



# **Annual General Meeting of Shareholders**

**25 November 2022**

# Petratherm's Directors and Management

- Derek Carter (Non-Executive Chairman)
- Donald Stephens (Non-Executive Director)
- Simon O'Loughlin (Non-Executive Director)
- Peter Reid (Exploration Manager)
- Katelyn Adams (Company Secretary)

<https://www.petratherm.com.au/directors-and-management/>

# **Chairman's Address**

# **Financial Report and Reports of the Directors and Auditors**

A copy of the Company's Annual Report for the period ended 30 June 2022 was lodged with the ASX on the 30<sup>TH</sup> of September 2022.

The Company's 2022 Annual Report is available for download from the Company's website at

<https://www.petratherm.com.au/annual-reports/>

# Resolution 1: Adoption of Remuneration Report

To consider and, if thought fit, pass, with or without amendment, the following resolution as an ordinary resolution:

*‘That the Company adopt the Remuneration Report for the year ended 30 June 2022 as set out in the Company’s Annual Report for the year ended 30 June 2022.’*

Vote type	Shares Voted	%	% of all securities
For	18,439,881	97.73	8.2
Against	351,855	1.86	0.16
Board - Open	63,687	0.34	0.03
Non-Board - Open	13,519	0.07	0.01
Abstain	140,093	N/A	0.06
Excluded	7,497,715	N/A	3.34

# Resolution 2: Re-election of Donald Stephens as Director

To consider and, if thought fit, pass, with or without amendment, the following resolution as an ordinary resolution:

*‘That Mr Donald Stephens, having voluntarily retired in accordance with rule 6.1 of the Constitution and being eligible, and offering himself, for re-election, is re-elected as a Director with effect immediately following the conclusion of the meeting.’*

Vote type	Shares Voted	%	% of all securities
For	26,272,630	99.15	11.69
Against	125,250	0.47	0.06
Board - Open	87,092	0.33	0.04
Non-Board - Open	13,519	0.05	0.01
Abstain	8,259	N/A	0
Excluded	0	N/A	0

# Resolution 3: Approval of 10% Placement Facility

To consider and, if thought fit, pass, with or without amendment, the following resolution as a **special resolution**:

*'That pursuant to and in accordance with ASX Listing Rule 7.1A and for all other purposes, shareholders approve the issue of Equity Securities up to 10% of the issued capital of the Company (at the time of the issue) calculated in accordance with the formula prescribed in ASX Listing Rule 7.1A.2 and on the terms and conditions in the Explanatory Memorandum which is attached to and forms part of this Notice.'*

Vote type	Shares Voted	%	% of all securities
For	25,938,631	98.08	11.54
Against	407,783	1.54	0.18
Board - Open	86,687	0.33	0.04
Non-Board - Open	13,519	0.05	0.01
Abstain	60,130	N/A	0.03
Excluded	0	N/A	0

# Resolution 4: Approval of Previous Issue of Shares

To consider and, if thought fit, pass, with or without amendment, the following resolution as an ordinary resolution:

*'That for the purpose of ASX Listing Rule 7.4 and for all other purposes, approval is given to the previous issue by the Company of 25,833,333 fully paid ordinary shares on the terms and conditions described in the Explanatory Memorandum which is attached to and forms part of the Notice.'*

Vote type	Shares Voted	%	% of all securities
For	11,264,649	95.42	5.01
Against	440,030	3.73	0.2
Board - Open	87,244	0.74	0.04
Non-Board - Open	13,519	0.11	0.01
Abstain	14,167,974	N/A	6.3
Excluded	533,334	N/A	0.24



# Question & Answer Time





# CRITICAL MINERALS PORTFOLIO POSITIONED FOR GROWTH

Petratherm AGM Presentation

25 November 2022



ASX: PTR



# COMPLIANCE STATEMENTS

## Disclaimer:

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## JORC Information:

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:

- Gravity survey identifies high tenor Olympic Dam Style Targets – 12 August 2019
- Gravity Modelling Defines Olympic Dam Style Targets – 15 October 2019
- Prospective Gold Tenement Won in Competitive Bid – 18 October 2019
- Comet Project Tenement (EL 6443) Granted – 14 January 2020
- Quarterly Activities Report December 2019 – 30 January 2020
- Mabel Creek Project – Drilling Results – 12 May 2020
- Mabel Creek Project - Drilling Grant Awarded to test Olympic Dam Style Copper-Gold Targets – 25 June 2020
- New Copper and Gold Project Acquired – 3 December 2020
- Woomera IOCG Project Acquired – 16 June 2021
- Woomera IOCG Project – Regional Gravity Targeting - 1 July 2021
- Mabel Creek Project – Results of Drilling - 27 July 2021
- Petratherm Company Presentation - 1 December 2021
- Drilling uncovers major High-Value Rare Earth Discovery at Comet in the Northern Gawler Craton – 20 April 2022
- Arcoona IOCG Project Won in Competitive Bid – 14 July 2022
- Thick Intervals of Rare Earths Uncovered at Comet – 08 August 2022
- Successful Bid for Muckanippie Rare Earth Project – 19 August 2022
- High Grade Rare Earths Uncovered at Meteor – 29 August 2022
- New Rare Earth Areas Uncovered at Comet – 11 October 2022
- Quarterly Activities / Appendix 5B Cash Flow Report – 28 October 2022
- Muckanippie Project – Tenement Granted - 14 November 2022
- Comet Project – Rare Earth Drilling Operations – 24 November 2022

## 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 mineralization 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.

# CORPORATE SUMMARY

## BOARD AND MANAGEMENT WITH TRACK RECORD OF EXPLORATION SUCCESS

### CAPITAL STRUCTURE

Shares on issue	224.8M
Options	1.35M
Share price (24/11/2022)	\$0.058
Market capitalisation (undiluted)	\$13.0M
Cash - 30 Sept 22	\$4.2M
Enterprise value	\$8.8M

#### 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.

#### 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 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 *Exploration Manager*

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.

# PROJECTS OVERVIEW

## A STRATEGIC PACKAGE OF REEs, COPPER & GOLD

### Comet REE & Gold Project, S.A.

- Exceptional REE drill intercepts over large areas
- Drill ready advanced Gold Prospects
- Meteor REE Prospect – Nov/Dec 2022 infill drilling towards defining a JORC Resource

### Woomera & Arcoona IOCG Projects

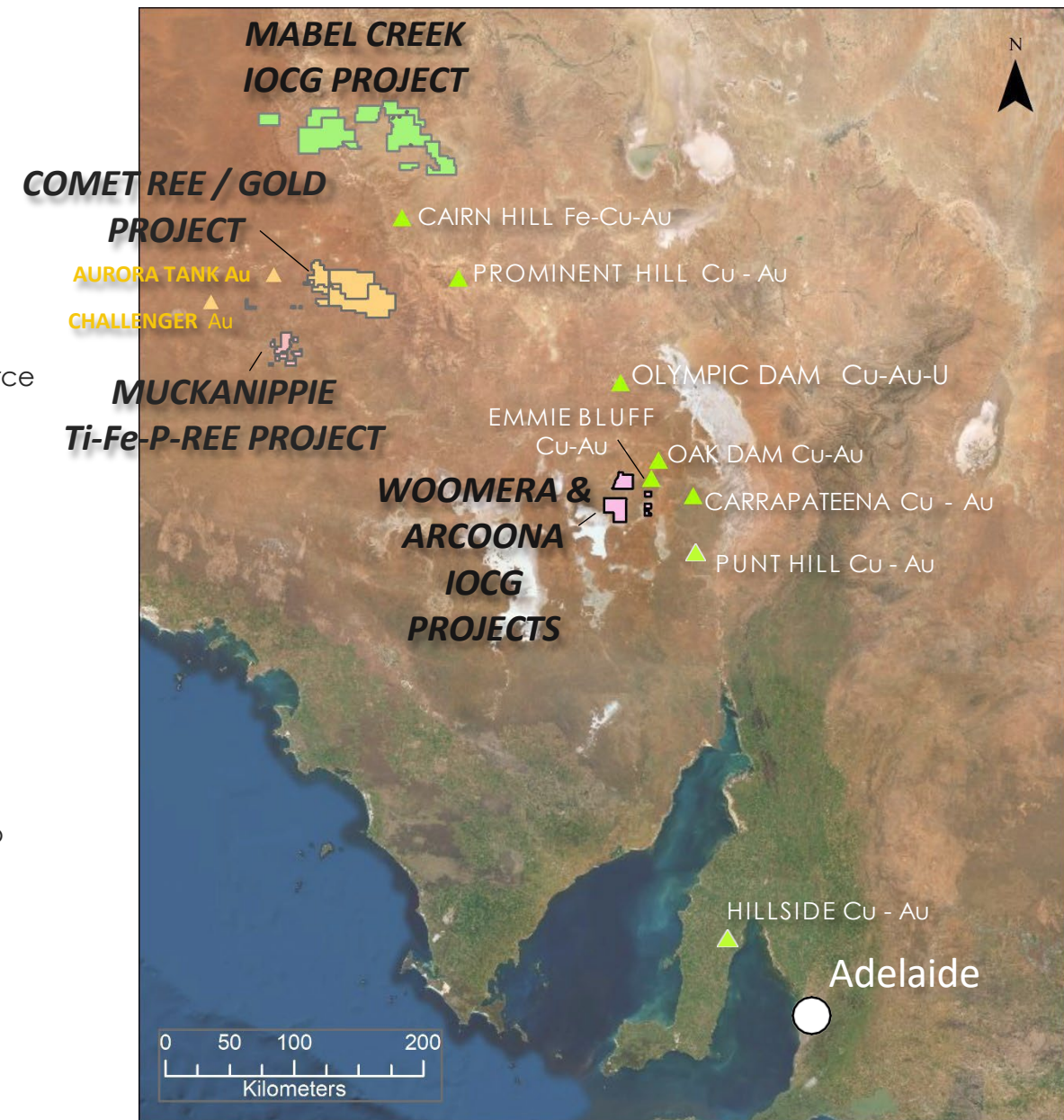
- Close to the Emmie Bluff IOCG discovery and other IOCG mineralisation
- 2 Major IOCG styles of mineralisation targeted + Stratabound Cu-Au-Co in cover
- High calibre drill ready gravity targets – Drilling scheduled for Early 2023

### Mabel Creek IOCG Project

- Large land holding over the northern Olympic Dam Copper-Gold Province
- Drilling to date has defined 2 IOCG Mineral Alteration Systems requiring follow-up

### Muckanippie REE Project

- Major differentiated layered Intrusive Complex with abundant Ti-Fe-P<sub>2</sub>O<sub>5</sub>, REE anomalism
- Early-Stage Project with ground works to begin early 2023



