



# Australian Critical Rare Earth Minerals

RIU Sydney Conference

9 May 2023

ASX | OD6

# Important Information

## Disclaimer

This presentation has been prepared by OD6 Metals Ltd (ACN 654 839 602) (**OD6**) and is current as at the date of this document. The information contained in this presentation is for informational purposes only and does not constitute an offer to issue, or arrange to issue, securities or other financial products. The information contained in this presentation is not investment or financial product advice and is not intended to be used as the basis for making an investment decision. The presentation has been prepared without considering the investment objectives, financial situation or needs of any particular person. Before making an investment decision, you should consider, with or without the assistance of a financial adviser, whether an investment is appropriate considering your particular investment needs, objectives and financial circumstances. Past performance is no guarantee of future performance. Any securities that may be issued by OD6 should be considered speculative and there is no guarantee implied or explicit that there will be a return on the capital invested or that any dividend will be paid or that there will be an increase in the price or value of OD6's shares in the future.

No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information, opinions and conclusions contained in this presentation. To the maximum extent permitted by law, none of OD6, its directors, employees or agents, nor any other person accepts any liability, including, without limitation, any liability arising out of fault of negligence, for any loss arising from the use of the information contained in this presentation. In particular, no representation or warranty, express or implied is given as to the accuracy, completeness or correctness, likelihood of achievement or reasonableness or any forecasts, prospects or returns contained in this presentation nor is any obligation assumed to update such information. Such forecasts, prospects or returns are by their nature subject to significant uncertainties and contingencies.

## Competent Person Statement

The information contained in this presentation that relates to exploration results is based on and fairly represents information and supporting documentation prepared Mr Jeremy Peters, Director of Burnt Shirt Pty Ltd. Mr Peters is a Fellow of the Australasian Institute of Mining and Metallurgy and a Chartered Professional Geologist and Mining Engineer of that organisation. Mr Peters has sufficient experience relevant to the style of mineralisation and type of deposits under consideration, and to the activity which he has undertaken to qualify as a Competent Person as defined in the JORC Code. Mr Peters consents to the inclusion of the matters based on his information in the form and context in which the exploration results and supporting information are presented in this presentation.

## Forward Looking Statements

Certain statements contained in this presentation, including information as to the future financial or operating performance of OD6 and its projects, are forward looking statements. Such forward looking statements:

- may include, among other things, statements regarding incomplete and uncertain proposals or targets, production and prices, operating costs and results, capital expenditures, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions;
- are necessarily based upon several estimates and assumptions that, while considered reasonable by OD6, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies; and
- involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements.

OD6 disclaims any intent or obligation to update publicly any forward-looking statements, whether as a result of new information, future events or results or otherwise. The words "believe", "expect", "anticipate", "indicate", "contemplate", "target", "plan", "intends", "continue", "budget", "estimate", "may", "will", "schedule" and similar expressions identify forward looking statements. All forward looking statements made in this presentation are qualified by the foregoing cautionary statements. Recipients are cautioned that forward looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward looking statements due to the inherent uncertainty therein.

No representation is made that, in relation to the tenements the subject of this presentation, OD6 has now or will at any time in the future develop further resources or reserves within the meaning of the Australian Code for Reporting of Exploration Results, Mineral resources and Ore Reserves (**The JORC Code**).

