

Actively Exploring for Copper and Rare Earth Elements in South Australia

Gold Coast Investment Conference
June 23 2022



# **Corporate Overview**

Copper and Rare Earth Element focussed exploration in South Australia

CAPITALISATION DATA(1)

A\$0.021

578M

A\$0.65M

**SHARE PRICE** 

BASIC S/O

RECEIVABLES (3)

A\$12.7M

A\$2.6M

**MARKET CAP** 

NET CASH(2)

#### **MANAGEMENT AND BOARD**

**THOMAS LINE** 

**CEO** 

**PAUL CRONIN** 

**NON-EXECUTIVE DIRECTOR** 

**DAVID CHAPMAN** 

NON-EXECUTIVE DIRECTOR

**GARY STEINEPREIS** 

**NON-EXECUTIVE DIRECTOR** 

**ERIC DE MORI** 

**NON-EXECUTIVE DIRECTOR** 

**DAN SMITH** 

**COMPANY SECRETARY** 



#### Share Price and Volume (Jan-Jun 2022)



#### **Top Shareholders**

Board and Management	~10%
Top 20	~50%

<sup>1.</sup> As at market close 20 June 2022

<sup>2. 30</sup> Mar 2022 cash of ~A\$2.6M

<sup>3.</sup> Accelerated Discovery Initiative funding announced 16/06/22

# Performance Snapshot Jan-June





14

price sensitive ASX announcements

>80%
Money in the ground



**\$900k** in JMEI credits

\$650k

State Government Grant Funding

#### **ESG**

# F

Local Aboriginal businesses engaged for cultural training and equipment hire

>70%

of expenditure went to local South Australian businesses and people

\$50k
In State
Government
funding secured for
Aboriginal

employment

#### **TARGET GENERATION**

#### 850km2

Regional Airborne magnetics program completed at Mt Craig Project

#### 850km2

High Resolution Spectral data acquisition and processing (ASTER and LANDSAT)

47
New targets defined

#### **PROJECT GENERATION**

1 new tenement granted



new tenement application lodged

New competitive Exploration Release Area (ERA) applied for

#### **ADVANCEMENT**

# Morgan's Creek

Positive metallurgical results from REE's confirming a high concentration of readily soluble REE's, indicating a simple and low cost metallurgical flowsheet







# Q: Why Rare Earths and Copper

- Rare Earths and Copper play a critical role in the future of clean energy and electrification
- Market demand rapidly increasing
- Magnetic Rare Earth Elements MREE's (Nd + Pr + Dy + Tb) are used to create REE permanent magnets, a key component in wind turbines and EV motors

EV's use up to 4 times more copper than internal combustion engines



#### **Electric Vehicles Permanent Magnets**

41 million by 2040 each containing 1.7kg of NdPr



#### **Electric Bicycles**

30 million in 2017 each containing 0.1kg of NdPr



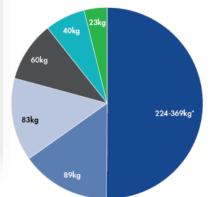
Sources: U.S. Geological Survey, Fact Sheet 087-02

1kg of NdPr

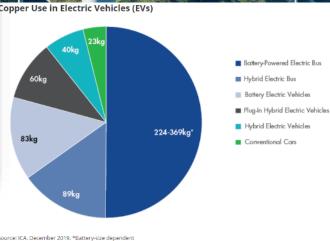
**Wind Turbines** 

https://www.arultd.com/images/files/Presentations/170706Korea-NT-Business-Roundtable

https://www.vaneck.com/us/en/blogs/natural-resources/copper-demand-is-electricbut-cansupply-keep-pace/



■ Battery-Powered Electric Bus









# South Australian Projects Copper and Rare Earth Elements

## Copper + Rare Earths in South Australia

WHY SOUTH AUSTRALIA?