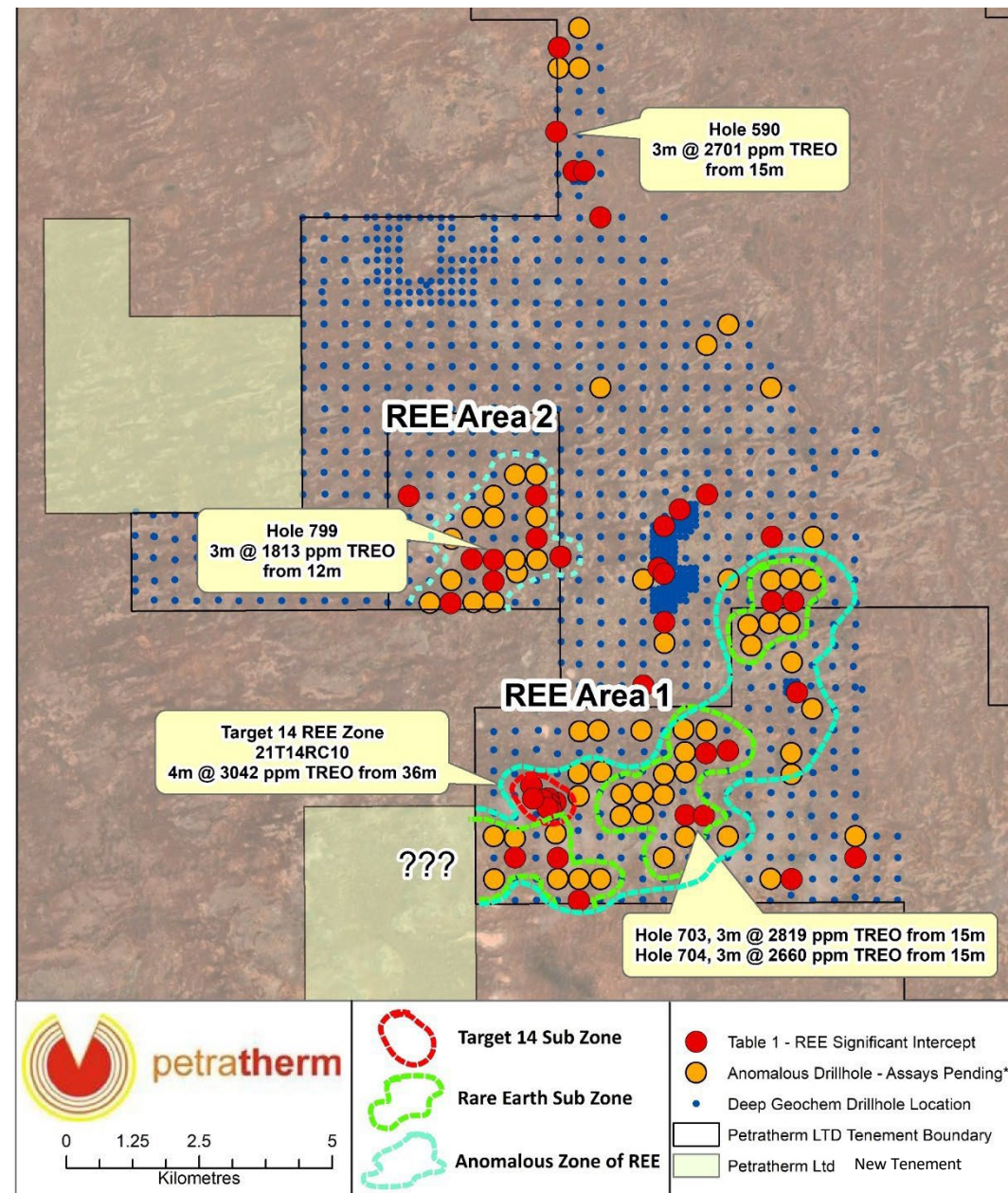


# COMET REE PROJECT

## APRIL 2022 - DRILLING UNCOVERS RARE EARTHS

Hole	Interval	High Value Magnet Rare Earths*
703	3m @ 2,819 ppm TREO from 15m - 18m (EOH)	743 ppm
704	3m @ 2,660 ppm TREO from 15m - 18m (EOH)	702 ppm
590	3m @ 2,701 ppm TREO from 15m - 18m (EOH)	1,016 ppm
799	3m @ 1,813 ppm TREO from 12m - 15m (EOH)	456 ppm
931	3m @ 1,705 ppm TREO from 12m - 15m (EOH)	382 ppm
T14_RC10	4m @ 3,042 ppm TREO from 36m - 40m	814 ppm

(\* Magnet Rare Earths =  $\text{Pr}_6\text{O}_{11}$ ,  $\text{Nd}_2\text{O}_3$ ,  $\text{Tb}_4\text{O}_7$  &  $\text{Dy}_2\text{O}_3$ )





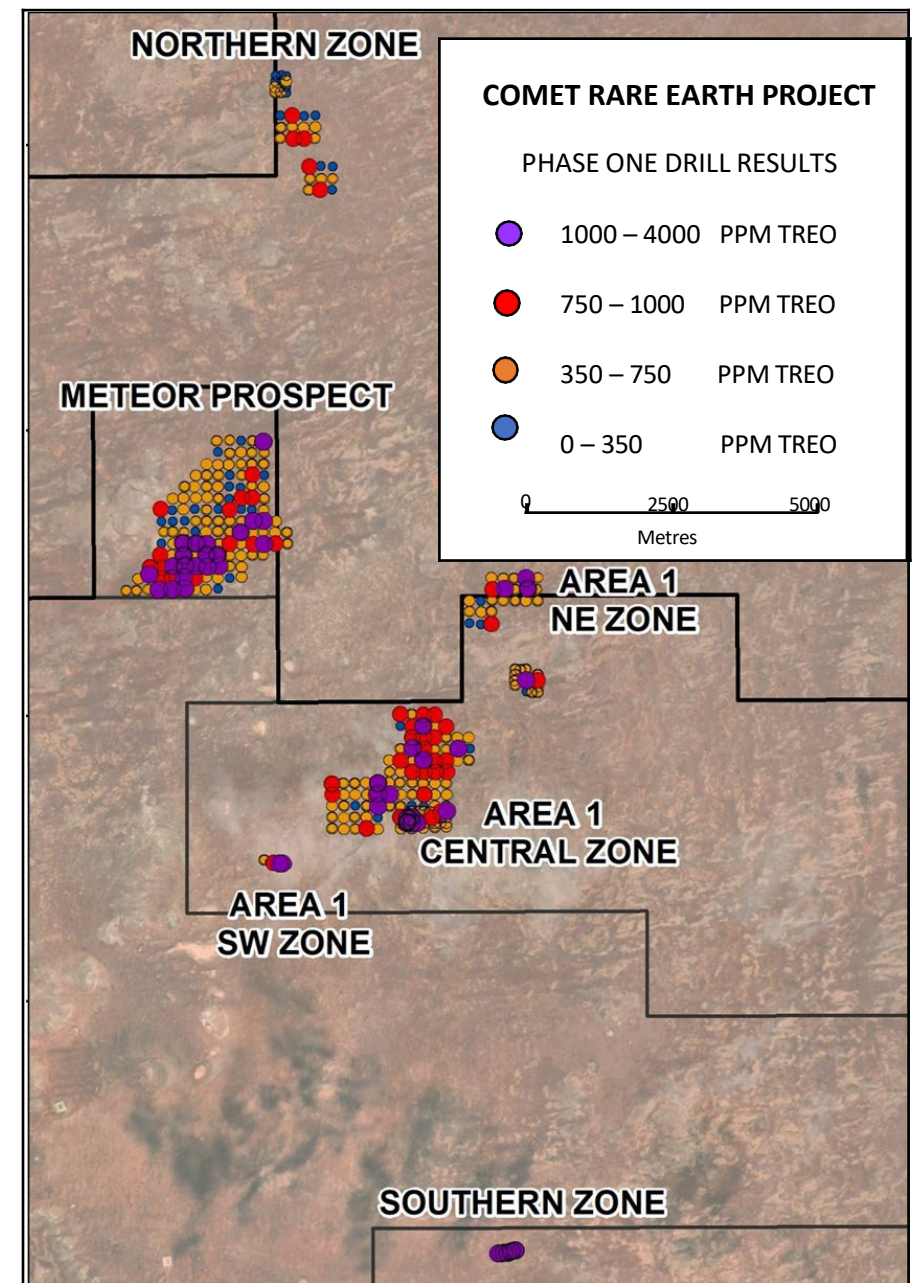
# COMET REE PROJECT

## June-July 2022 – FOLLOW UP AIR CORE DRILLING

- 330 drill holes completed - average hole depth of 30 metres.
- Drill spacing 200 metre by 200 metre grid

### DRILL RESULTS

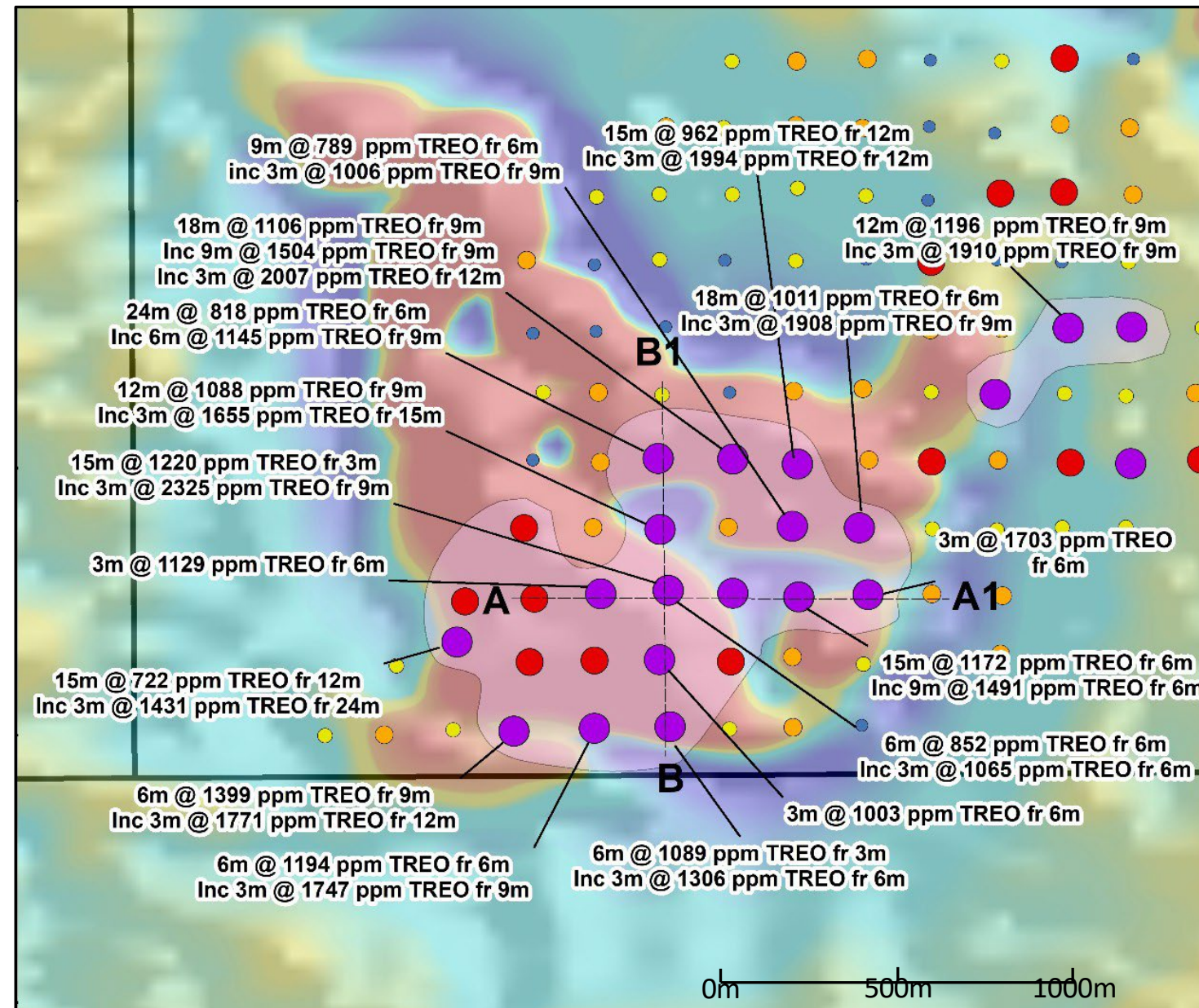
- *High-Grade REE Mineralisation encountered at METEOR , AREA 1 and SOUTHERN . TREO up to 4,000 ppm recorded*
- *Mineralisation typically starts at Shallow Depth - 3-12 metres*
- *Thick Intercepts from 6 metres to 27 metres*
- *High-Grade Mineralised Zones occur over Significant Areas providing good size potential*
- *High-value Scandium Oxide Credits up to 111 ppm.*