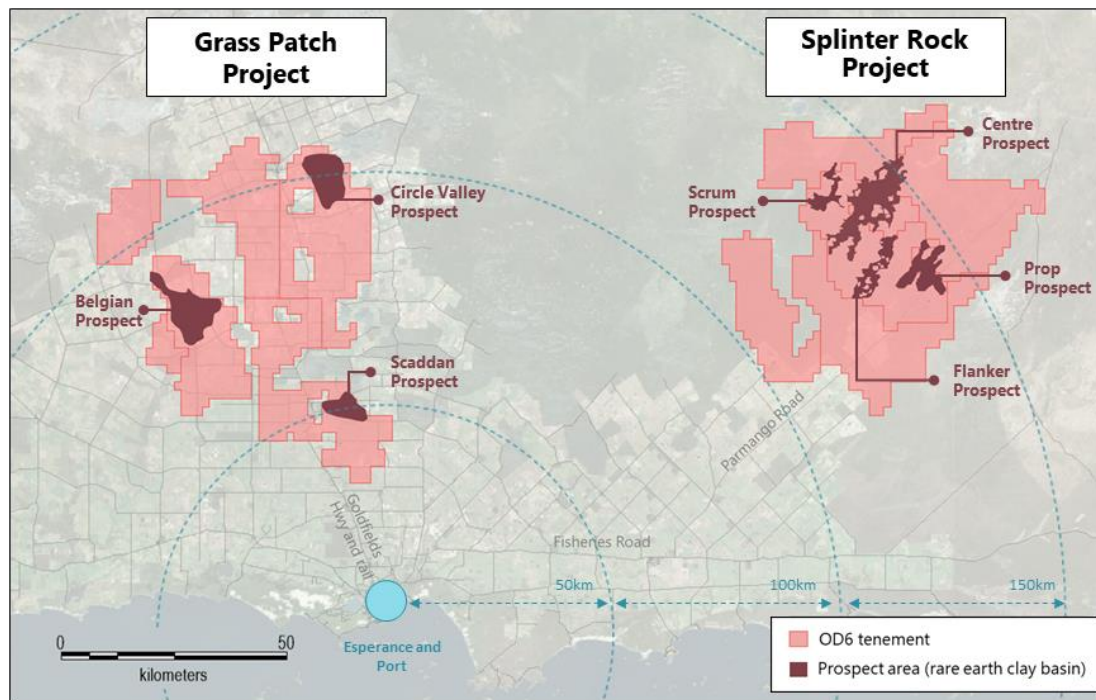
## No New Information

This document 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**) and available for viewing at <https://www.od6metals.com.au/investors/asx-announcements/>. OD6 confirms that it is not aware of any new information or data that materially affects the information included in any original ASX market announcement.

# Globally Significant Clay Hosted Rare Earth Discovery

100% Owned

- **4,828 km<sup>2</sup>** tenement package
- **Multiple** large-scale prospects identified
- Grades averaging **>1,000ppm TREO @ ~22% MagREO**
- **10-80m thick intersections**, near surface
- **60 to 75%** average acid leach recoveries
- **250km<sup>2</sup> of clay basins** mapped by an Airborne electromagnetics (AEM) survey
- Close to port, roads & essential **infrastructure**



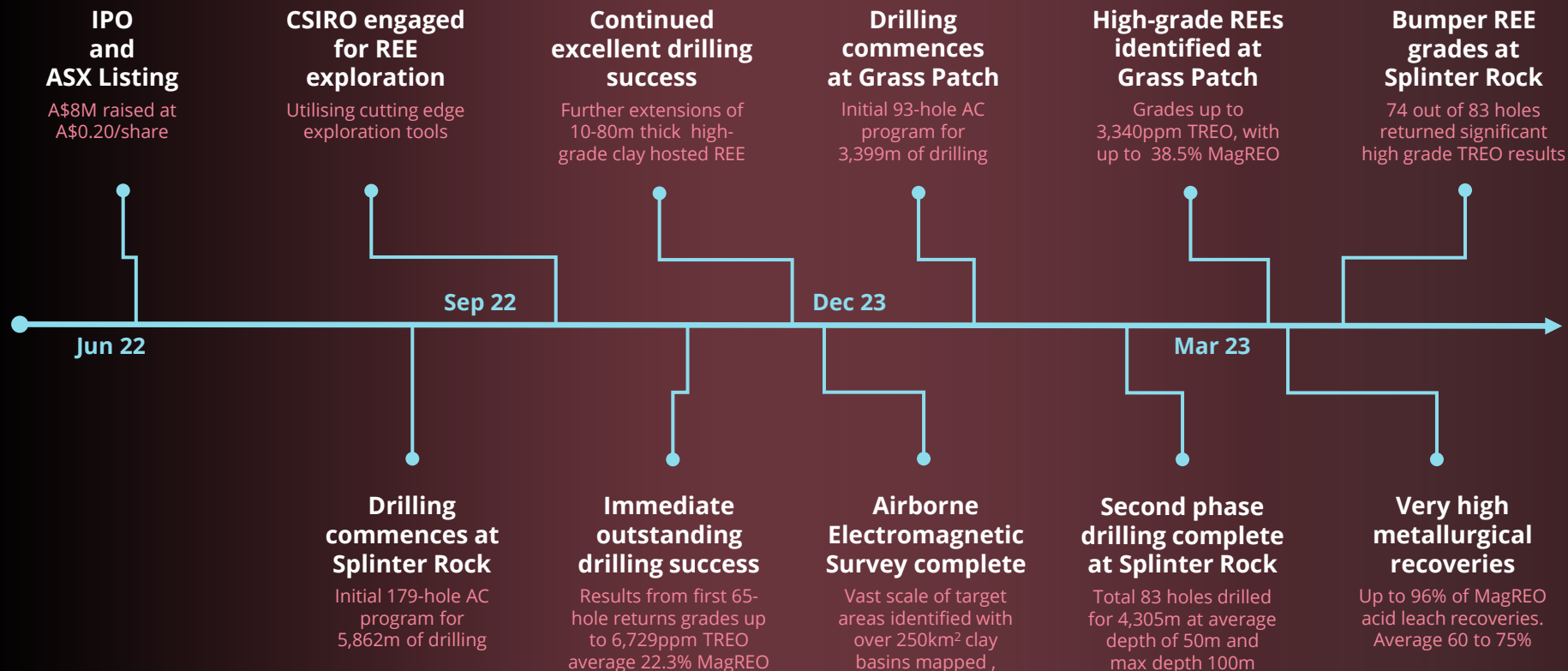
**TREO (Total Rare Earth Oxide)** =  $\text{La}_2\text{O}_3 + \text{CeO}_2 + \text{Pr}_6\text{O}_{11} + \text{Nd}_2\text{O}_3 + \text{Sm}_2\text{O}_3 + \text{Eu}_2\text{O}_3 + \text{Gd}_2\text{O}_3 + \text{Tb}_4\text{O}_7 + \text{Dy}_2\text{O}_3 + \text{Ho}_2\text{O}_3 + \text{Er}_2\text{O}_3 + \text{Tm}_2\text{O}_3 + \text{Yb}_2\text{O}_3 + \text{Lu}_2\text{O}_3 + \text{Y}_2\text{O}_3$