#### **Gawler Craton – Home of Copper Giants**

- Olympic Dam (10 billion tonnes @ 0.82% Cu, 0.31g/t Au, 1.6g/t Ag 260ppm U308) ~ 160km
- <u>Carrapateena</u> (760 Mt @ 0.78% Cu, 0.3g/t Au, 3.3g/t Ag and 143ppm U3O8) ~ 60km

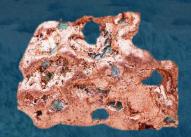
# Adelaide Fold Belt - Central African Copperbelt Geology

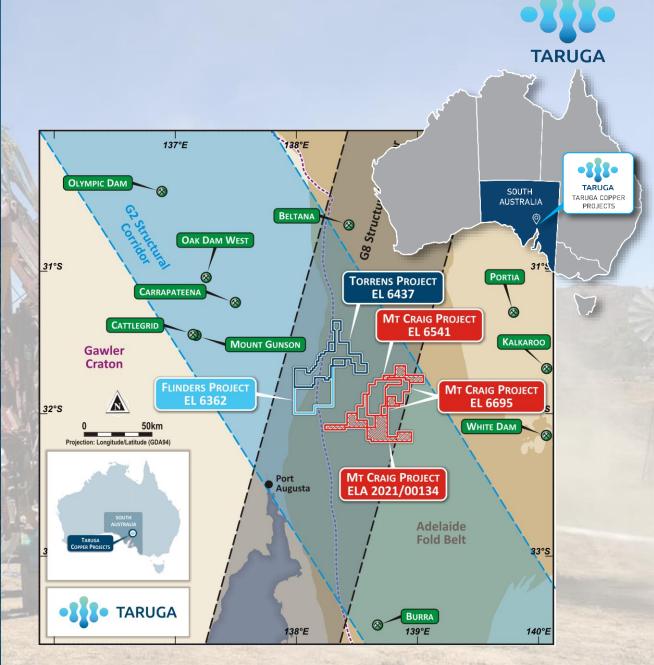
- Kipushi 40Mt @ 18% Cu Eq (DRC)
- Kamoa 760Mt @ 2.73% Cu ~ 20Mt Cu Metal (DRC)
- Burra **75kt Cu metal** ~ 160km (AFB)
- Beltana **1Mt @ 29% Zn ~** 150km (AFB)
- Windabout (250kt Cu Eq) ~ 120km (Stuart Shelf)

#### **SA – Emerging Ionic Clay REE province**

- Australian Rare Earths
- Taruga Minerals
- <u>Petratherm</u>
- Itech Minerals







# SUMMARY Mt Craig Project

34km strike with proven high-grade copper and Rare Earth Elements

- Targeting sediment-hosted copper and ionic adsorption clay style rare earth elements
- Same geological setting as the Central African Copperbelt, with diapiric brecccias and reduced black shales deposited in an intracontinental rift margin environment
- Lots of mineralisation at surface over >34km of strike
- Central African Copperbelt Model
  - Kipushi-style polymetallic ~ 40Mt @ 18% Cu Eq (52% Zn Eq) Central African Copperbelt (diapiric breccias)
  - Kamoa ~20Mt Cu Central African Copperbelt Reduced black shales
  - **Burra**-style Cu (**75Kt Cu metal**) 160km to the south (diapiric breccias)
  - Beltana Style Zinc ~ 1Mt @ 29% Zn (Diapiric breccias)
  - Windabout (250kt Cu eq) 120km to the west
- Limited exploration since the 1960's lots of shallow copper mineralisation identified without modern followup

