: PTR)**

Non-Deal Roadshow Presentation

October 2023



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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:

- 1 The purpose of the figure is to illustrate the geographical proximity **only** of the Project Area to other mineral occurrences and geographical locations.
- 2 Meteor Prospect – Exceptional REE Drill Intersections – 15 February 2023
- 3 Beneficiation Process Increases Rare Earth Grades at Meteor – 18 September 2023
- 4 Drilling Identifies Major New REE Prospect – 24 February 2023
- 5 Drilling hits High-Grade Clay Hosted Rare Earths – 04 September 2023
- 6 Major New Rare Earths Prospect Area Uncovered at Comet – 28 August 2023
- 7 Squid EM Survey – Significant Copper-Gold Target – 22 May 2023
- 8 Significant Copper-Gold Expansion at Mabel Creek – 14 August 2023
- 9 Drilling of High Priority Olympus IOCG Target – 03 October 2023
- 10 Woomera Tenement Granted – 04 April 2022
- 11 Woomera Gravity Survey Identifies Copper-Gold Targets – 14 June 2023



Shares on Issue

224.8M

Share Price (3/10/2023)

\$0.064

Cash (30/06/23)

\$2.5M

Options

1.575M

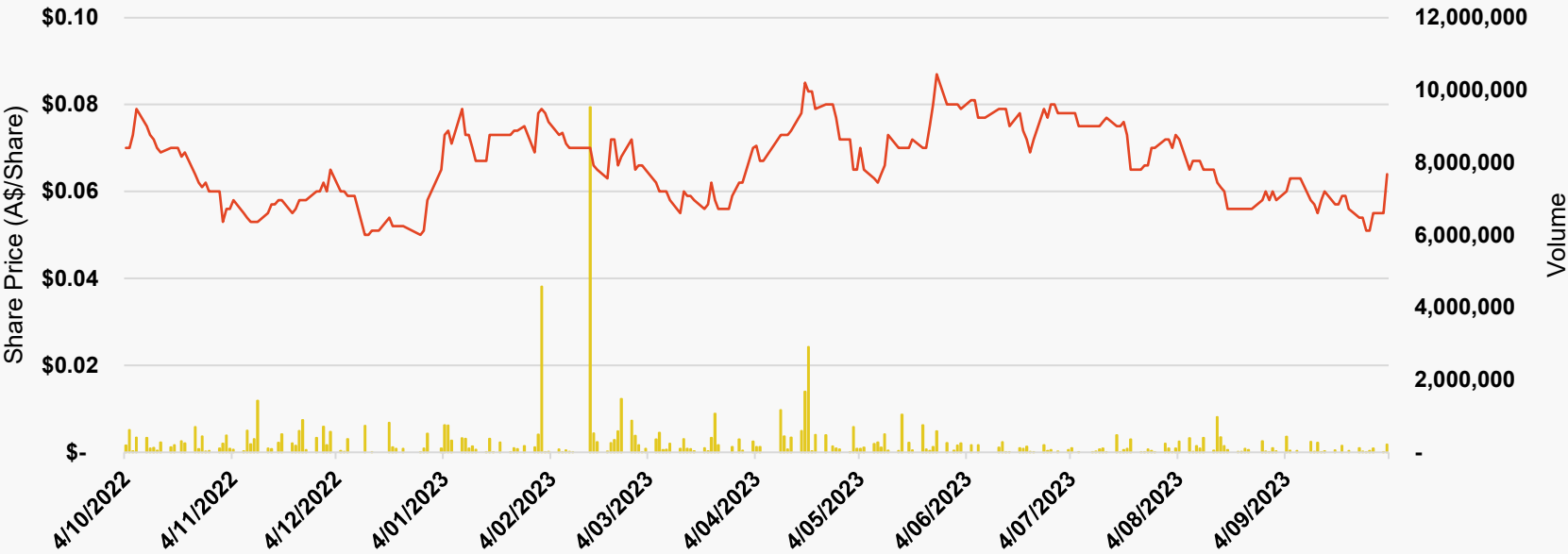
Market Capitalisation

\$14.4M (undiluted)

Enterprise Value

\$11.9M

PTR Share Price and Volume Chart



## Track Record of Exploration Success

### **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.

### **Simon O'Loughlin**

#### **Non-Executive Director**

Mr. O'Loughlin is the founder of O'Loughlin's Lawyers, an Adelaide based, specialist commercial law firm.

He has extensive experience in the corporate and commercial law fields while practicing in Sydney and Adelaide, and also holds accounting qualifications. Chairman of Stellar Resources, Non-Executive Director of Chesser Resources and Orpheus Minerals.

### **Peter Reid**

#### **Chief Executive Officer**

Mr. Reid is an exploration geologist with 30 years' experience. He was 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 Petrathern Ltd.

He was the founding CEO of Petrathern and the recipient of the Chairman's Award for his contribution to the Australian geothermal industry.

### **Donald Stephens**

#### **Non-Executive Director**

Mr. Stephens is a 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.

### **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. Currently he is a Non-Executive Director of Chesser Resources, Stellar Resources and Black Canyon Resources.



# Project Overview



## Strategic Package of REEs & Copper-Gold Projects in South Australia

### Comet REE Project

- Exceptional REE drill intercepts over three prospects.
- Massive exploration upside – less than 10% of prospective area tested for REEs.
- Significant grade increase using size beneficiation processing – leach trials underway.
- AC drilling campaign scheduled for late October 23.

### Mabel Creek Copper-Gold Project

- Large holding over the northern Olympic Copper-Gold Province.
- Drilling has defined two Copper-Gold Alteration Systems.
- Olympus SQUID EM/Gravity Target - **Drilling scheduled Oct 2023.**

### Woomera Copper-Gold Project

- Located in World-Class Copper-Gold Olympic Province.
- High calibre drill ready gravity targets – **Drilling scheduled for early 2024.**

### Muckanippie REE Project

- Major differentiated layered intrusive complex with abundant Ti-Fe-P<sub>2</sub>O<sub>5</sub>-V-REE anomalism.
- Early-stage project with initial ground works underway.