**MagREO (Magnet Rare Earth Oxide)** =  $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11} + \text{Tb}_4\text{O}_7 + \text{Dy}_2\text{O}_3$

**% Magnet REO** =  $(\text{MagREO} / \text{TREO}) * 100$

# Rapid Exploration Progress Since IPO

Doing what we said we would do

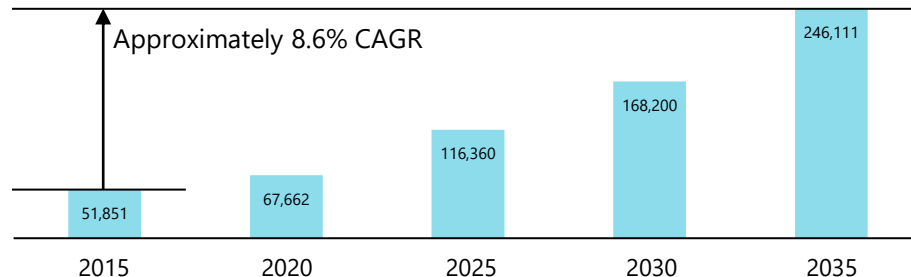


# Insatiable Demand for Rare Earth Magnets

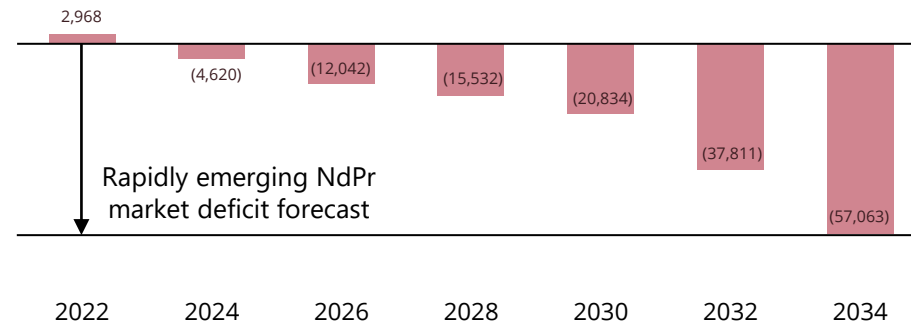
A growing NdPr rare earth supply deficit

- Transitions from carbon to **renewable economy**  
- strong demand for critical MagREO
- **8.6%** expected compound annual growth rate (**CAGR**) for MagREO
- **Value of global MagREO consumption expected to triple by 2035**  
– rising from US\$15.1 billion in 2022 to US\$46.2 billion in 2035<sup>2</sup>
- **Significant NdPr supply deficits** expected,
- Demand underpinned by growth from electric vehicles, wind power and consumer electronics

MagREO demand forecast (t)<sup>1,2</sup>



NdPr market balance (t)<sup>2,3</sup>



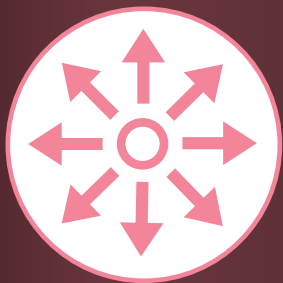
1. MagREO (Magnetic Rare Earth Oxide) =  $\text{Pr}_6\text{O}_{11} + \text{Nd}_2\text{O}_3 + \text{Tb}_4\text{O}_7 + \text{Dy}_2\text{O}_3$

2. Source Adamas Intelligence, June 2022

3. NdPr = Two of the critical rare earth elements Neodymium (Nd) and Praseodymium (Pr), represent the major value and revenue sources from Rare Earth Element production.