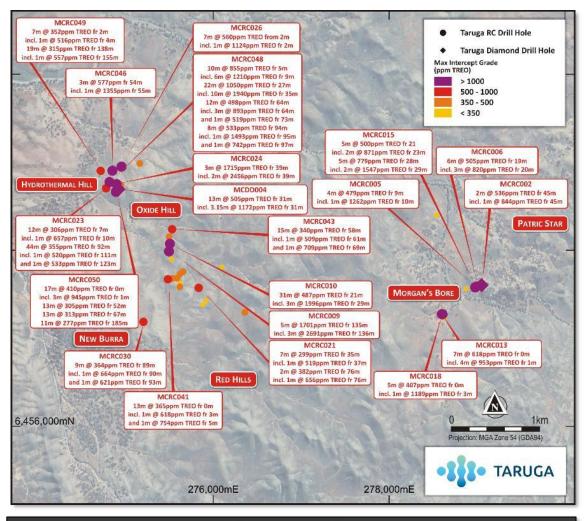




# Morgan's Creek

#### IAC style Rare Earth Elements (REE's)

- REE's and copper discovered in 2021 drilling program, over a 6km x 2km zone which remains open
- **REE enriched in high-value magnetic REE's** (Nd + Pr + Dy + Tb)
- Many of the REE's hosted in clay and weathered saprock
- Preliminary metallurgy showed an average recovery of 85% of the total rare earths and 93% of the high-value magnetic rare earths<sup>1</sup> in the clay zone, using a weak acid solution
- Indicates a simple metallurgical flowsheet, which significantly improves the commercial viability of REE deposits
- REE's never before targeted and will be targeted for the first time ever in the July drilling program, including new IAC REE targets in the "Western Plains" area
- 6m @ 1210 ppm Total Rare Earth Oxide (TREO) from 9m (MCRC048)
- 22m @ 1050 ppm TREO from 27m, including 10m @ 1,940ppm TREO (MCRC048)<sup>2</sup>
- **3m @ 1,996ppm TREO** (MCRC010)
- 3m @ 1,715ppm TREO from 39m including 2m @ 2,456ppm TREO (MCRC024)
- 1. Refer to ASX announcement dated 10/05/2022. 2. Refer to ASX announcement dated 10/03/2022.



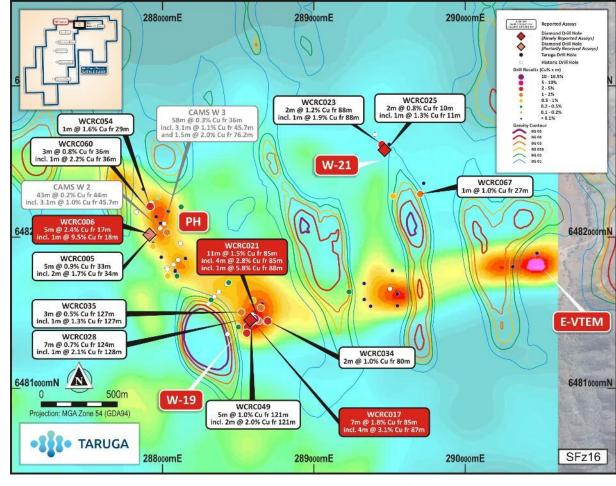




## Wyacca

#### **Sediment-hosted copper**

- History of artisanal mining dating back to 1863
- High-grade sediment hosted Cu intercepted in May 2021
- Significant intercepts include:
  - 11m @ 1.5% Cu from 85m
     Including 4m @ 2.7% Cu from 85m
  - 7m @ 1.8% Cu from 85m
     Including 4m @ 3.1% Cu from 87m
  - 5m @ 2.4% Cu from 17m
     Including 1m @ 9.5% Cu from 18m
- Same geological setting as the Central African Copperbelt (e.g. Kamoa ~ 760Mt @ 2.73% Cu, 20Mt Cu metal)
- **3km's strike length** (open) proven from drilling **and 1.5km's across strike** (open north)
- Petrophysics shows the ore is very dense and slightly magnetic
- New gravity and magnetics geophysics has identified several new structural zones for potential drill targeting
- Geophysics modelling → Auger drilling → RC drilling → Diamond