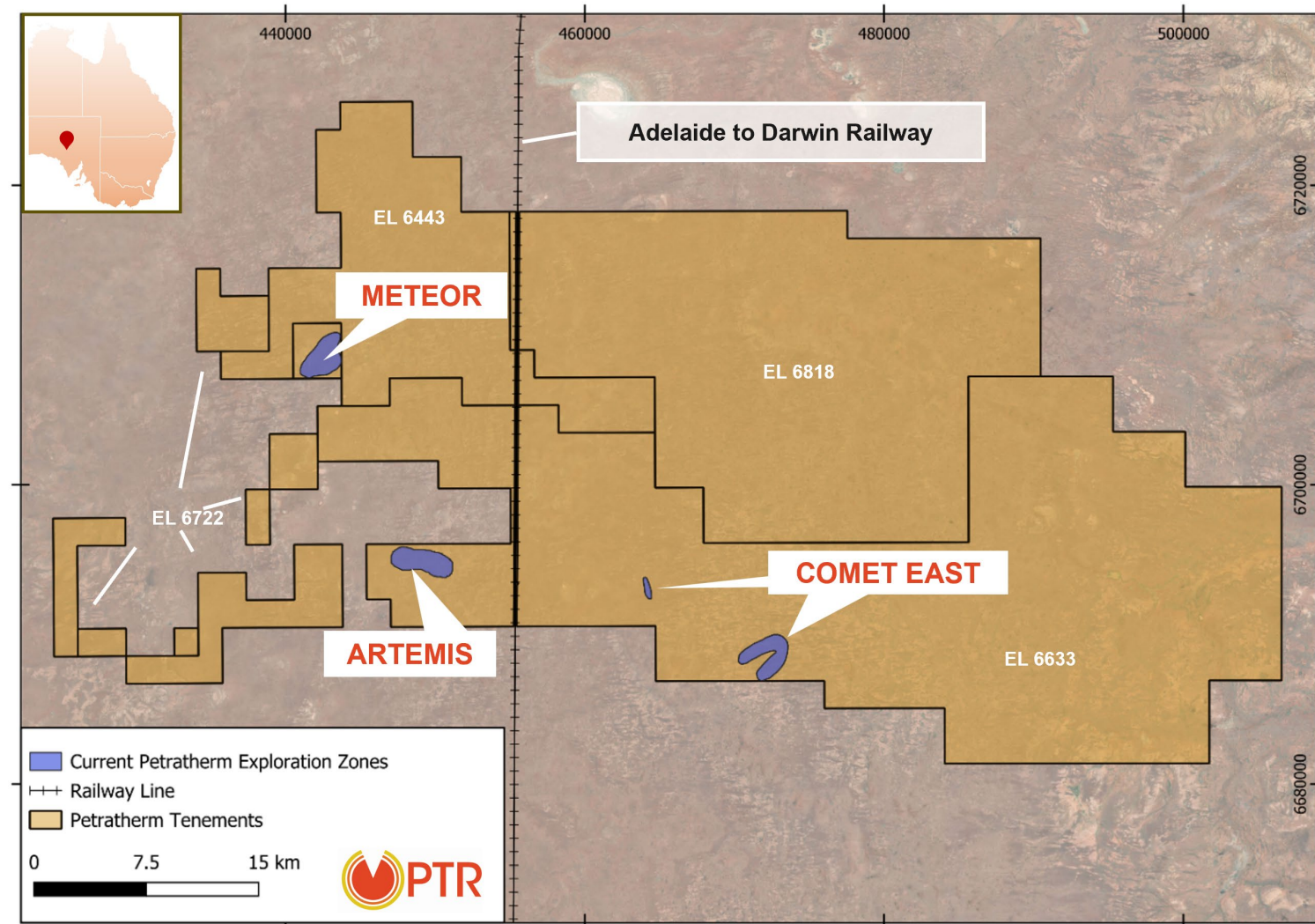


# Comet REE Project



## Significant Ground Position With Three REE Prospects Uncovered

- Strong ground position in the Northern Gawler Craton, totalling 1,915km<sup>2</sup>.
- Regional drilling activities to date have tested 130km<sup>2</sup>, which is <10% of the total Project Holding.
- Drilling has defined three high-grade clay hosted REE's at Meteor, Artemis and Comet East Prospects.
- Substantial upside potential for additional new REE discoveries in the surrounding unexplored tenure.