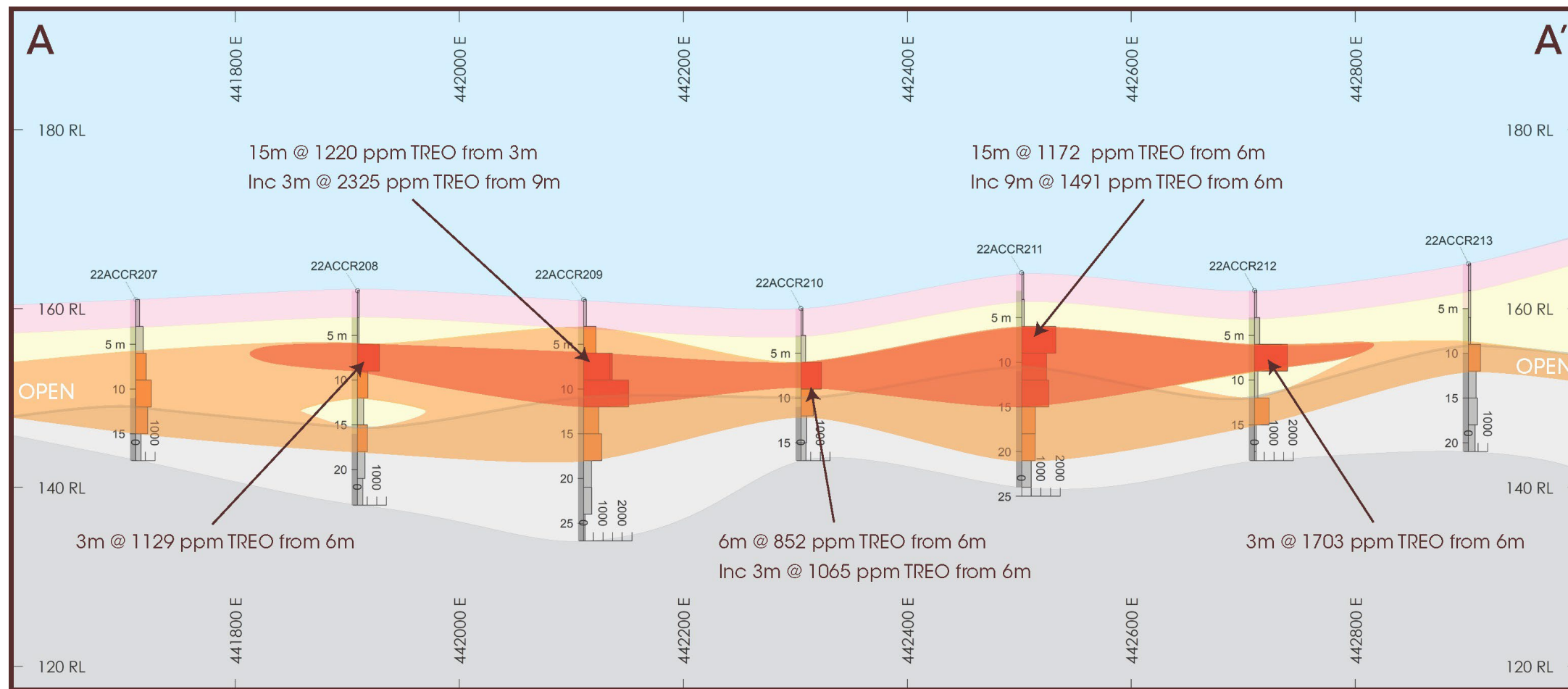
# METEOR REE PROSPECT

## SUMMARY OF DRILLING RESULTS

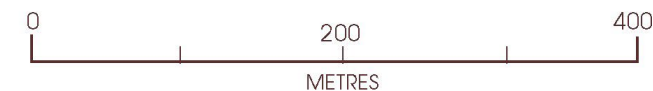
- High-Grade REE Prospect (> 1000 ppm TREO). High MREO content = 25%
- Mineralisation Starts at Shallow Depth 3-6m
- Ore thickness ranges from 3 to 24m and averages 9-12m.
- Main Prospect currently 1200m by 700m, with other satellite bodies evident and is open on west side.
- Infill Drilling Nov/Dec 2022