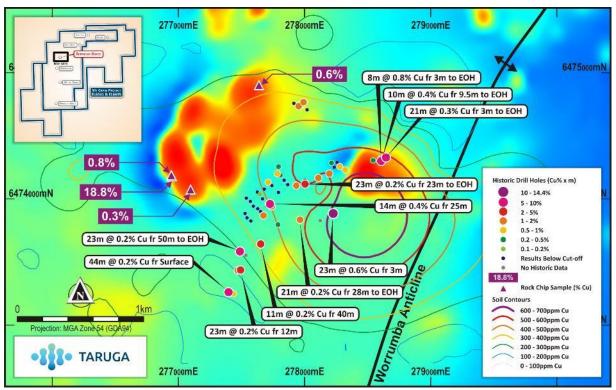




# Birthday Ridge

#### Sediment-hosted Cu from Surface

- Sediment-hosted copper deposit discovered in the 1960's, adjacent to the Worrumba Anticline
- 2km strike (open in all directions)
- Very shallow drilling, often starting and ending in mineralisation mainly in the oxide/leached zone
- New aeromag shows association between magnetics and higher copper grade, with most anomalies undrilled
- Best intercepts include:
  - 23m @ 0.6% Cu from 3m (GCL 45)
  - 8m @ 0.8% Cu from 3m to EOH (GCL 47)
  - 44m @ 0.2% Cu from surface (GCL 42)
- Rock chips show gold and silver anomalism associated with the copper (e.g.18.6% Cu, 17g/t Ag, 0.11g/t Au MC027)
- RC drilling to commence following completion of Native Title Mining Agreement









Flinders & Torrens
Iron-Oxide-Copper-Gold
(IOCG) Cu-Au-Ag



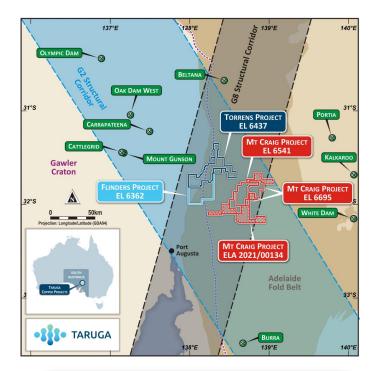
# Flinders and Torrens IOCG Projects High-grade IOCG targets over 15km of strike

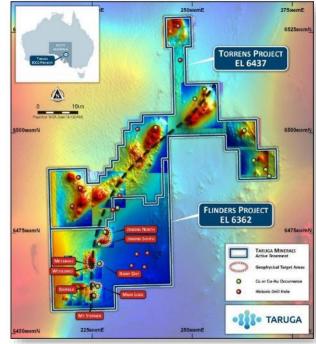
- Well defined drill targets over 15km of strike at Flinders
- ~ 1500km2 land position
- Outcropping high-grade IOCG breccias (Cu-Au-Ag) supported by strong gravity and magnetic anomalies – never been drilled
- Mineralised hematite and magnetite breccias
- Only known outcropping IOCG project in South Australia
- Nearby Monster IOCG's:
  - Olympic Dam (10 billion tonnes @ 0.82% Cu, 0.31g/t Au, 1.6 g/t Ag 260ppm U308) ~ 160km
  - Carrapateena (760 Mt @ 0.78% Cu, 0.3g/t Au, 3.3g/t Ag and 143ppm U3O8) ~ 60km
- Aboriginal heritage approvals are required for the planned drilling program, with a decision expected during 2022















Western Australia
Ultramafic Ni-Cu-PGE
Magmatic Ni-Cu

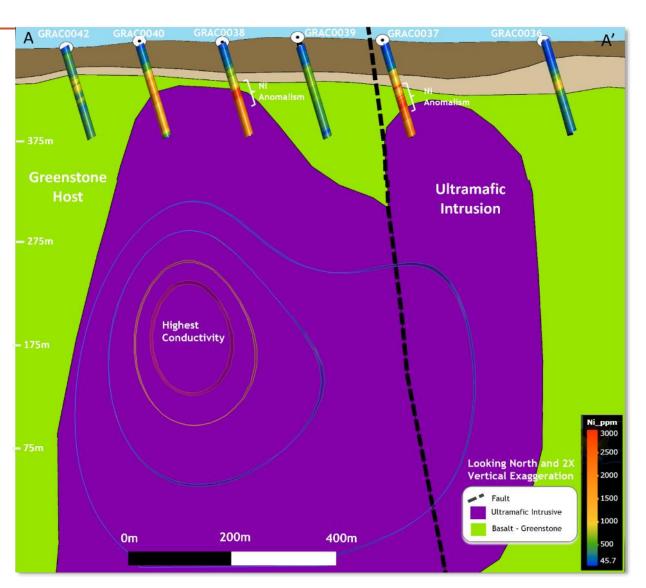
# **Green Rocks JV with Peak Minerals (PUA)**