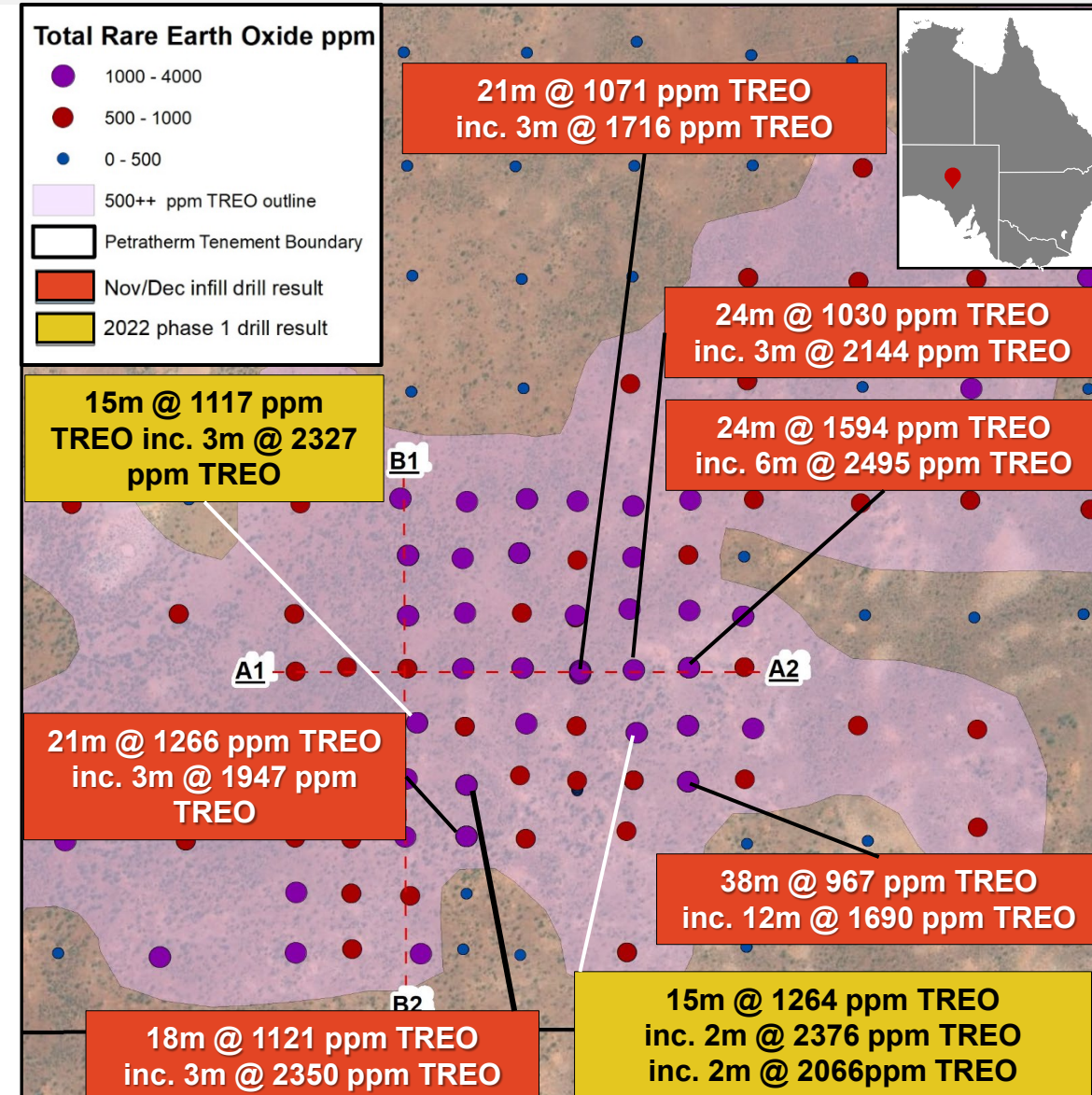


# Meteor REE Prospect



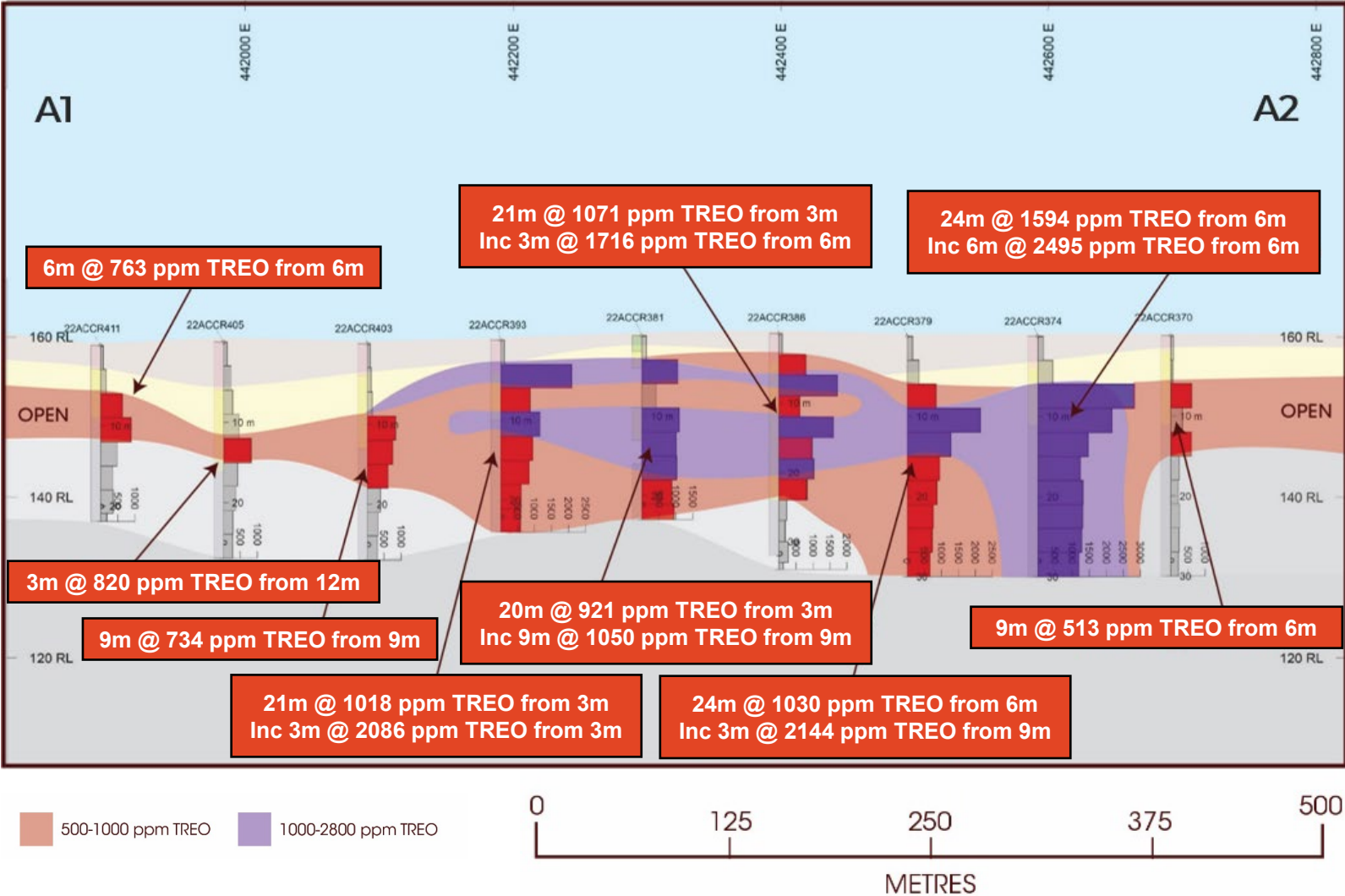
## Summary of Results

- High-Grade REE Prospect (> 1000ppm TREO).
- High-Value MREO up to 746ppm and average 242ppm (26% of TREO).
- Mineralisation starts at shallow depth 3-6m.
- Mineralised intercepts up to 38m and average 11.5m.
- Main Prospect 2km by 1km, with other satellite bodies evident and is open in several directions.
- ***REE Apatite enriched source rocks below, offer additional REE targets!***





# Meteor – W-E Cross Section – High Grade Mineralisation

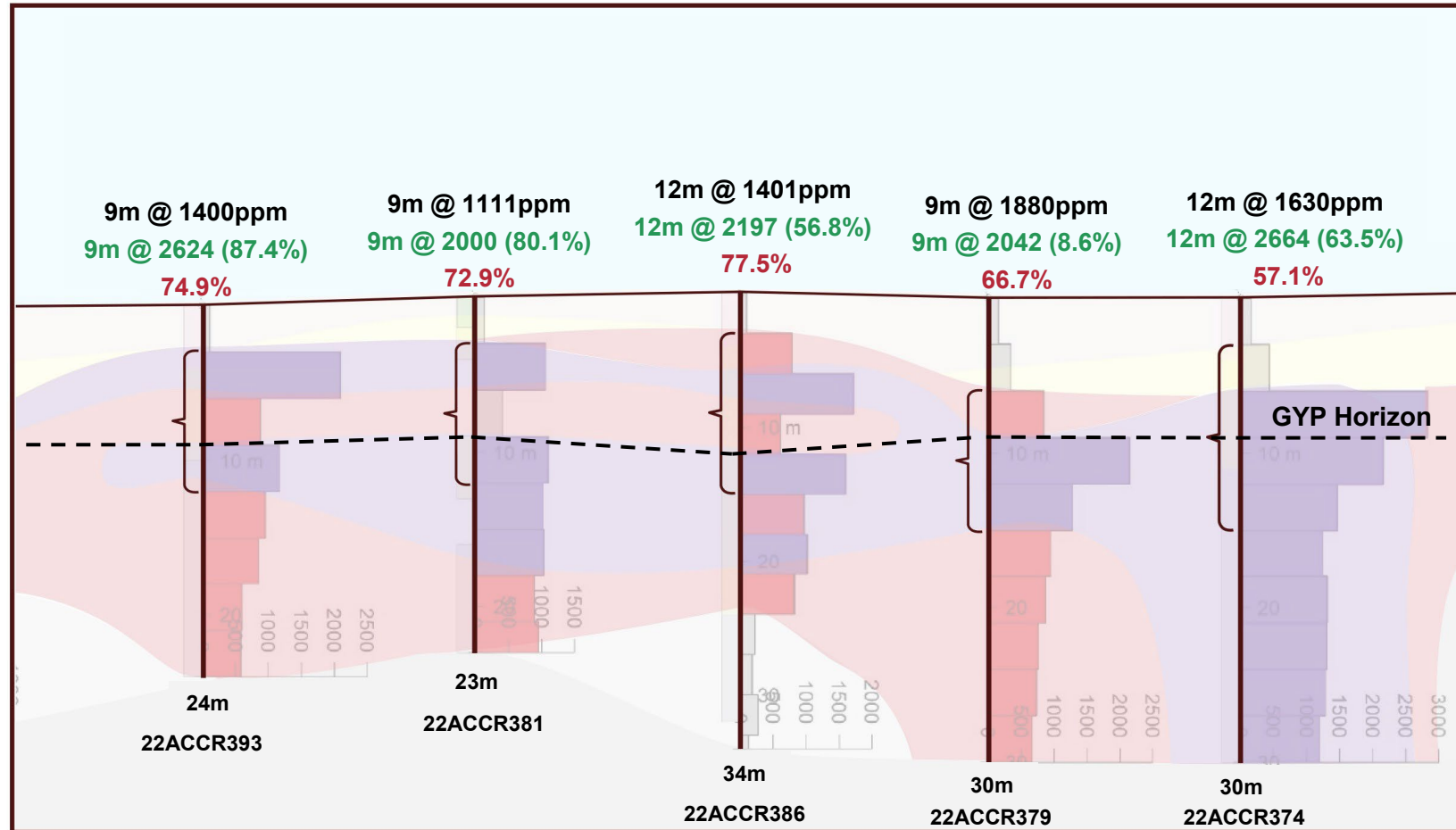


# Meteor – Beneficiation Significantly Increases REE Grade



## Simple Low-Cost Screening Significantly Increases Grade

- REE concentrate of 2000ppm TREO, including >500ppm MREO can be produced, with > 60% Recovery
- Reduction in ore feedstock volume by 57%**, further reducing lixiviant consumption volumes for leaching.
- Upper Gypsum Horizon – **grade increased by 79%**, retaining >75% of ore and records a 55% sample mass reduction for processing.

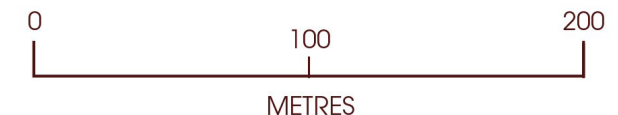


### LEGEND

9m @ 1400ppm TREO (original sample assay)

9m @ 2624ppm = 87.4% upgrade in TREO (-38µm fraction assay)