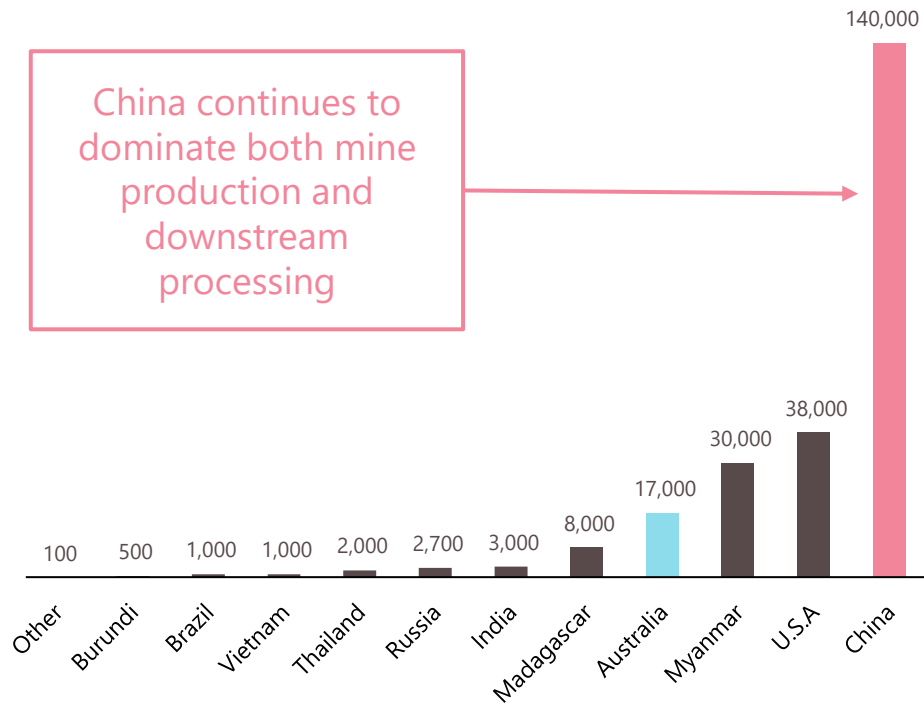
# New Australian Supply Urgently Needed

Mine concentration is a significant risk to the global supply chain



Diversity of supply is a priority for governments and corporations with Australia well placed to provide additional capacity

Existing global mine production (t)