# TARUGA

#### Magmatic Ni-Cu project

- Peak Minerals PUA have an option to earn 80% from Taruga
- PUA currently drilling strong EM conductors at "Target B
- Aircore drilling at Target B intercepted strong Ni anomalism and confirmed ultramafics
- RC drilling will be followed by diamond drilling





<sup>\*</sup> Refer to PUA ASX announcements 9/06/22 and 20/05/22.

# Manjimup Southwest Project (100% TAR)

Prospective for nickel, copper, gold and PGE'S

#### E70/5039 (**Kingston Ni-Cu-PGE Project**) Application 100% TAR

- Adjoins the Chalice Mines (ASX:CHN)/Venture Minerals (ASX:VMS) JV
- Potential for Julimar-Style Ni-Cu-PGE mineralisation (massive sulphides intersected at Thor and Odin).
- Mafic intrusions with chalcopyrite identified from Taruga petrology and mapping

#### **Exploration Program 2021**

Field Reconnaissance exploration currently underway

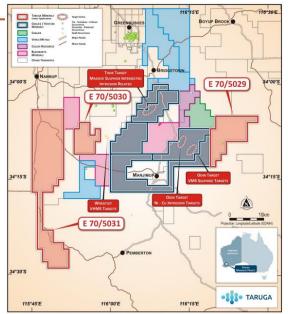
- Reprocessing of EM and aeromag datasets (complete)
- Mapping and Lag/Pisolite and rock chip sampling (complete)
- Target Definition (currently underway)

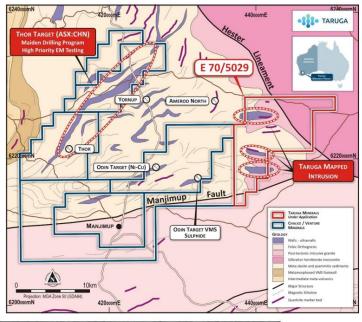
#### E70/5030 (Wheatley VMS Project Zn-Pb-Au-Cu) Application 100% TAR

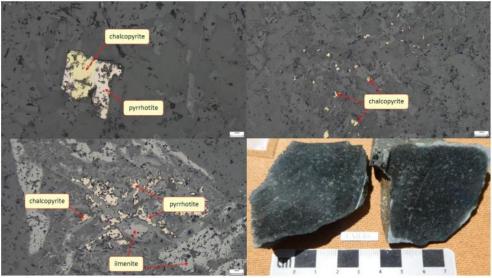
Extension of the VMS horizon extending from the Jack and Kingsley VMS discoveries (BHP Wheatley JV).

#### E70/5031 (Darling Project Ni-Cu-PGE and Au) Application 100% TAR

38km long magnetic anomaly associated with the Darling Fault and western margin of the Yilgarn Craton