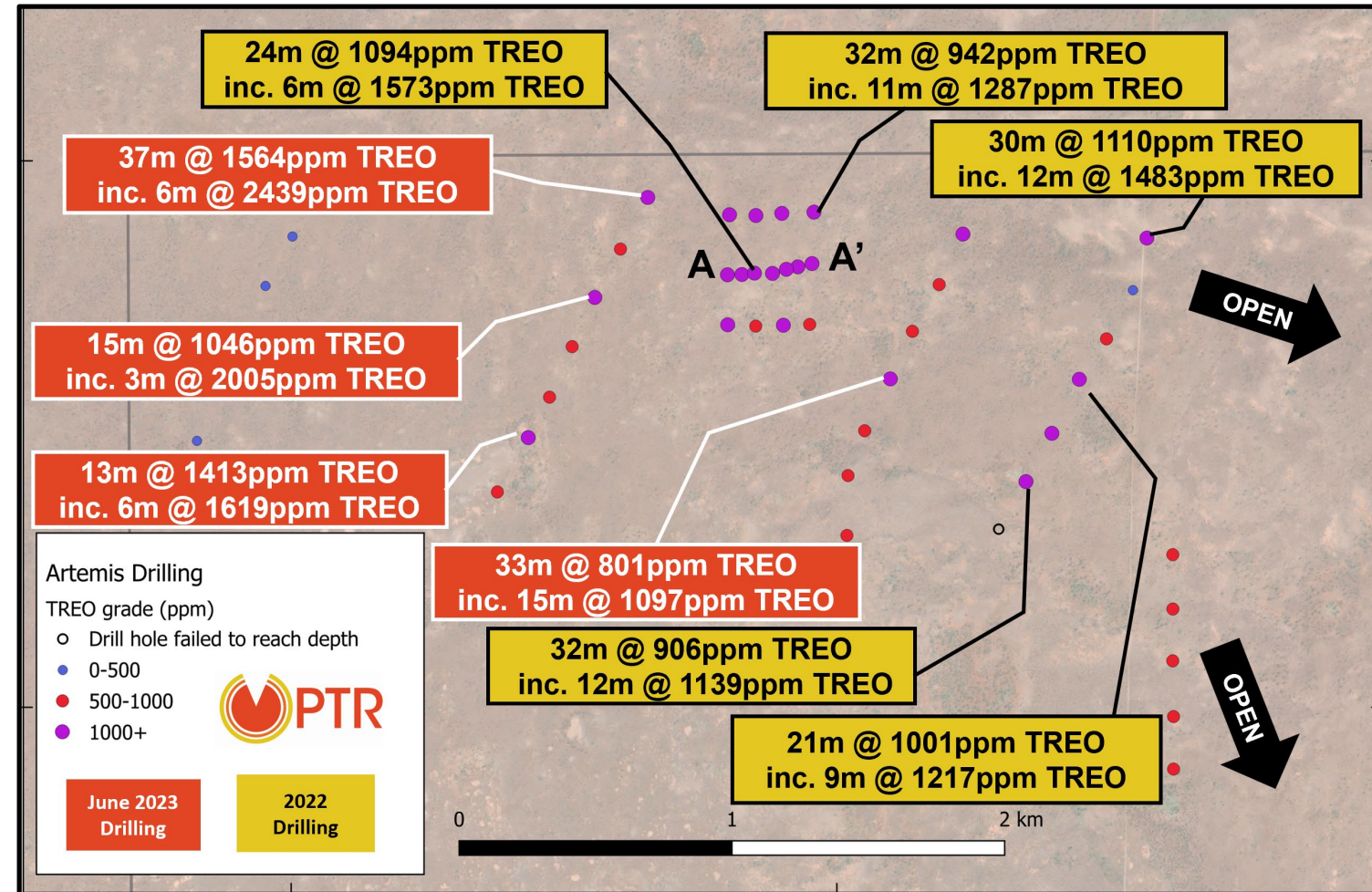
74.9% of TREO remains in -38µm fraction assay



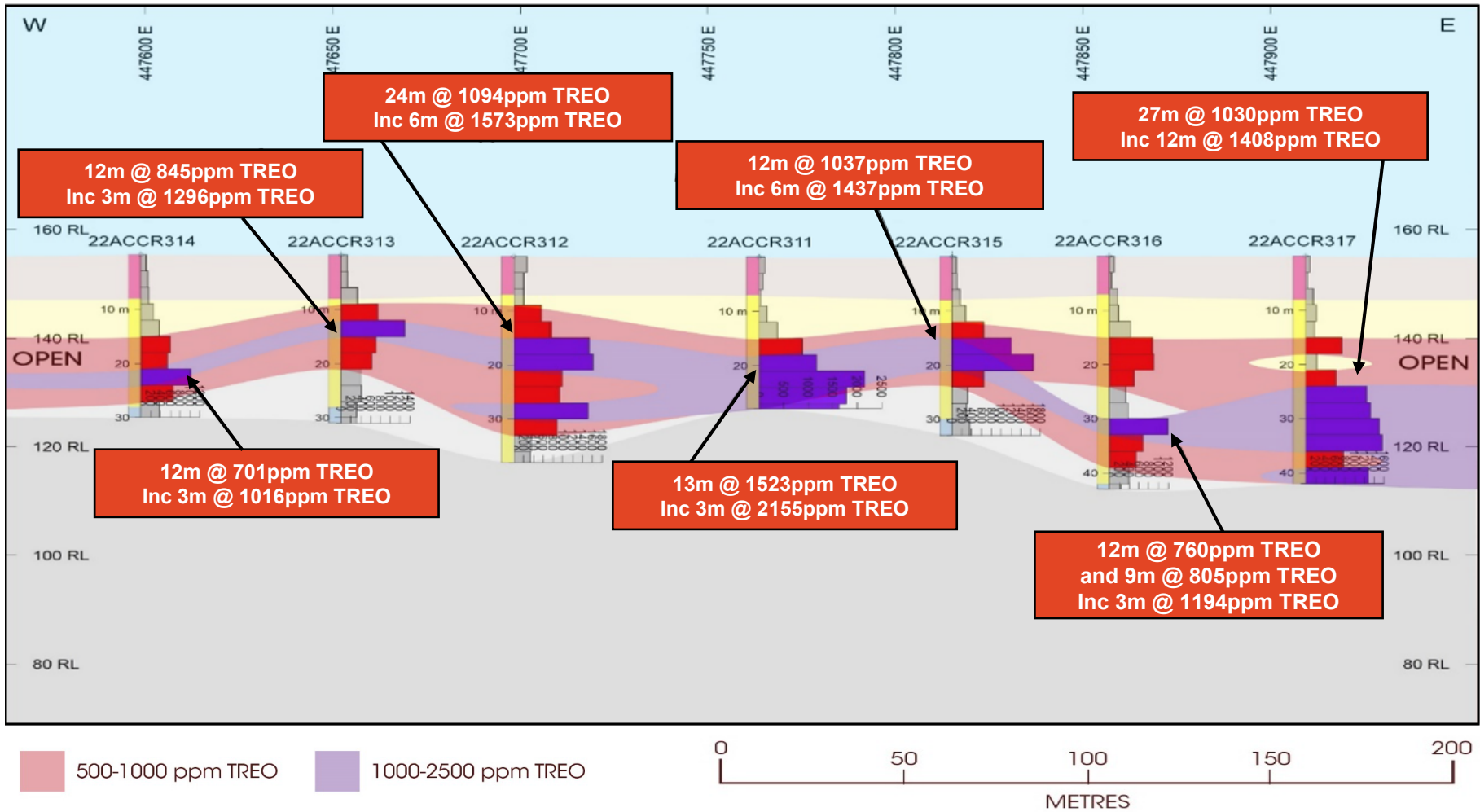
## Summary of Results

- High-grade REE blanket >1000ppm TREO.
- Prospect currently 3km by 1.5km – open in several directions.
- High value MREO intercepts – up to 609ppm and average 221ppm.
- High-grade intercept thickness ranges from 12 to 37m.