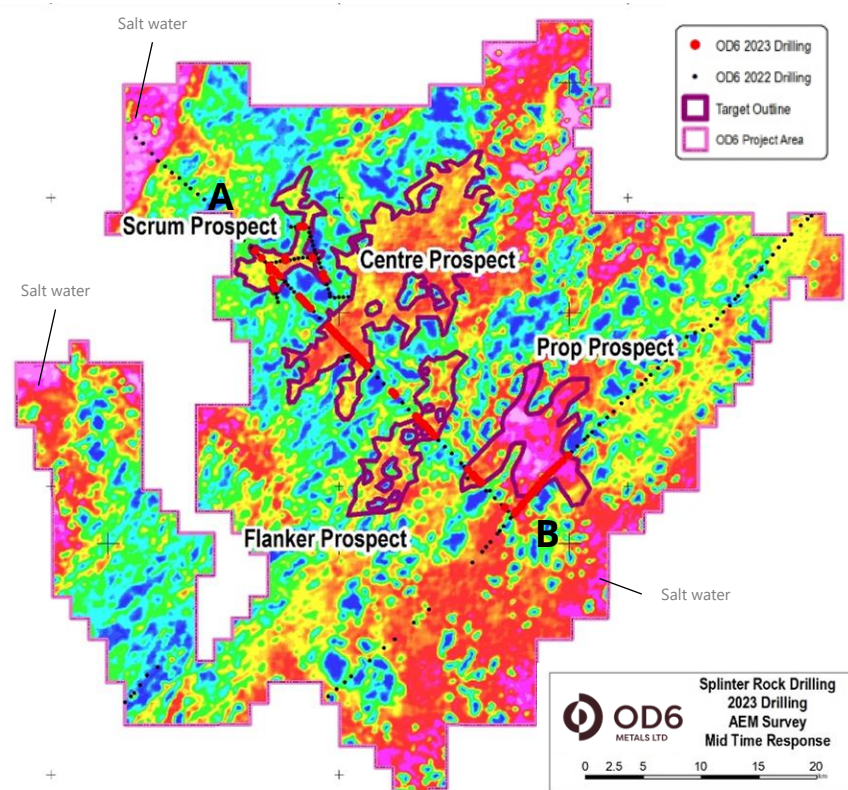




# Highly Targeted Exploration Program

## Airborne Electromagnetic (AEM) Success

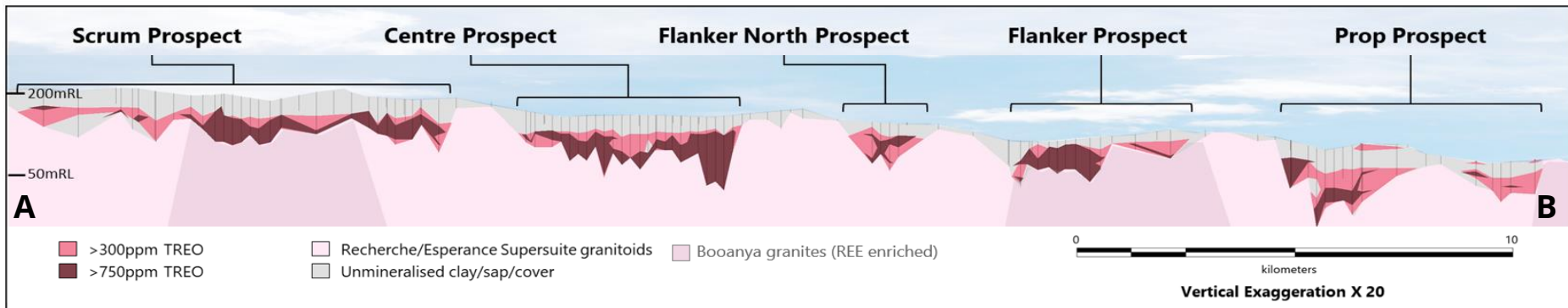
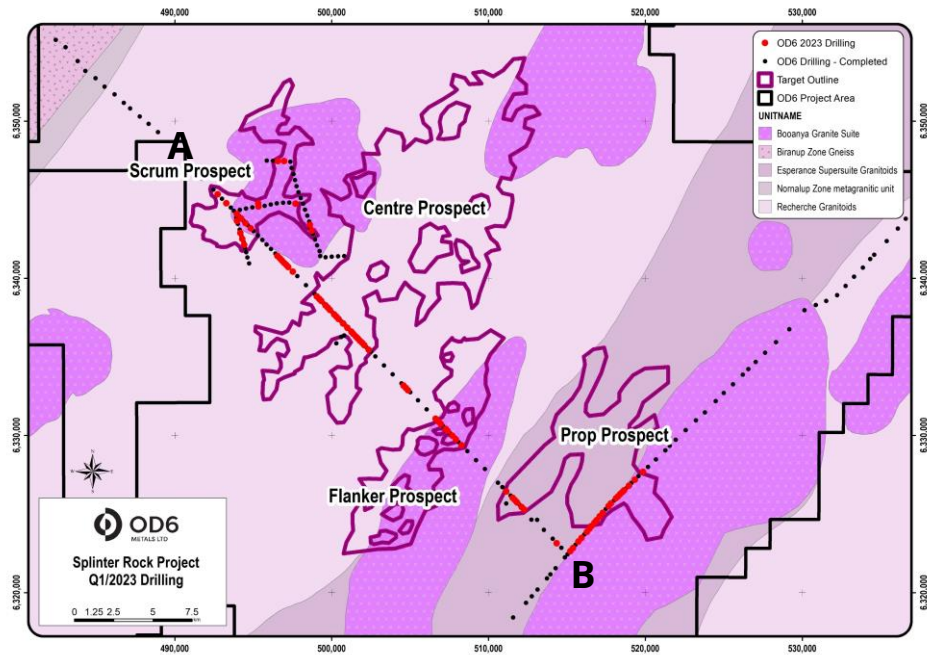
- AEM has facilitated mapping of clay locations, expanse and potential thickness
- **250km<sup>2</sup> of clay basins mapped**
- Clays are conductive, and are readily mapped with AEM (yellow to red colours).
- Granites are not conductive (blues to green)
- 74 out of 83 holes (~90%) returned significant high grade TREO results from last drill program