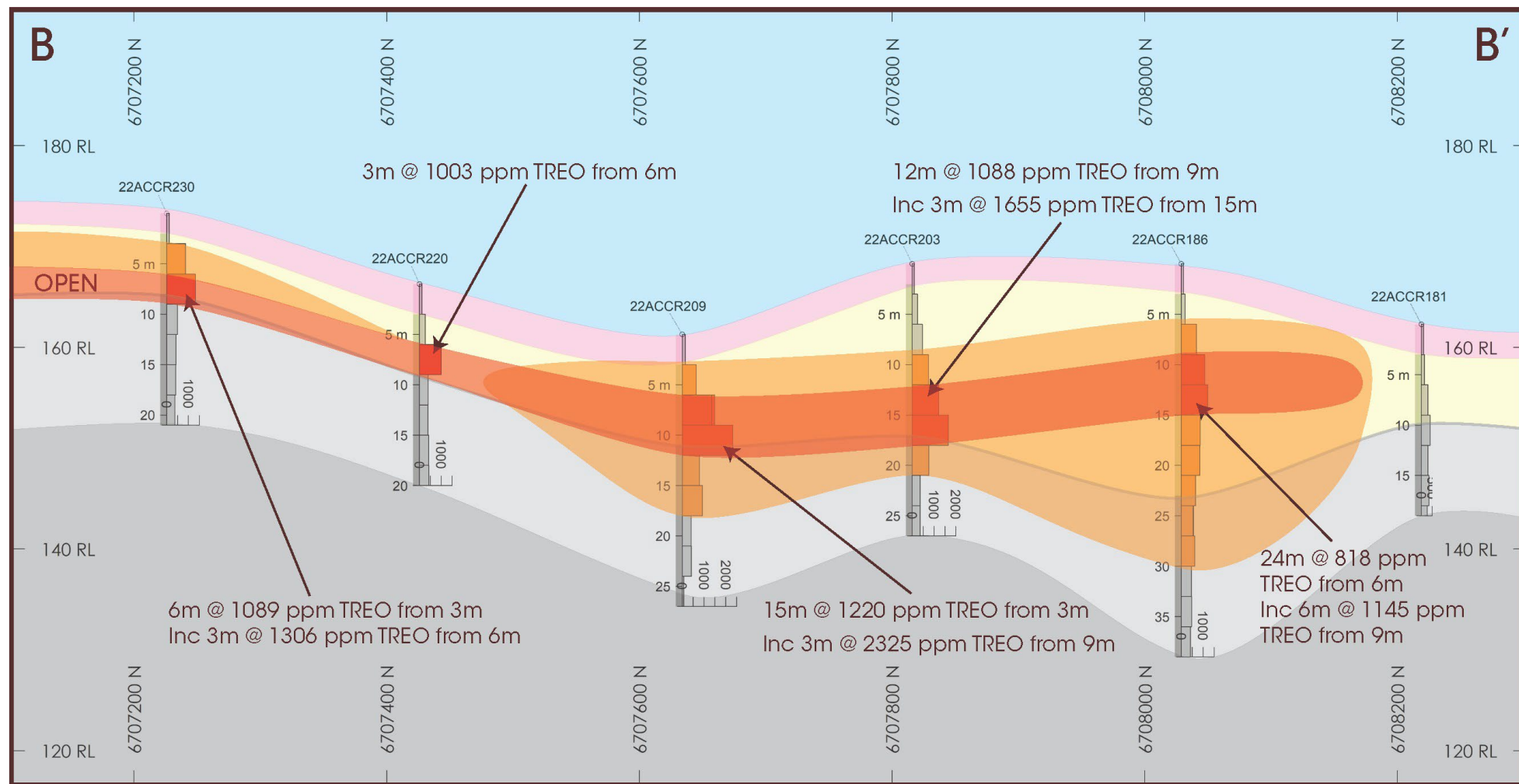






Meteor – W-E Cross Section - High Grade Mineralisation





Meteor – S-N Cross Section - High Grade Mineralisation

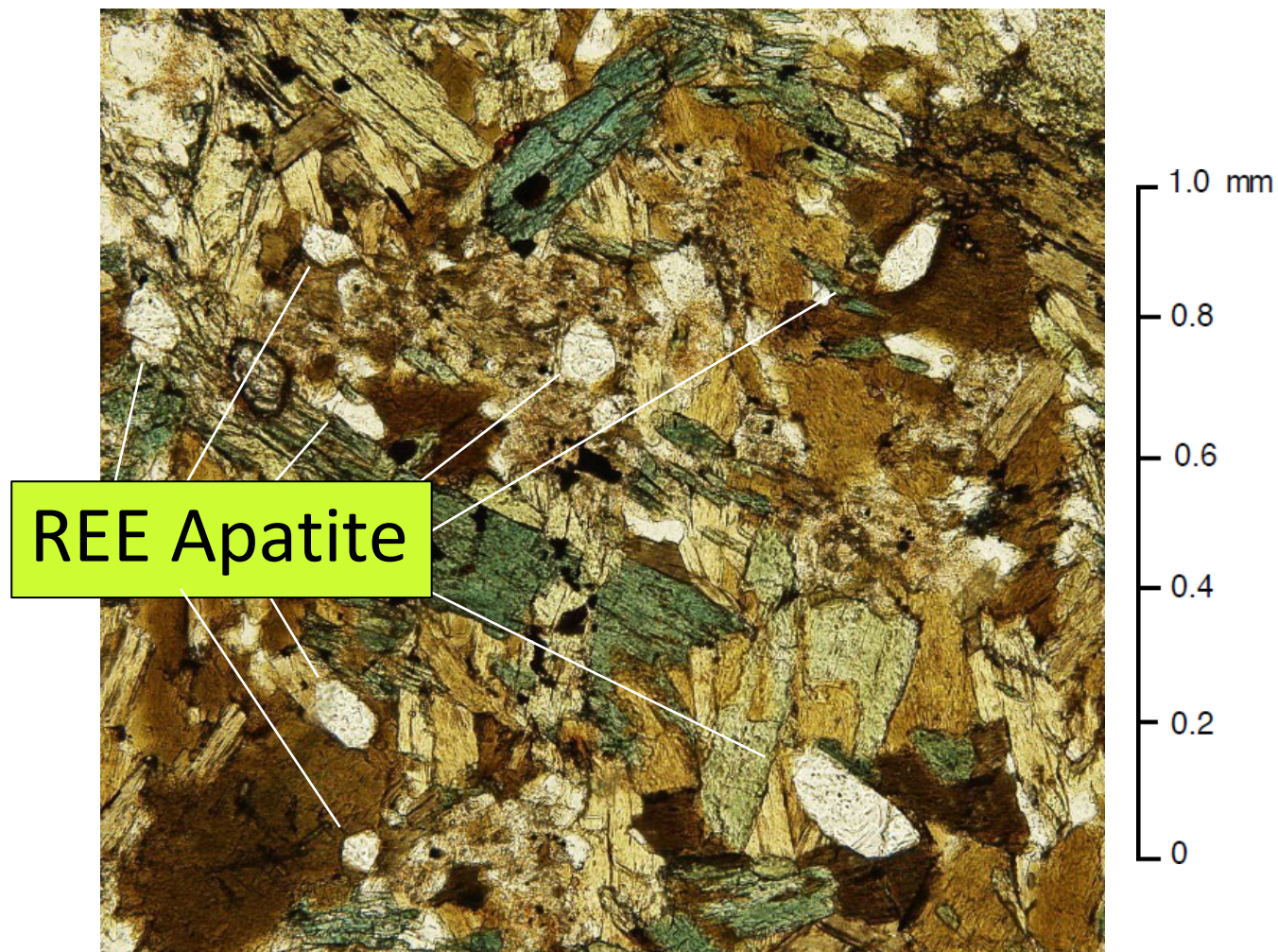


# METEOR - REE SOURCE ROCKS

## Primary REE Mineralisation Potential

- High Magnetic Relief Rocks – Layered Mafic Intrusion
- Diorite with significant rare earth bearing Apatite -Titanite minerals present. Up to 2% Apatite by volume estimated from optical microscopy.
- May be an equivalent aged intrusion to the Muckanippie Anorthosite Complex?

*Drilling of Basement Sequence at Meteor in December to test for Primary REEs !*



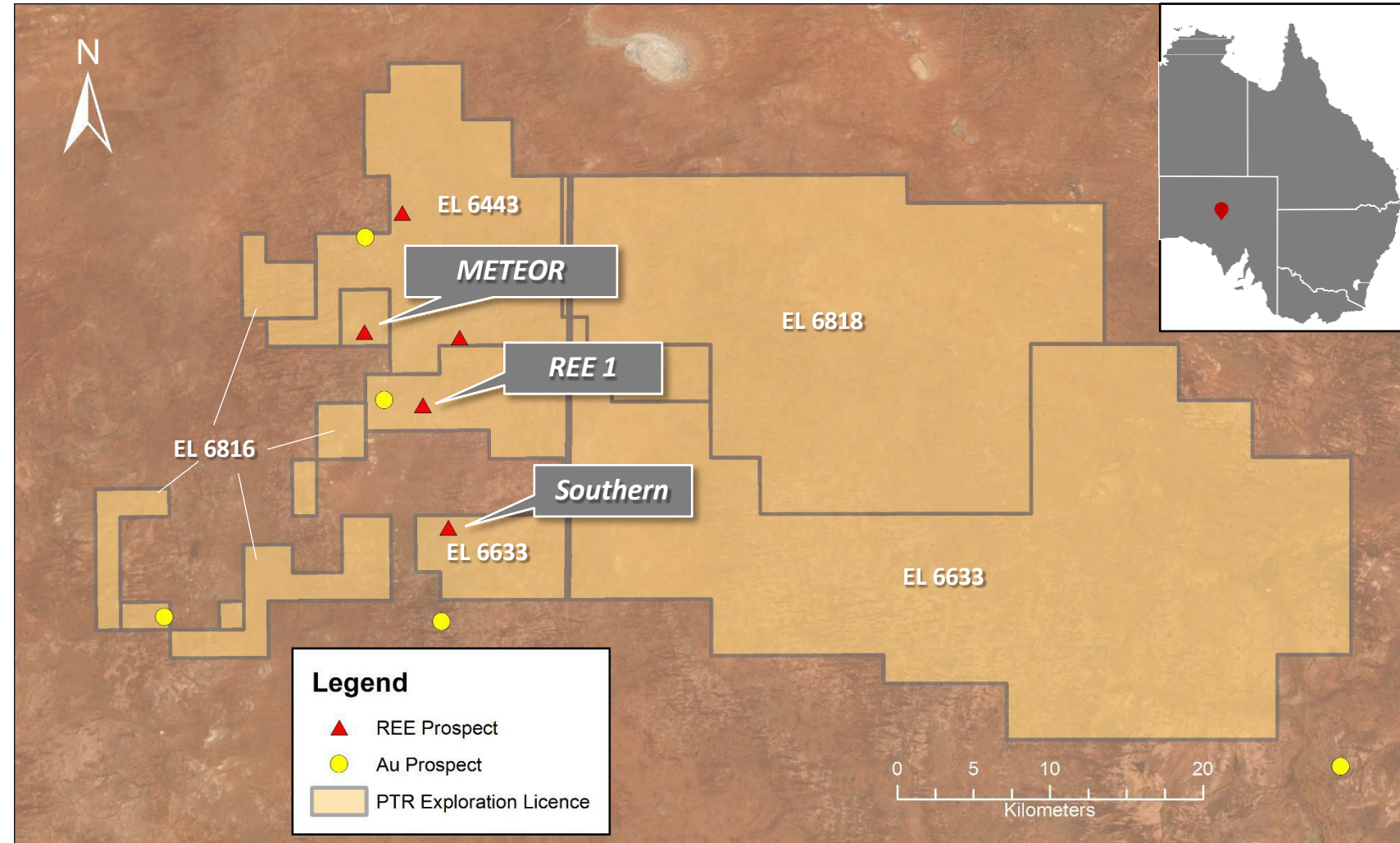
Photomicrograph from drill hole 22ACCR188 (30-32 metres depth). Actinolite (green) and biotite (brown) Note the significant number of small preserved primary apatite crystals ~ 2% of volume (colourless, high relief, stumpy prismatic crystal form).



# COMET REE PROJECT

## SIGNIFICANT GROUND POSITION

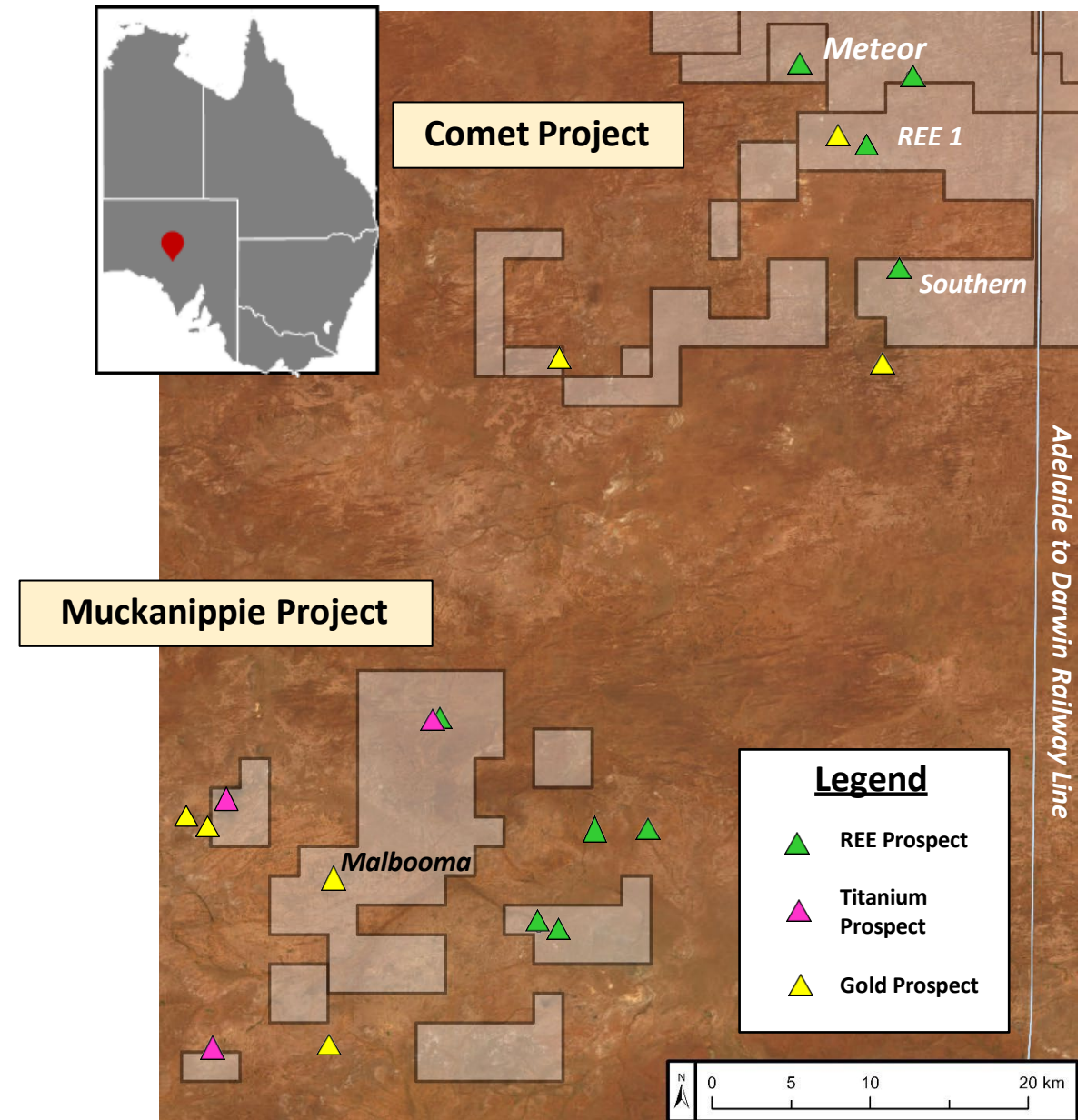
- Strong ground position in the Northern Gawler Craton, totalling 1,915Km<sup>2</sup>.
- Regional drilling activities to date have tested 130 km<sup>2</sup>, which is just 7 % of the total Project Holding.
- Substantial upside potential for additional new REE discoveries to be made in the surrounding un-explored tenure.