***Follow-Up Drilling Scheduled Nov 23***



# Artemis Cross-Section A-A'



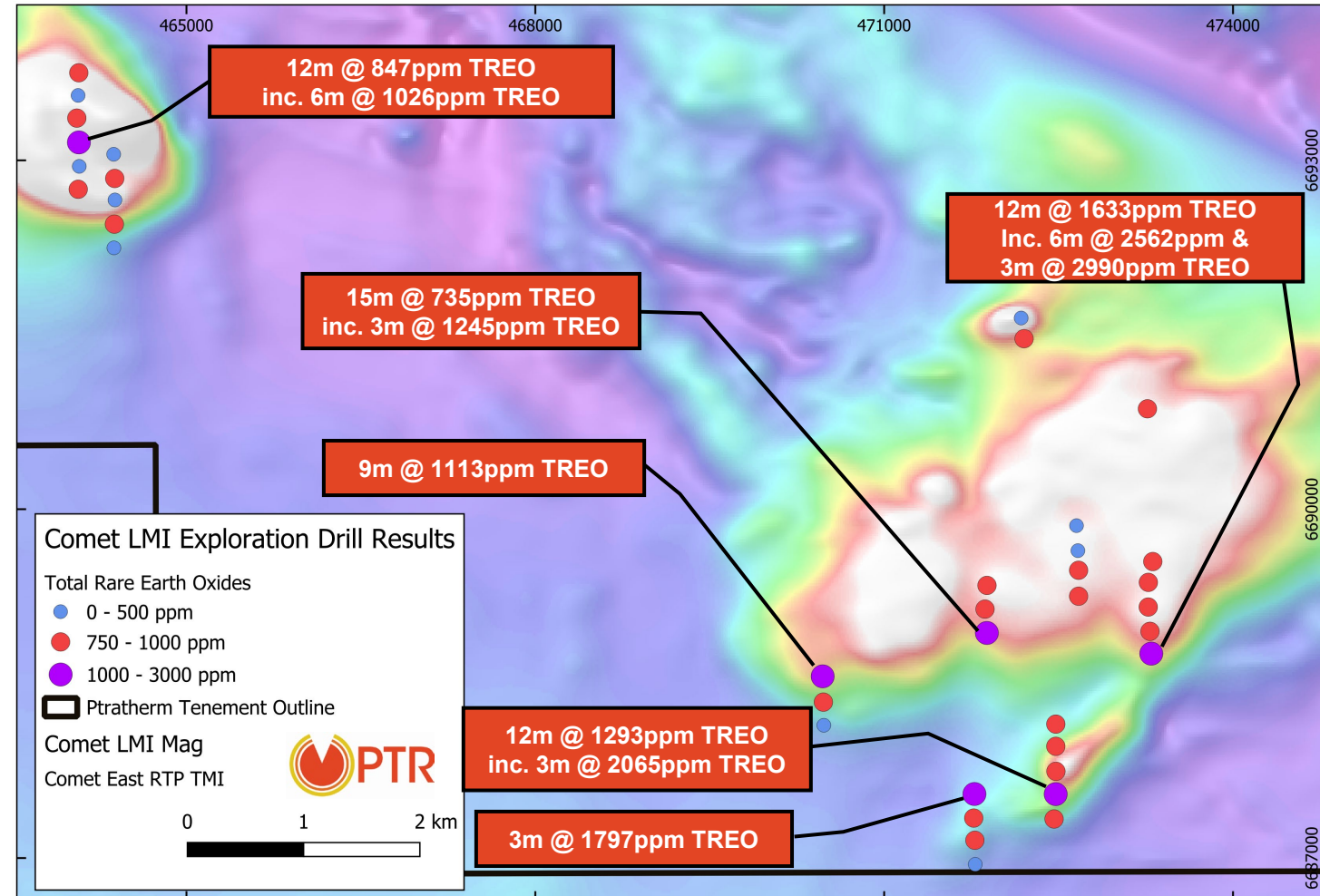


# Comet East REE Prospect



## Major New REE Discovery Extends Over a 3km Trend

- Greenfields drilling 25km to the east of the Meteor and Artemis prospect, uncovered a new high-grade REE prospect.
- REE's associated with a layered magnetic complex with mineralised intercepts recorded over a **3km trend and remains open both to the west and east.**
- **High-grade intercepts up to 2,990ppm TREO**, with significant concentrations of high value MREO.



# Comet REE Project Highlights



## Exploration Drilling + REE Extraction Trials Ongoing

### Thick & Shallow

Mineralisation starts from a depth of 3-6m and averages 11.5m thickness at Meteor.

Mineralisation starts from a depth of 9-15m and averages 15m thickness at Artemis.

### High-Grade MREO

Average Intercept TREO = 936ppm.  
Average Intercept MREO = 242ppm  
(26%) of TREO at Meteor.

Average Intercept TREO = 962ppm.  
Average Intercept MREO = 223ppm  
(23%) of TREO at Artemis.

### Favourable Location

Strong ground position in the Northern Gawler Craton, totalling 1,915km<sup>2</sup>.

Pastoral Lease – Only 1 Land holder!

Adelaide to Darwin Railway line runs through the middle of the Project area.

### Exploration Upside

Meteor Prospect approx. 2km by 1km open in all directions.

Artemis Prospect approx. 3km by 1.5km open in all directions.

Less than 10% of prospective area explored.