# Splinter Rock Geology

Heavily enriched in Rare Earths

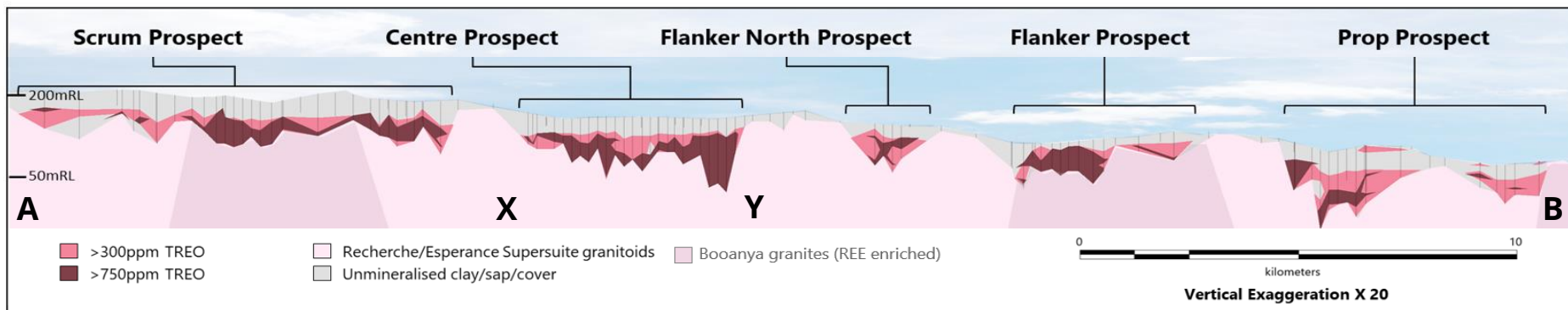
- Splinter Rock tenure and exploration model targeting clay basins fed by REE weathering of Booanya granites
- The strong enrichments in REE distinguishes Booanya granites from all other granite groups in the Esperance area
- **CSIRO engaged to use cutting edge exploration tools**





# Four Significant Prospects at Splinter Rock

Thickness x Area x Density = Massive Potential Scale



Prospect	TREO Grade #	MagREO % #	Clay Thickness	AEM width x length	AEM Clay Basin Area	Cover Thickness	Met Leach Recovery
<b>Scrum</b>	1,000 to 1,290ppm	23 to 24%	10 to 48m	1-5km x 11km	~ 26 km <sup>2</sup>	15 to 35m	64%
<b>Centre</b>	1,260 to 1,590ppm	22 to 23%	10 to 70m	5-10km x 27km	~ 136 km <sup>2</sup>	5 to 10m	54 to 78%
<b>Flanker</b>	1,050 to 1,310ppm	23 to 24%	10 to 30m	3-5km x 17km	~ 42 km <sup>2</sup>	3 to 15m	76%
<b>Prop</b>	740 to 1,420ppm	20 to 22%	10 to 80m	3-9km x 5-11km	~ 49 km <sup>2</sup>	3 to 24m	44 to 96%

# Indicative average grades based on a 300ppm and 750ppm cut off grade

Airborne Electromagnetic Survey (AEM)

Refer to: ASX announcement 18 April 2023, "Bumper REE Grades and Extensive Thicknesses at Splinter Rock"