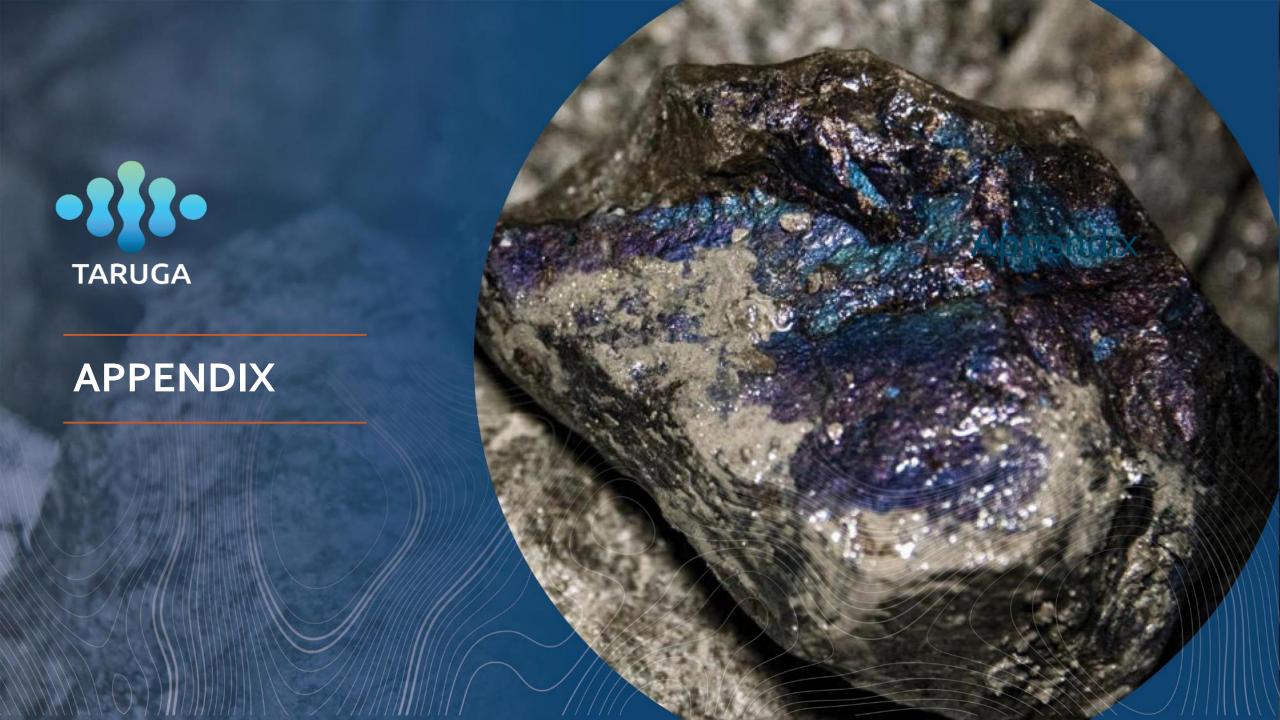




### **Take Home Messages**

- Discovery focussed active explorers with a strong ESG framework
- Strong land position ~ >3000km2
- Complimentary portfolio of strong copper and rare earth element projects
- \$650k of state government funding recently awarded
- Drilling program commencing next month (July) testing a suite of new targets
- Strong pipeline of new targets and projects rapidly under development





# **Competent Person Statement & Disclaimer**



The information contained in this presentation has been prepared by Taruga Minerals Limited (Company).

#### **Competent Person Statement**

The information in this report that relates to exploration results is based on, and fairly represents information and supporting documentation prepared by Mr Brent Laws, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Processing and modelling of the geophysics have been conducted by Mr Jim Allender, a geophysical consultant to the Company through Allender Exploration. Jim Allender is a member of the Australian Institute of Geoscientists (AIG) and is an experienced geophysicist with over 30 years' experience. Mr Allender has sufficient experience relevant to the style of mineralisation and the type of deposit under consideration. Mr Laws is the Exploration Manager of Taruga Minerals Limited. Mr Laws 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 Resource and Ore Reserves". Both Mr Laws and Mr Allender consent to the inclusion in this report of the matters based on their information in the form and context in which it appears.

Taruga confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

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#### Contact

Thomas Line
Chief Executive Officer
Thomas.line@tarugaminerals.com.au
+61 8 9486 4036

Website: www.tarugaminerals.com.au

LinkedIn: taruga-minerals-limited

Twitter: @MineralsTaruga