**Trials show a Rare Earth feedstock of 2000ppm TREO, including >500 ppm MREO can be produced, with >60% Recovery.**

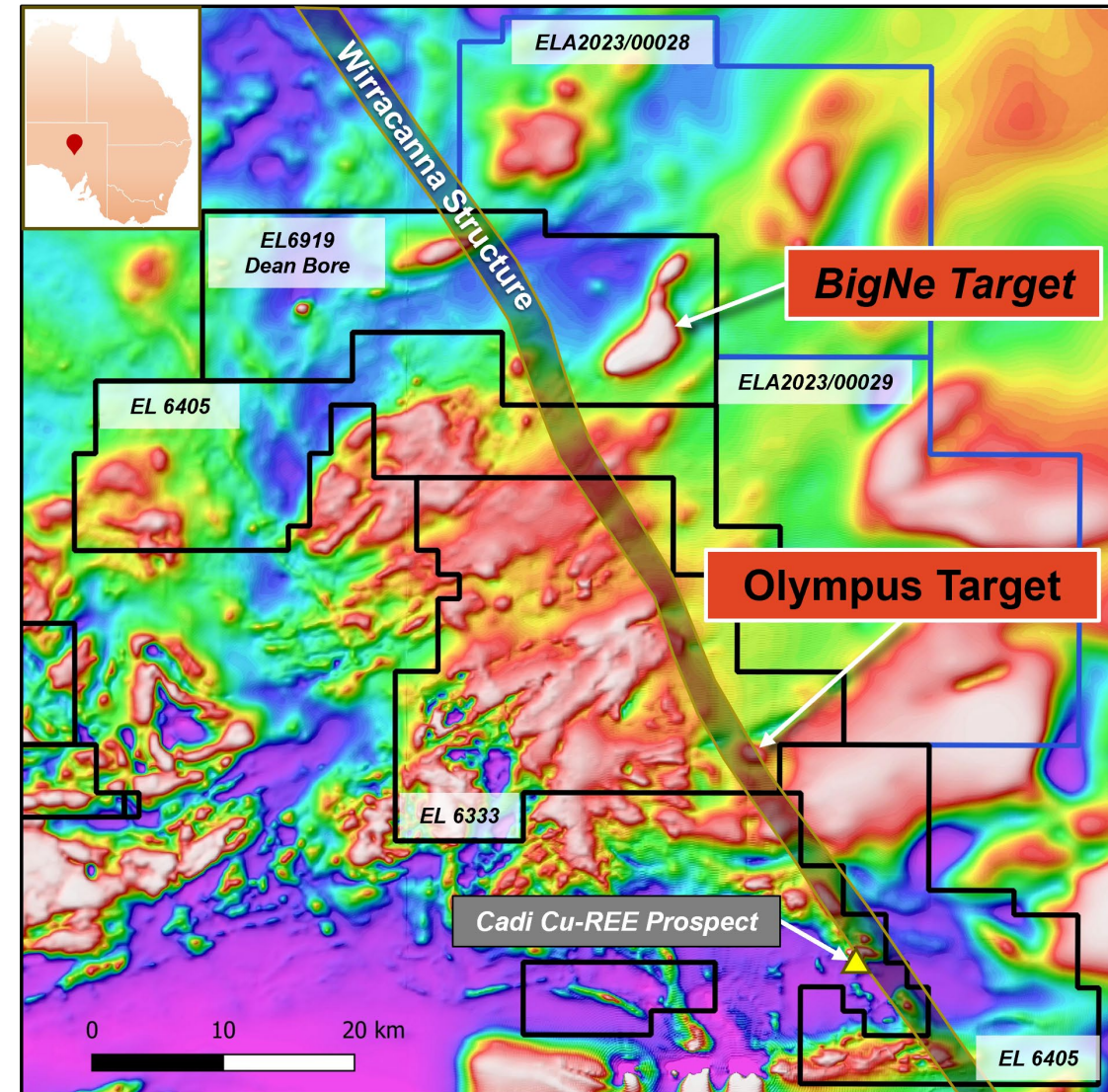


# South Australia Projects



## World-Class Olympic Copper Gold Province

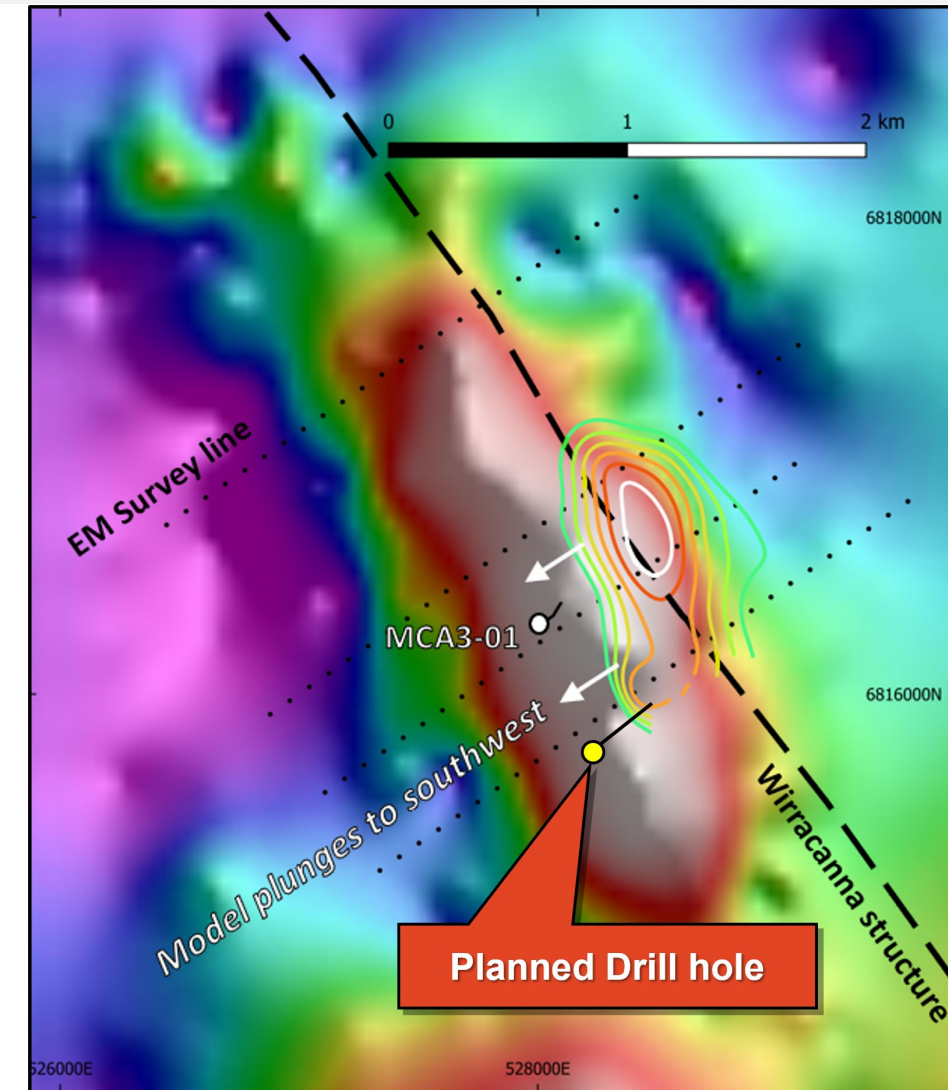
- Mabel Creek Copper Gold Project – Large land holding (4,636 km<sup>2</sup>).
- Cu-Au prospects highlight fertility for Iron Oxide-Copper-Gold (IOCG) mineralisation.
- Major copper players – RIO, BHP & FMG in surrounding Areas.
- IOCG alteration/mineralisation at 2 Prospect sites – BigNE and Cadi
- Pipeline of Gravity Targets.
- ***Precision Gravity and high-powered SQUID EM Survey – identified Tier-1 Cu-Au Target (Olympus)***



Magnetic Image of Eastern Mabel Creek Project Area – Olympus and BigNE Targets

## Olympus IOCG Target

- **A World-Class Sized Geophysical Target in the Olympic Cu-Au Trend.**
- 3 Milligal Gravity Target comparable to the Prominent Hill Cu-Au Mine geophysical response.
- High Powered SQUID EM – identified conductive plate of significant dimensions on eastern flank of the gravity target.
- Conductor starts at 600m depth, is approximately 2km long and extends down at least 2km.
- ***Drilling of target scheduled from late-Oct 23.***

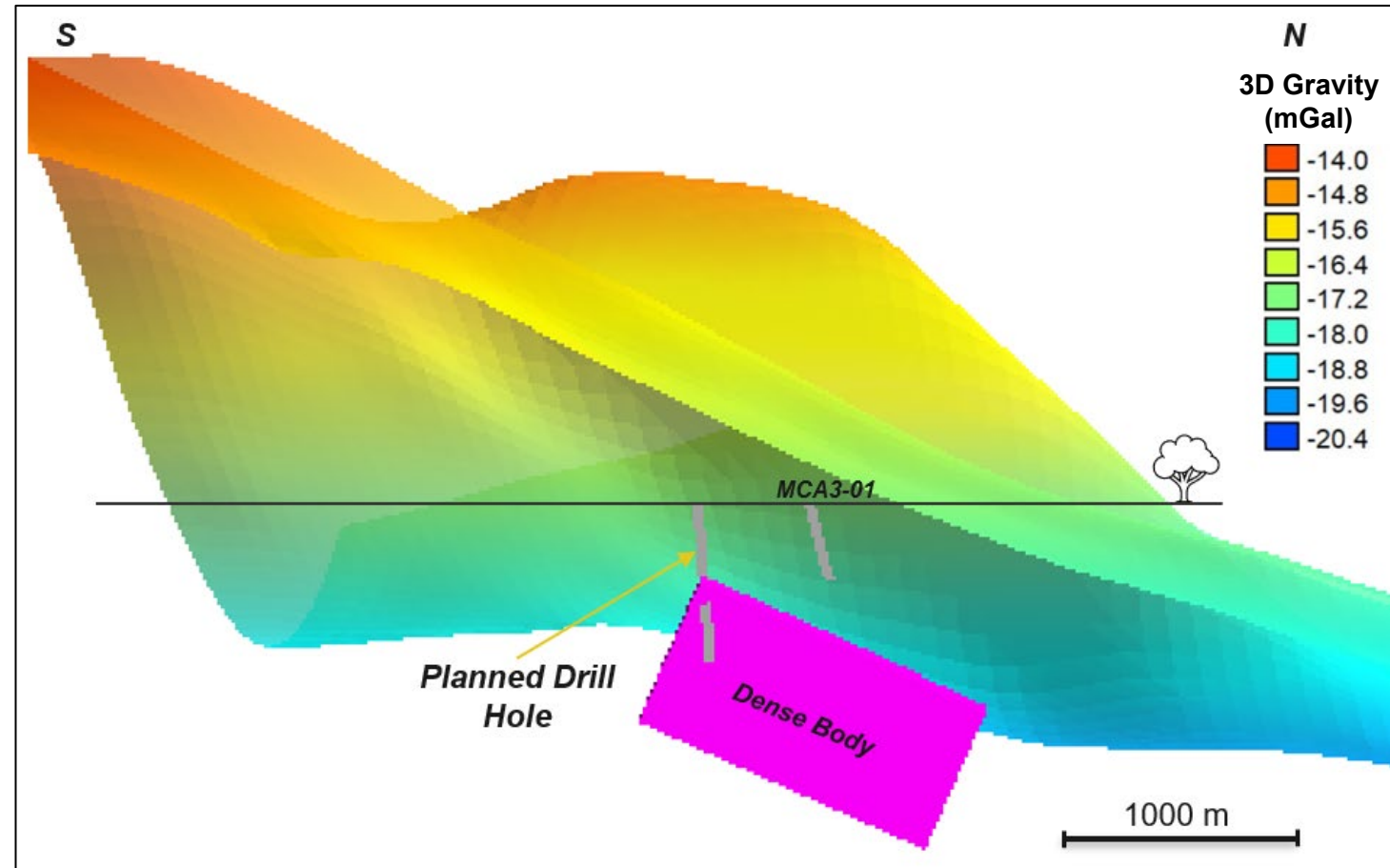


*Olympus Geophysical Response - 1VD Bouguer Gravity Image overlain by late time EM contours showing the position of the top of the conductive plate on the eastern flank of the gravity body which plunges steeply back to the southwest.*