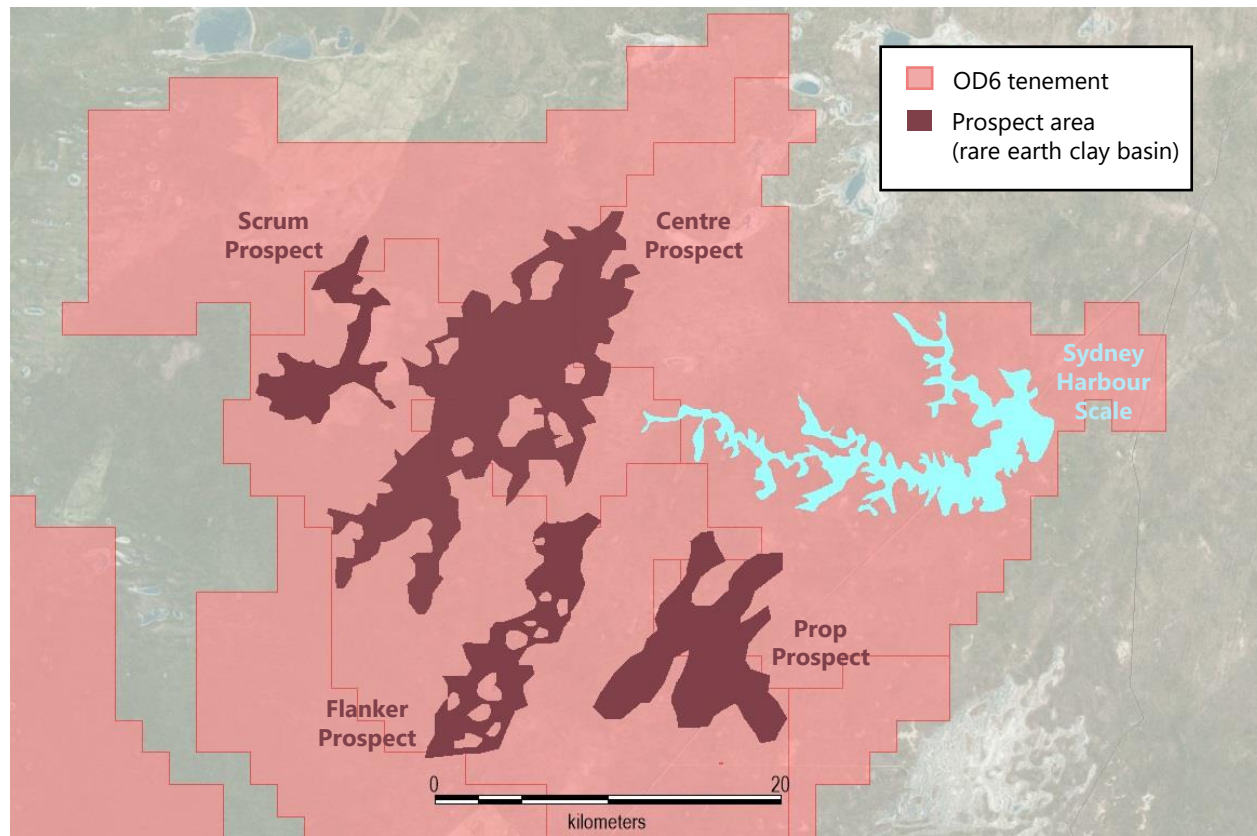
Refer to: ASX announcement 15 December 2022, "AEM shows Vast Scale of Target Areas"

Refer to: ASX announcement 3 April 2023, "Very High Metallurgical Recoveries"

# Comparison Scale to Sydney Harbour

## Multiple Sydney Harbour's

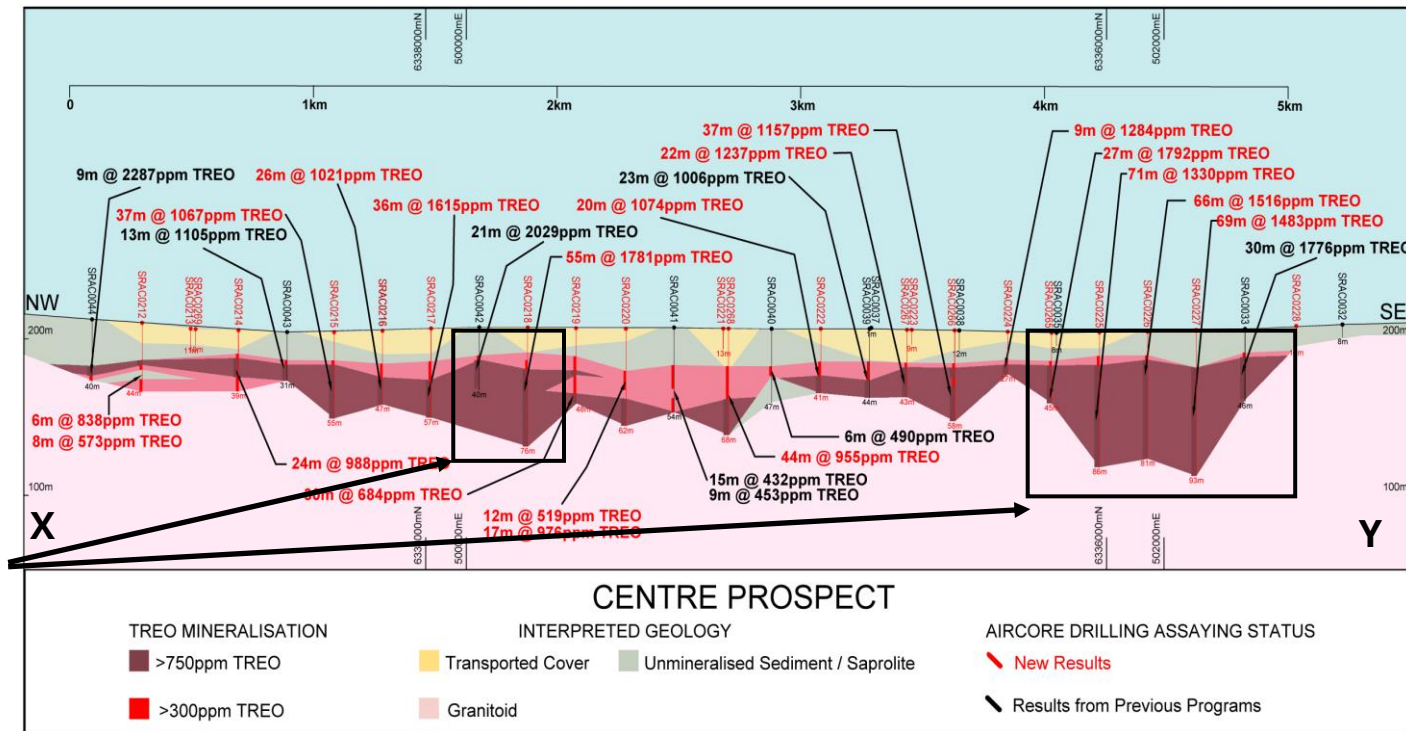
- **Sydney Harbour is 55 km<sup>2</sup> (1)**
- Sydney to Parramatta is ~20km
- AEM Clay Basins Mapped
  - Centre - 136 km<sup>2</sup>
  - Prop - 49 km<sup>2</sup>
  - Flanker - 42 km<sup>2</sup>
  - Scrum - 26 km<sup>2</sup>