# MUCKANIPPPIE PROJECT

## PROSPECTIVE ANORTHOSITE INTRUSION

- New Project over centre of the highly prospective Muckanippie Anorthosite Complex won through a competitive bid
- Globally anorthosite complexes are a major source of Ti-Fe-P-V ores with some including high concentrations of rare earths
- Adelaide to Darwin railway 40 kilometres east of project area offers low-cost connection to markets



# ANORTHOSITE HOSTED MINERAL DEPOSITS – Global Source of Ti-Fe-V-P<sub>2</sub>O<sub>5</sub>

Deposit	Country	Commodities	Characteristics of Deposits*
Lac Tio	Canada	Ti - Fe	138 Mt @ 60% wt. hemo-ilmenite; TiO <sub>2</sub> content ranges between 32-38 wt.%
Tellnes	Norway	Ti	Reserves are estimated at 57 Mt TiO <sub>2</sub> @ an average grade of 18 % TiO <sub>2</sub>
Damiao	China	Fe-Ti-V- P <sub>2</sub> O <sub>5</sub>	resource size unknown - recorded average production of 2Mt of ore per year @ 36 wt.% Fe <sub>2</sub> O <sub>3</sub> , 7.0 wt.% TiO <sub>2</sub> , 0.3 wt.% V <sub>2</sub> O <sub>5</sub> , and 2.0wt.% P <sub>2</sub> O <sub>5</sub>
Lac á Paul	Canada	Ti - P <sub>2</sub> O <sub>5</sub>	472.09 Mt at 6.88% P <sub>2</sub> O <sub>5</sub>

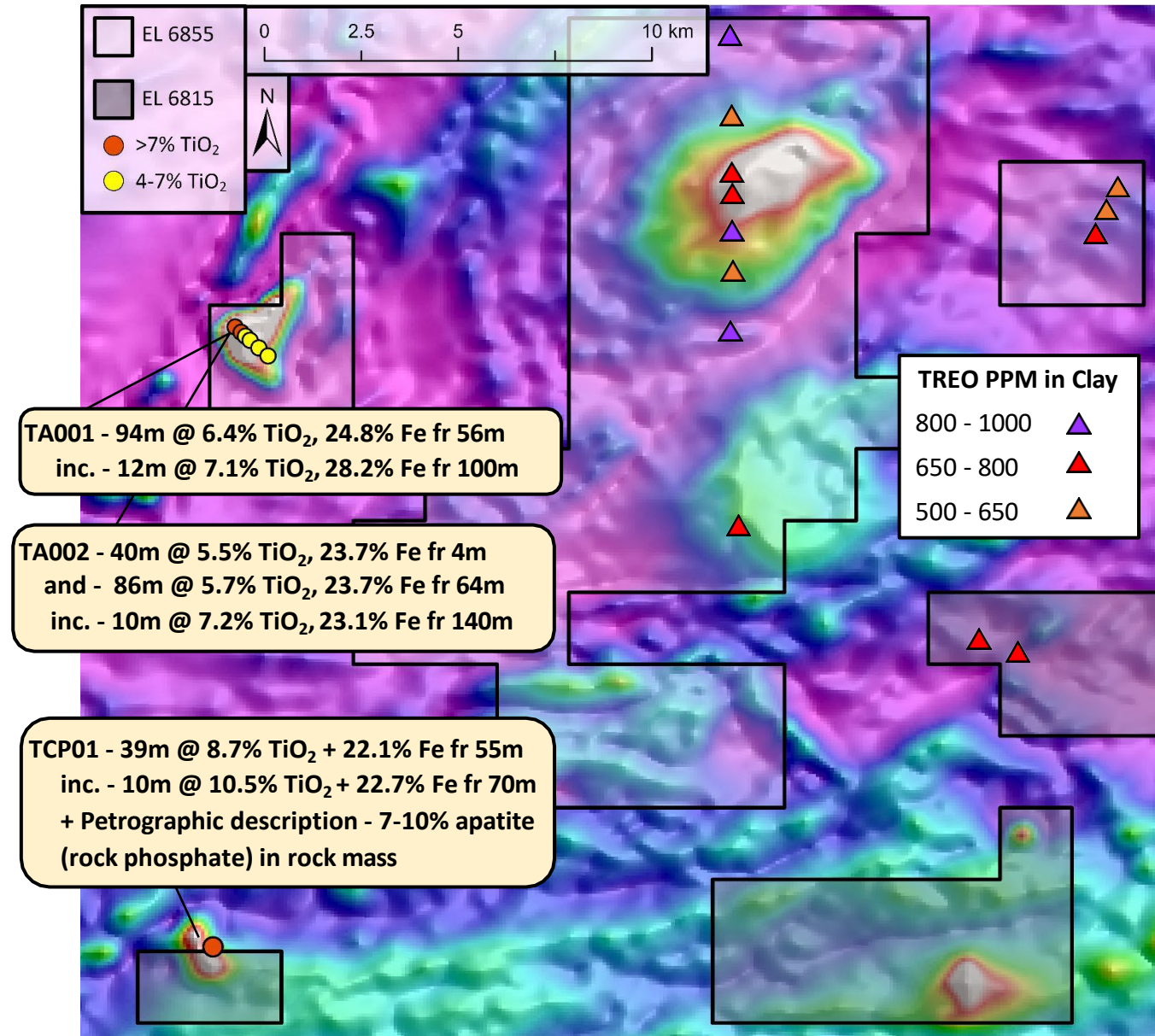
\*Characteristics of Deposits sources: **Lac Tio & Tellnes** - Charlier, B, Namur, O, Bolle, O, Latypov, R & Duchesne, J-C 2015, 'Fe-Ti-V-P ore deposits associated with Proterozoic massif-type anorthosites and related rocks', *Earth-Science Reviews*, vol. 141, pp. 56–81. **Damiao** - Chen, WT, Zhou, M-F & Zhao, T-P 2013, 'Differentiation of nelsonitic magmas in the formation of the ~1.74 Ga Damiao Fe-Ti-P ore deposit, North China', *Contributions to Mineralogy and Petrology*, vol. 165, no. 6, pp. 1341–1362. **Lac á Paul** - proven and probable reserve; 2013 – Arianne Phosphate Inc., NI 43-101 Technical Report - Feasibility Study to Produce 3Mtpy of High Purity Apatite Concentrate at the Lac a Paul Project, Québec, Canada., <https://www.arianne-inc.com/wp-content/uploads/2022/06/43-101.pdf>



# MUCKANIPPIE PROJECT

## PROSPECTIVE ANORTHOSITE INTRUSION

- Historic drilling of mafic fraction includes substantial Ti-Fe mineralisation and Phosphate potential. Titanium grades up to 10.5 %  $\text{TiO}_2$  recorded.
- Known mineralization extends from 4 metres to 130 metres depth and remains open. Sparsely drilled and follows a body of approximately 2 kilometres length
- Sampling of historic drill core has additionally highlighted areas of anomalous rare earths up to 1000 ppm Total Rare Earth Oxide (TREO) in the overlying clay profile.

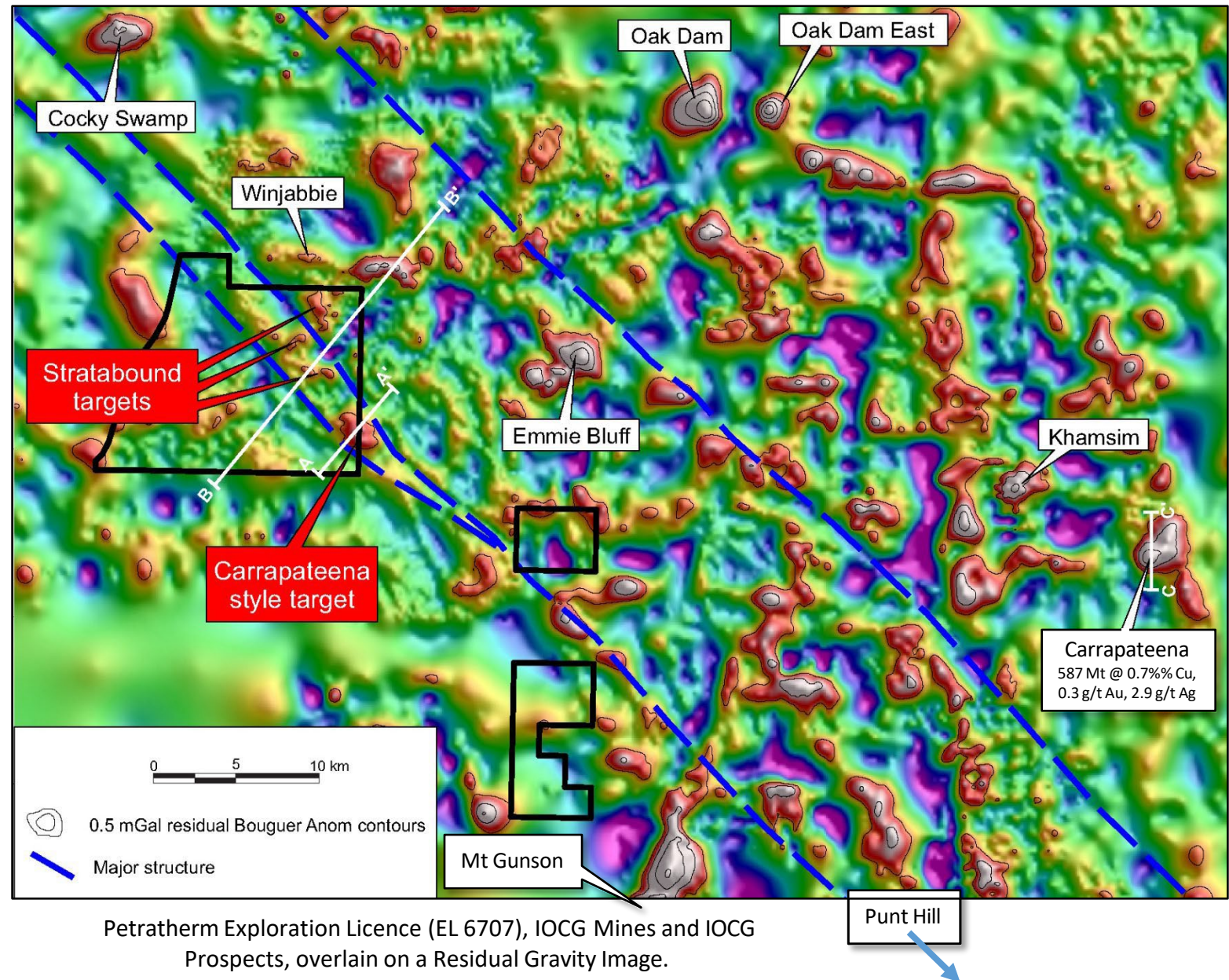




# WOOMERA IOCG PROJECT

## HIGHLY PRIZED TENURE – in an area of MAJOR IOCG MINERALISATION

- Multiple high priority gravity targets – 3 Target Styles !
- Native Title Mining Exploration Agreement Completed June 2022
- Drilling of targets scheduled from Q2 2023