## Olympus IOCG Target – Drilling Scheduled from Mid-October

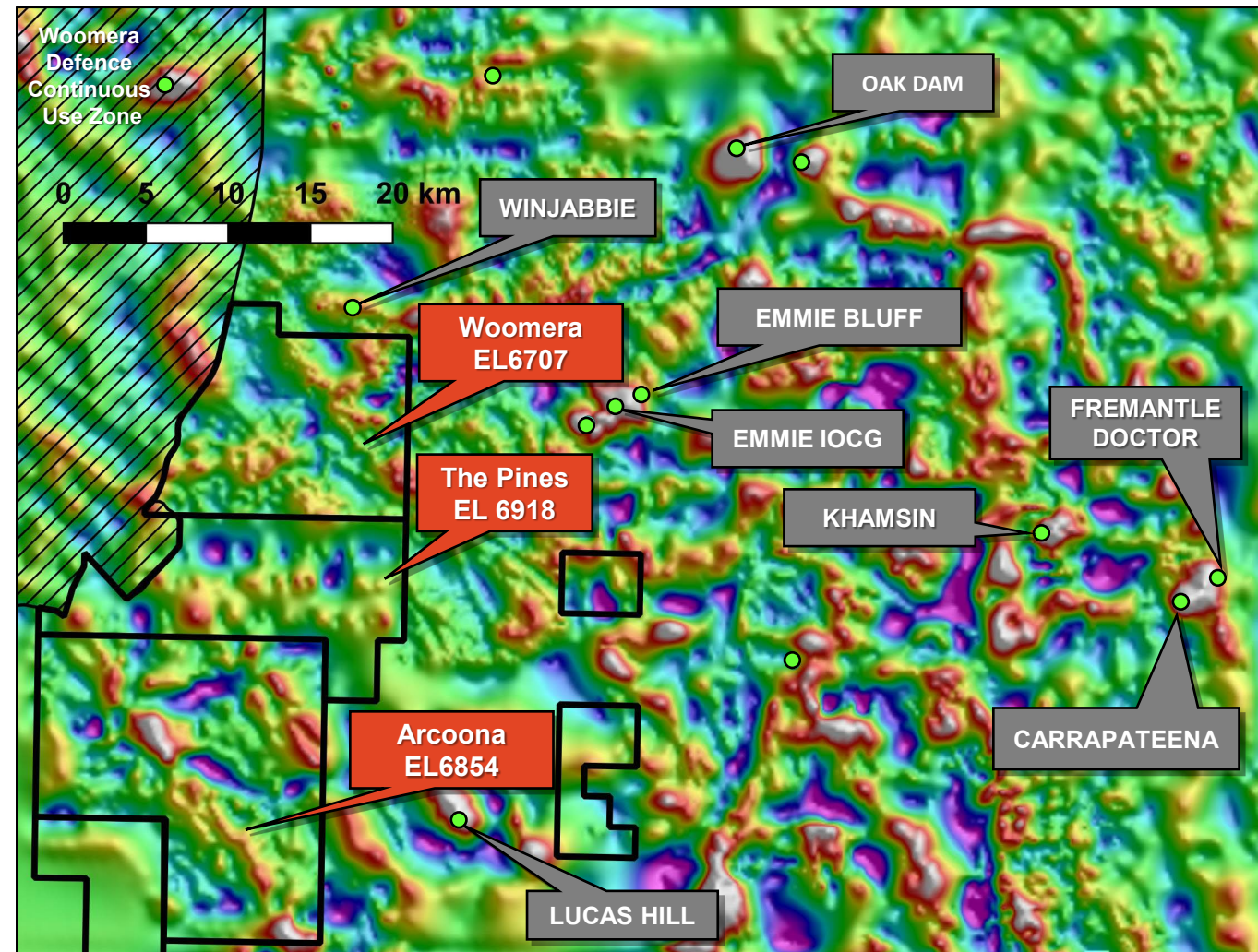
- 3D Model Inversion generates a subvertical body with a high density of 4.12 SG.
- Indicative of gravity response from an IOCG or semi-massive sulphide body.
- Semi coincident late time EM anomaly.
- Plate dimensions approximately 1,200m by 700m by 50m.
- ***Top of body starts at 270m in the south and plunges gently to the north.***



**3D Olympus Bouguer Gravity Image and dense plate (Magenta)**

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

- Multiple high priority gravity targets – **3 Target Styles – IOCG, Stratabound IOCG and Sedimentary Copper.**
- Native Title Mining Exploration Agreement Completed.
- Arcoona Gravity Survey identifies Copper-Gold Targets.
- Drilling of targets scheduled from March 2024.

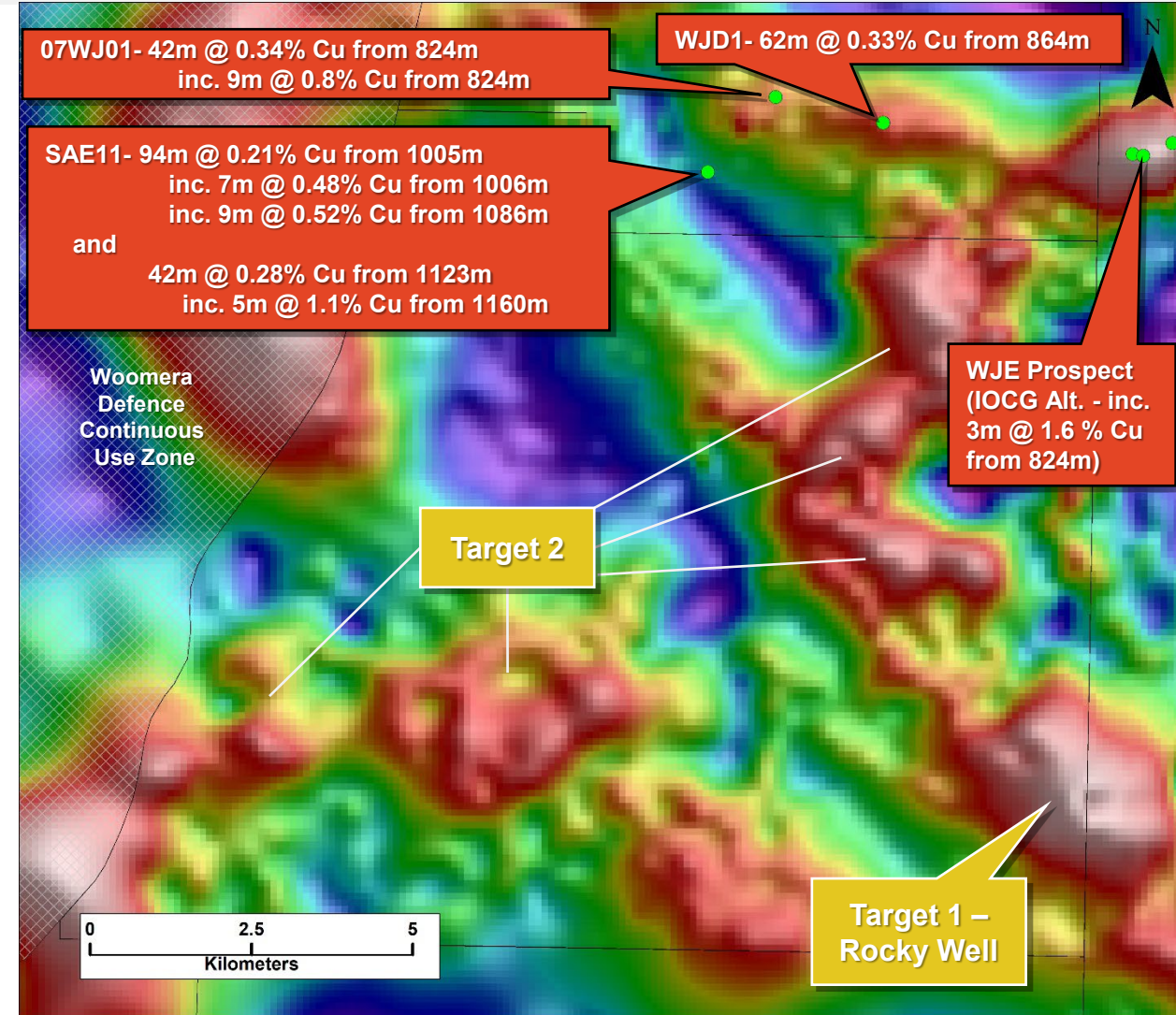


PTR Exploration Licences, IOCG Mines/Prospects, overlain on a Residual Gravity Image



## Three Distinct Styles of Mineralisation

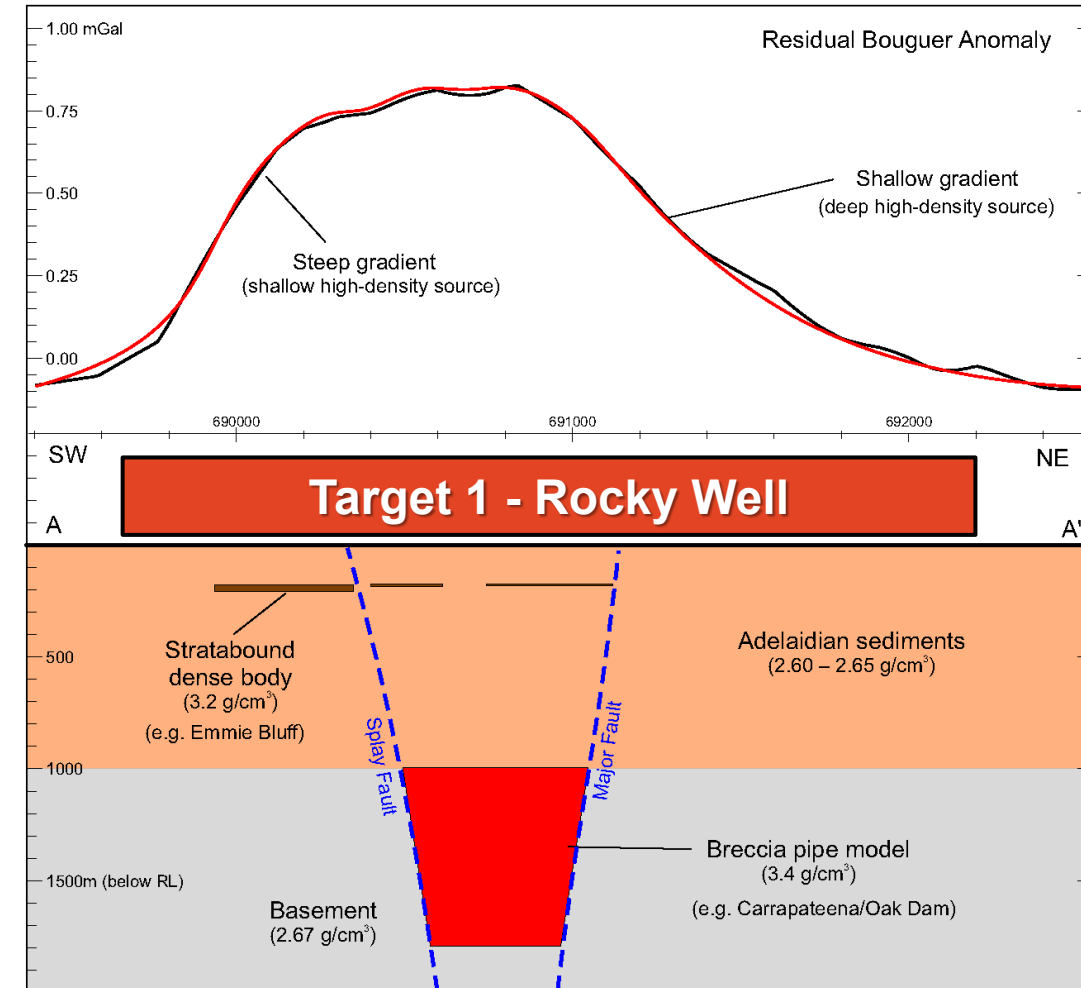
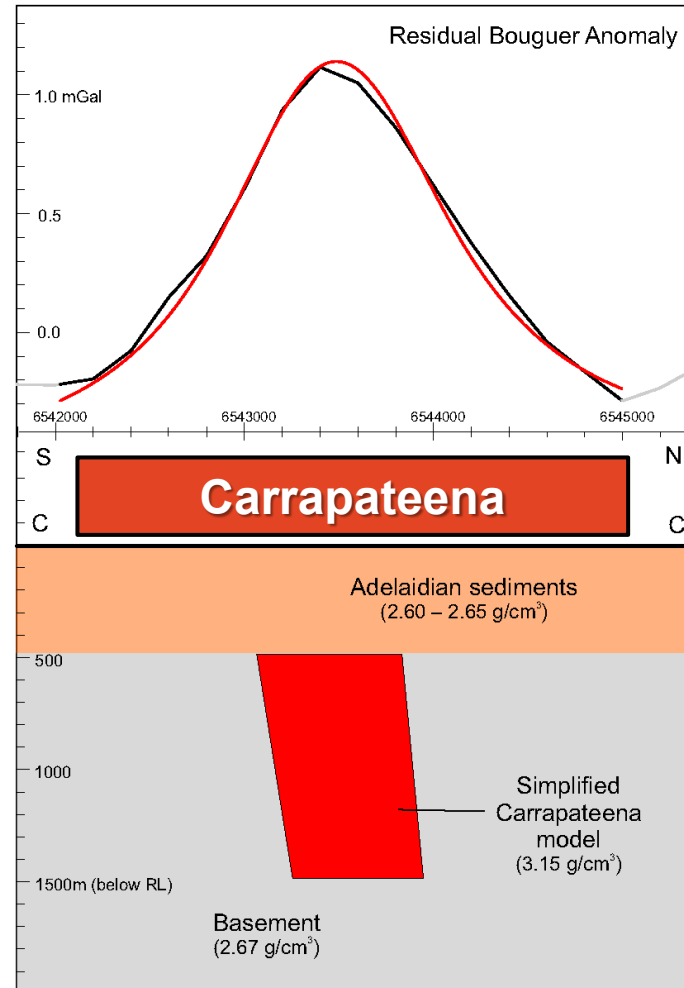
- **Target 1 - IOCG Breccia Bodies** – Cu-Au-Ag-U (i.e. Olympic Dam/ Carrapateena/Oak Dam & Prominent Hill).
- **Target 2 - Stratabound IOCG's** – Cu-Au-Co (i.e. Emmie IOCG, Punt Hill & Hillside).
- **Target 3 - Sedimentary Copper** – Cu-Ag-Co in overlying cover rocks (i.e. Mt Gunson & Emmie Bluff – *potentially remobilised from IOCG basement below!*).



IOCG copper intersections adjacent to Petratherm's Woomera Exploration Licence Area overlain on a Residual Gravity Image. High gravity areas may indicate zones of stratabound and breccia mineralisation






## 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 potential also!)***





## Active Ground Campaign for 2023/24

Exploration Activity	October	November	December	January	February	March	April
Comet REE Project							
REE Drilling Programs							
Assay Results							
Metallurgical Studies							
Metallurgical Results							
Mabel Creek IOCG Project							
EM/Gravity Targets Defined							
Drilling Programs							
Woomera IOCG Project							
Gravity Targets Defined							
Drilling Programs							







## Investment Summary



**Thick, Shallow  
& High-grade REE**



**Favourable  
Location**



**Exploration  
Upside**



**World Class  
Cu-Au Targets**





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Chief Executive Officer

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