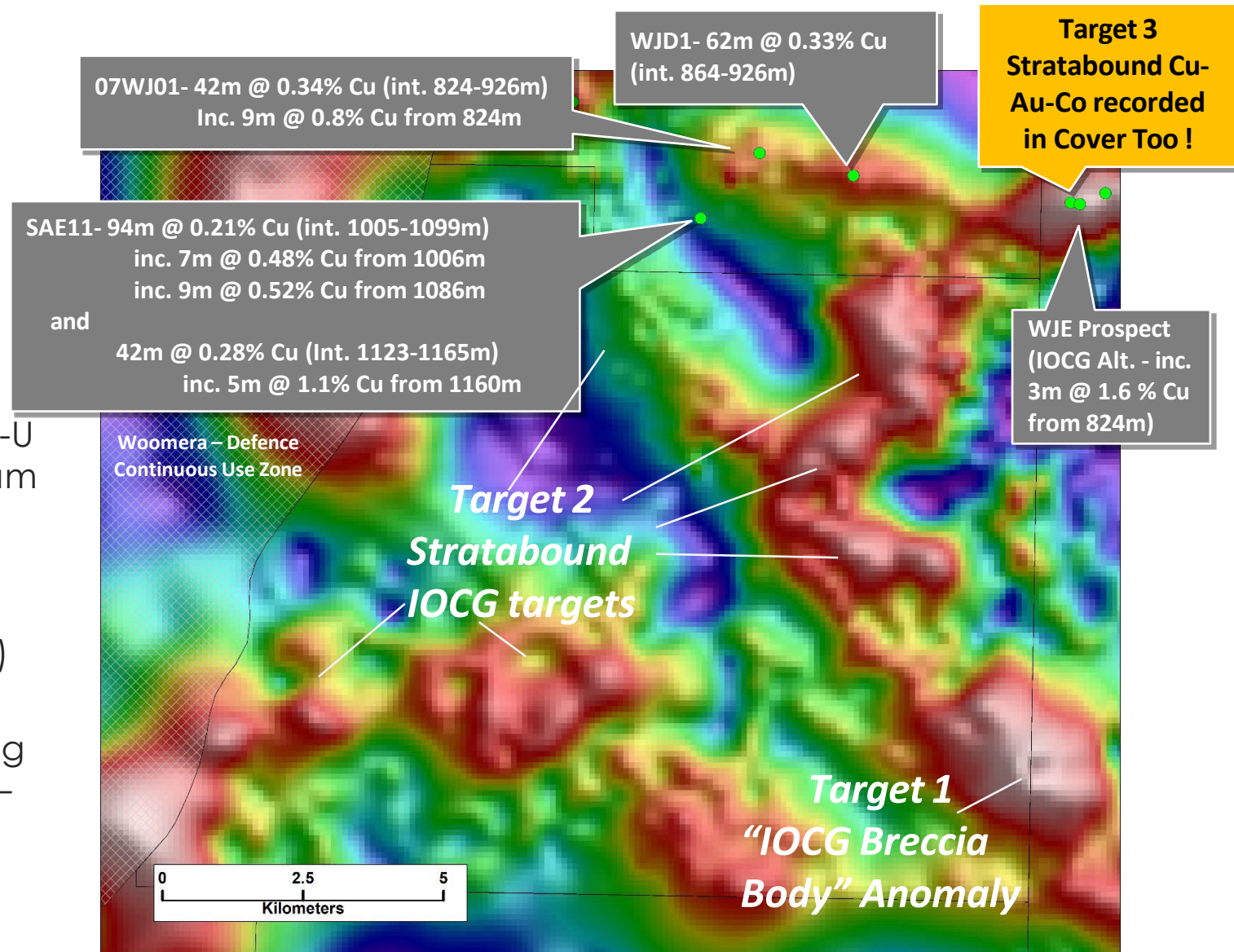




# WOOMERA IOCG PROJECT

## 3 Distinct Styles of Mineralisation !

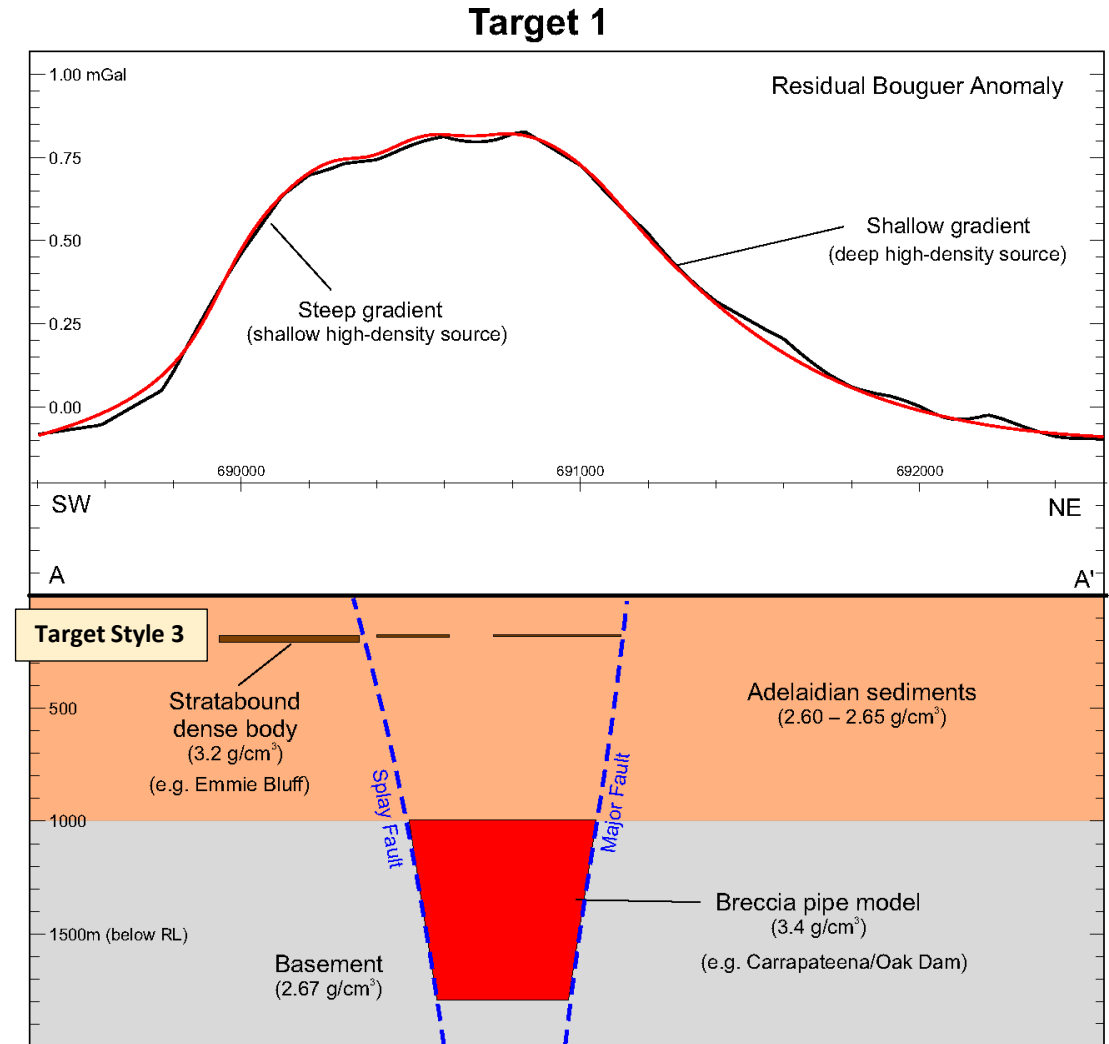
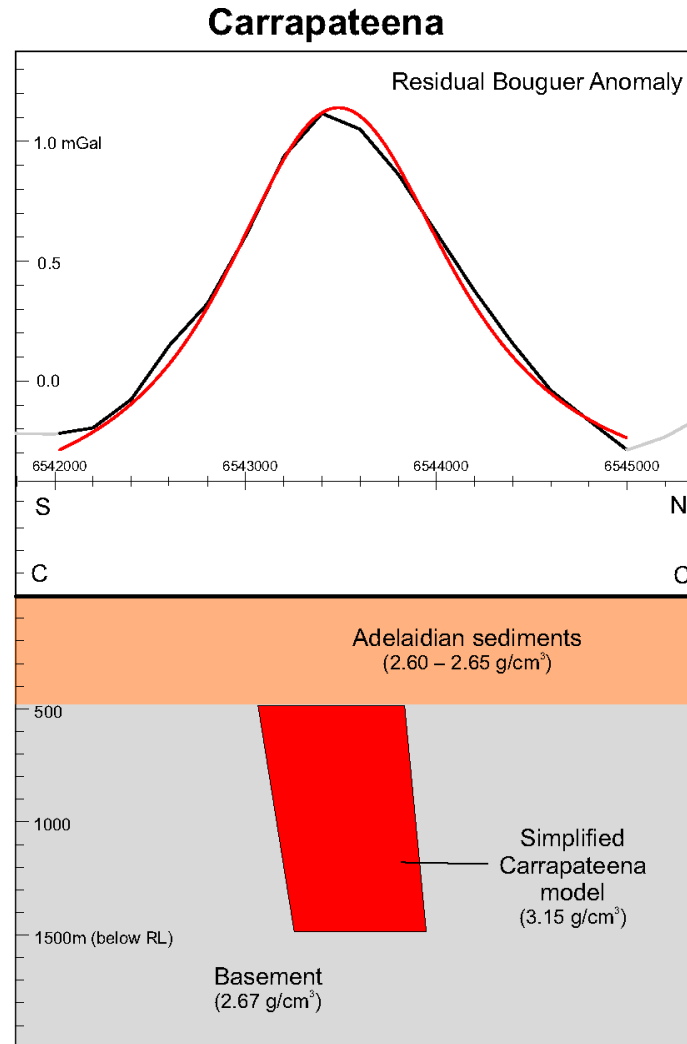
- Target 1 - IOCG Breccia Bodies – Cu-Au-Ag-U (i.e. Olympic Dam / Carrapateena / Oak Dam & Prominent Hill)
- Target 2 - Stratabound IOCG's – Cu-Au-Co (i.e. Emmie Bluff Deep, Punt Hill & Hillside)
- Target 3 - Stratabound Cu-Au-Co in overlying cover rocks (i.e. Mt Gunson & Emmie Bluff – *potentially remobilised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



Significant historical 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 mineralization

# WOOMERA IOCG PROJECT – TARGET 1 COMPARISON WITH CARRAPATEENA

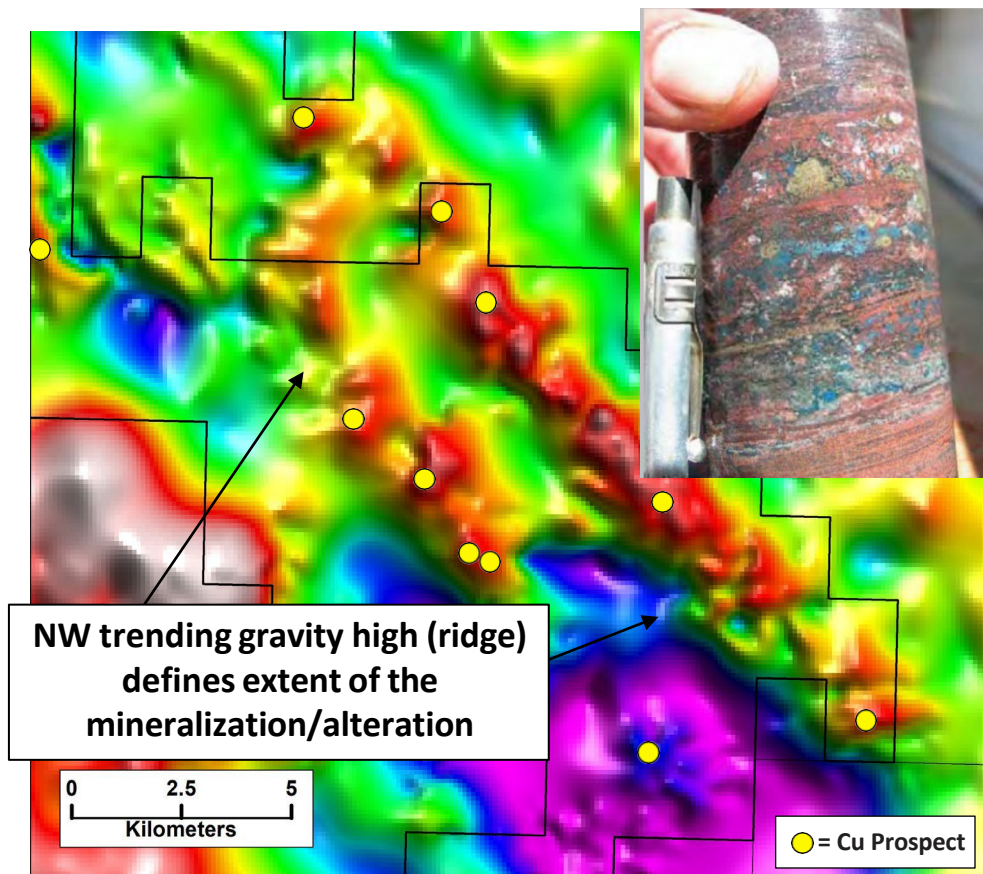
- Target 1 is an IOCG Breccia Body Target – *Displays a Comparable gravity response to the Carrapateena Orebody!*
- Steep gravity gradient on west side of Target 1 may indicate additional shallow Stratabound mineralisation in the overlying cover strata. (i.e. *Emmie Bluff, Mt Gunson Style Cu-Au-Co mineralisation potential also!*)





# TARGET STYLE 2: STRATABOUND IOCGs – A Potential Game Changer!

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

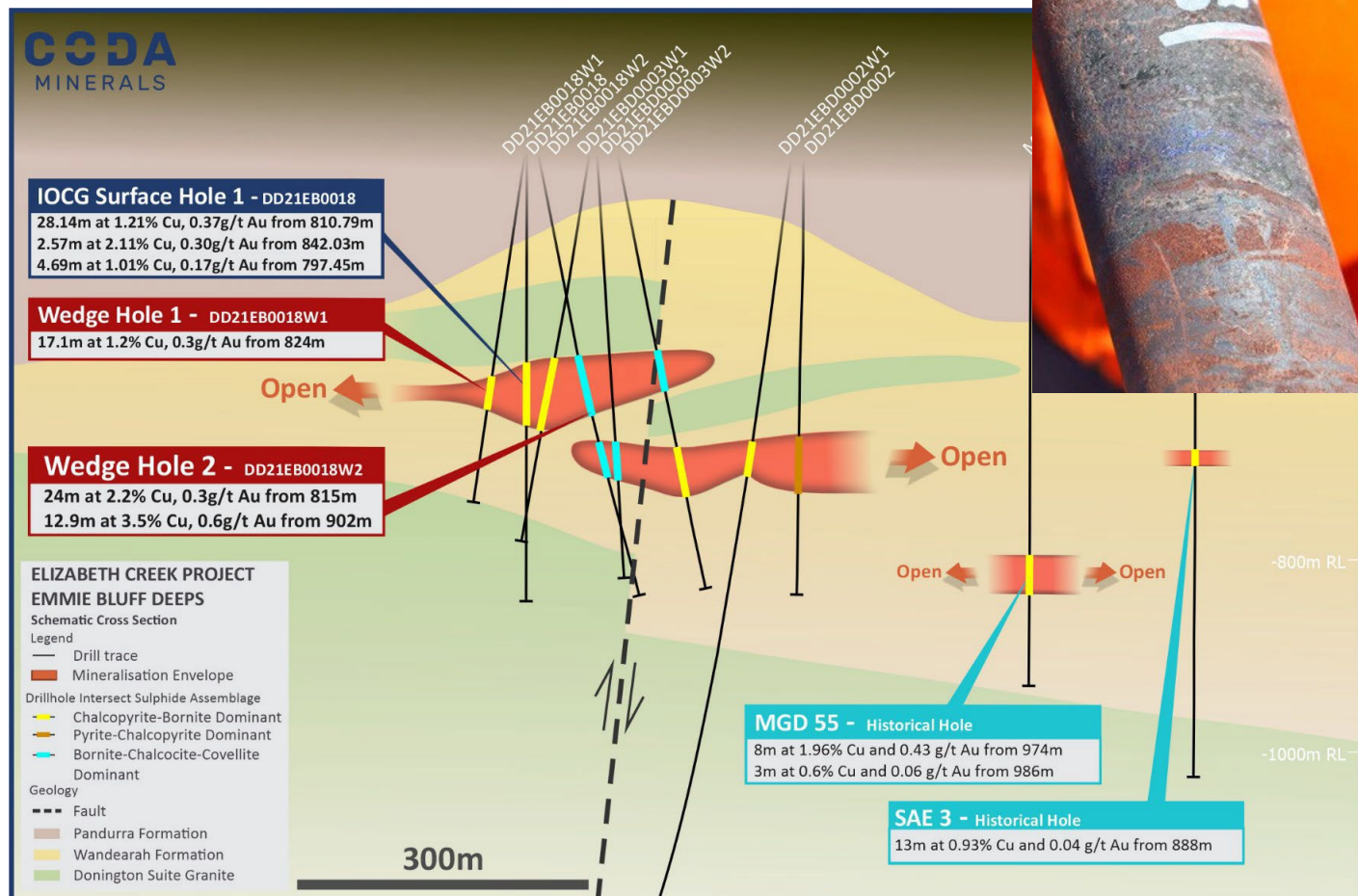


Punt Hill Residual Gravity Image (Source: SA. Govt - SARIG)

i.e. GHDD6 - 159m @ 0.47%Cu, 0.12g/t Au & 5.3g/t Ag, from 846m.

PHDD1402 - 26m @ 1.0 % Cu, 0.23 g/t Au & 8.5 g/t Ag from 969m

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

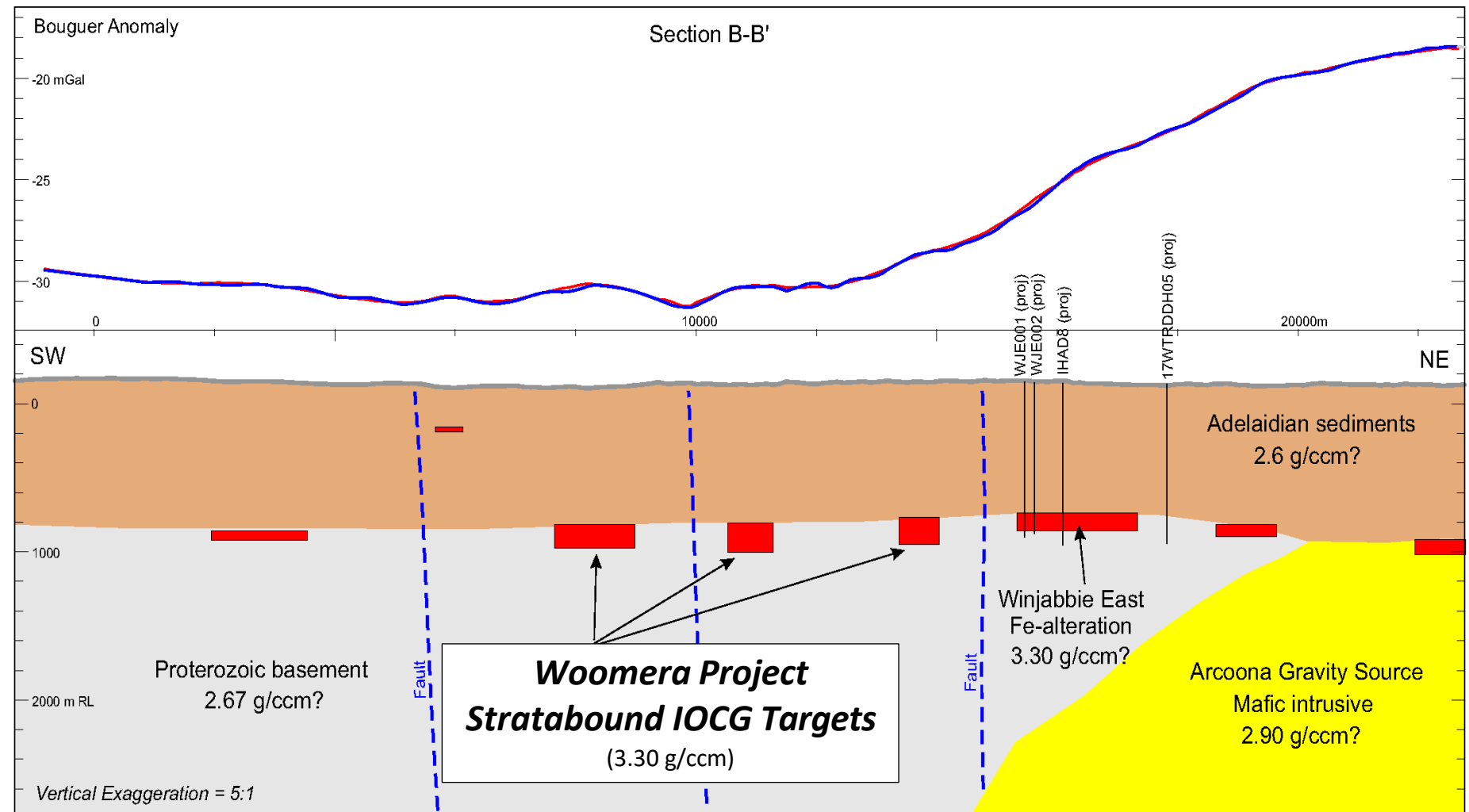


Source: Coda Minerals 06/10/2021 ASX release.

Widespread Evidence for Regional Scale “Stratabound IOCG” Copper Mineralisation across the Olympic Domain

# TARGET STYLE 2: STRATABOUND IOCGs – WOOMERA PROJECT TARGETS

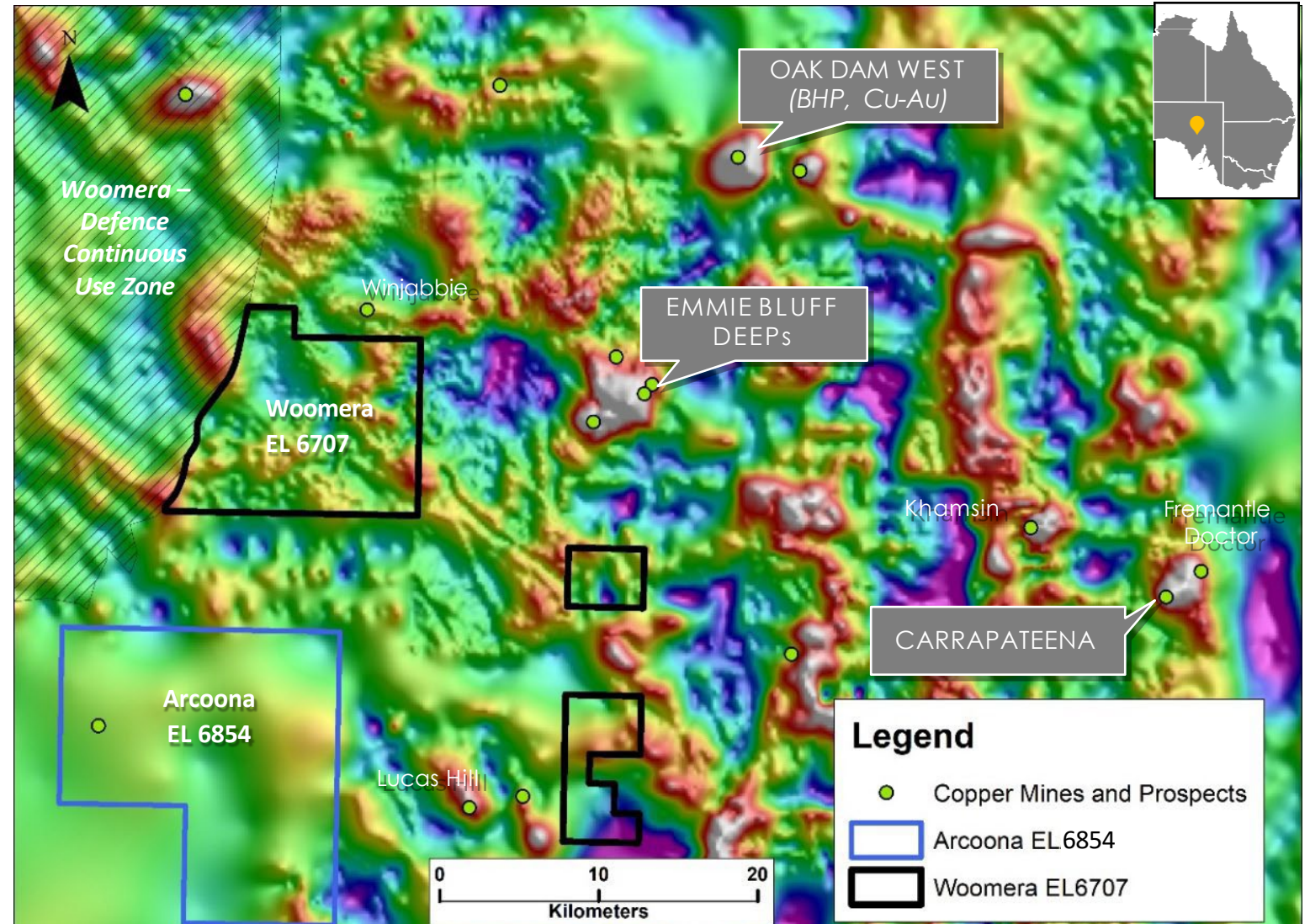
Gravity Profile  
Modelling  
highlights several  
*Stratabound IOCG*  
*Gravity Targets* on  
the Woomera  
Project Area  
displaying higher  
magnitudes than  
the Winjabbie  
Anomaly





# ARCOONA IOCG PROJECT

- Arcoona Project (EL 6854) located within the world class copper-gold “Olympic Province” of South Australia
- Project secured through a South Australian Government competitive bid process.
- Tenement is close to major copper-gold mines/occurrences and is prospective for Olympic Dam style Copper-Gold and Strata-bound Copper-Gold mineralisation.
- *One of the last areas in the region where no detailed gravity surveying has been undertaken to explore for Iron Oxide Copper Gold*

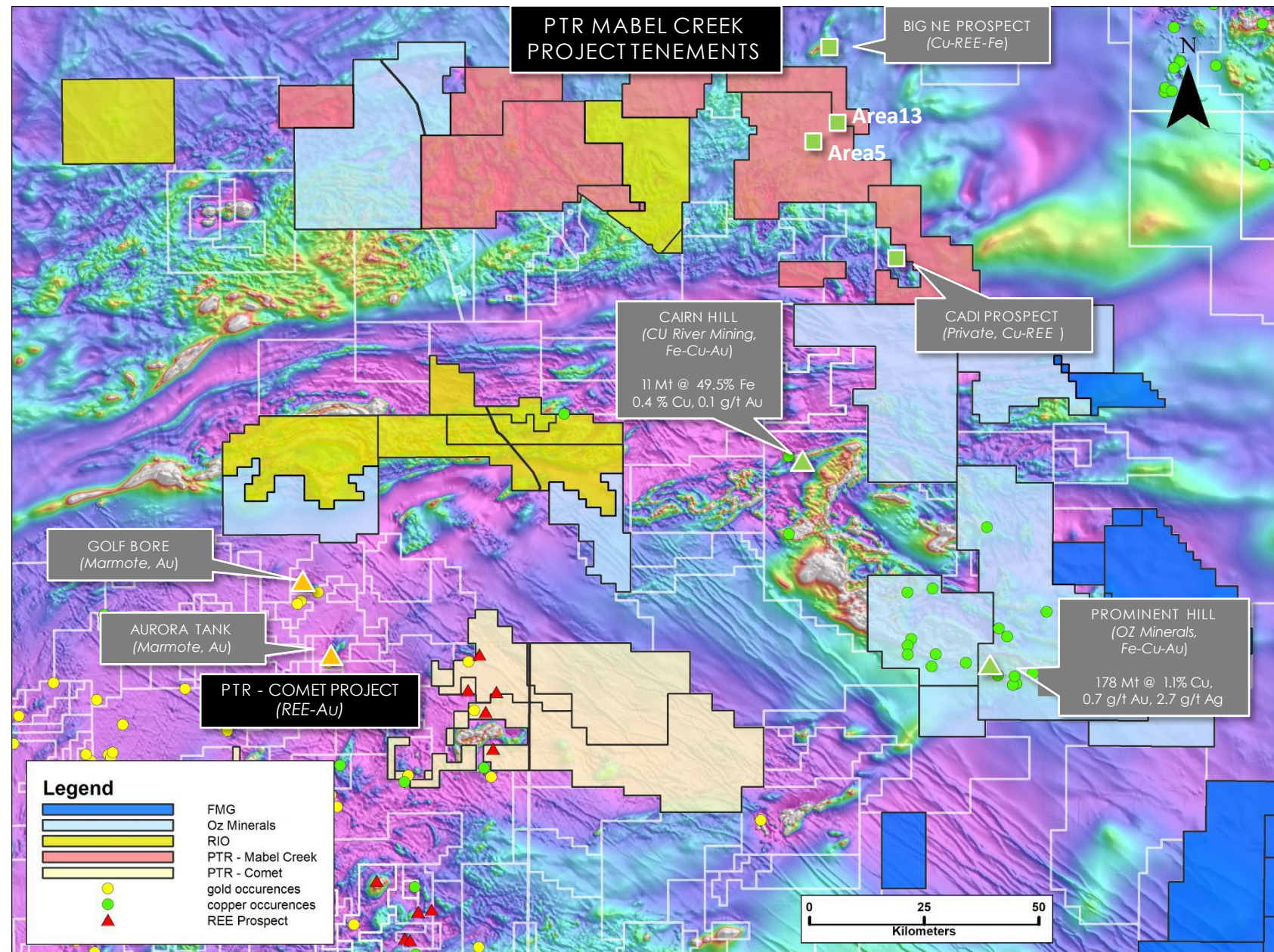


Residual Gravity Image over the Olympic Province, PTR's EL 6854 and EL 6707, IOCG Mines / Prospects.



# SOUTH AUSTRALIA'S World-Class Olympic Dam Copper-Gold Province

- Mabel Creek - Large holding (2,852 km<sup>2</sup>), fertile for Iron Oxide-Copper-Gold (IOCG) mineralisation
- Surrounded by Major World Copper Players – RIO, Oz Minerals & FMG
- 2020-2021 drilling intersected IOCG alteration at 2 Prospect sites – Area 5 & 13
- Numerous drill ready targets
- SA Government ADI Grant for Deep SQUID EM Surveying – Early 2023





# PETRATHERM: FORWARD PROGRAM

## ACTIVE GROUND CAMPAIGN for 2023

COMET RARE EARTHS – Infill Prospect and Exploration Drilling / Metallurgical Recovery Studies

WOOMERA / ARCOONA COPPER-GOLD - Deep Drilling of Multiple IOCG Targets at Woomera & Geophysical Targeting at Arcoona.

MUCKANIPPE Ti-Fe-P-REEs – Geophysical Surveying and Drill Testing of Targets

MABEL CREEK COPPER-GOLD – Large scale SQUID EM Surveying of Gravity/Magnetic Targets



Petratherm Senior Project Geologist, Michael Beven, inspecting saprolite clay profile samples, Comet REE Drilling