# Deep REE Clay Basins Drilling Success

The thickest and highest grade in Australia

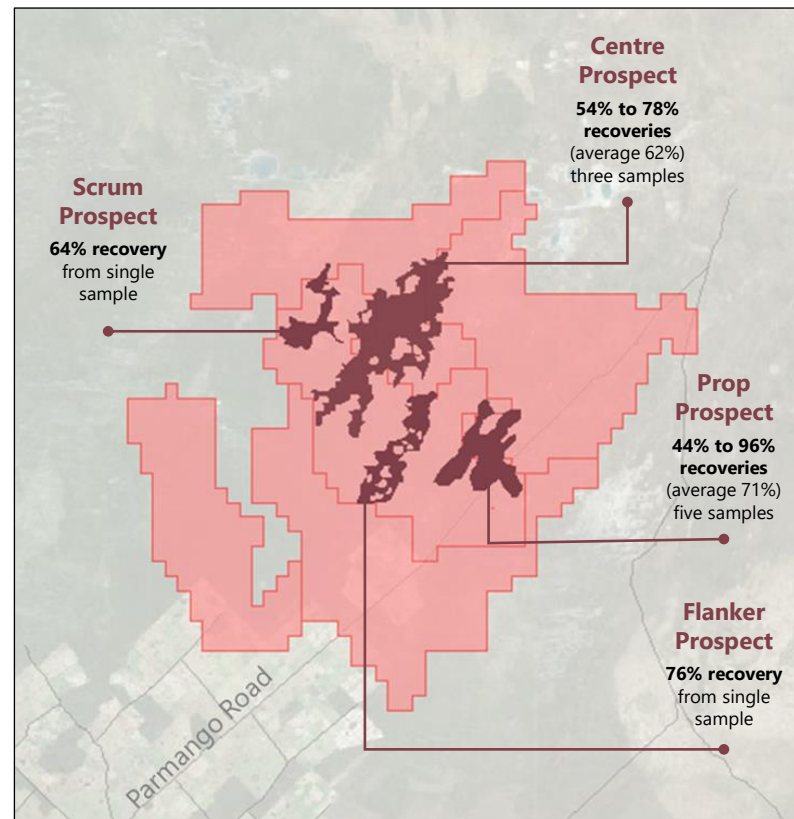
- Near surface, thick clay basins
- 60 to 70m** thick mineralised clays
- Predicted by AEM** to continue along strike for kilometres
- 55m @ 1,781ppm TREO**
- 71m @ 1,330ppm TREO**
- 69m @ 1,483ppm TREO**
- 68m @ 1,316ppm TREO**



# Strong Metallurgical Results

## Identifying the best metallurgical areas

- Very high metallurgical recoveries achieved using **simple acid leach**
- Highest recoveries are in clay basins and channels away from granites margins
  - Centre Prospect: **54% to 78% with average 62%**
  - Prop Prospect: **44% to 96% with average 71%**
- Impressive leach response time observed:
  - indicating **reductions in acid strength is possible**
- Screening of coarse grained material expected to **reduce leach material by 30-50%** without appreciable loss of MagREO
- Testing, analysis, optimisation and mineralogy continuing at ANSTO, CSIRO and Murdoch University

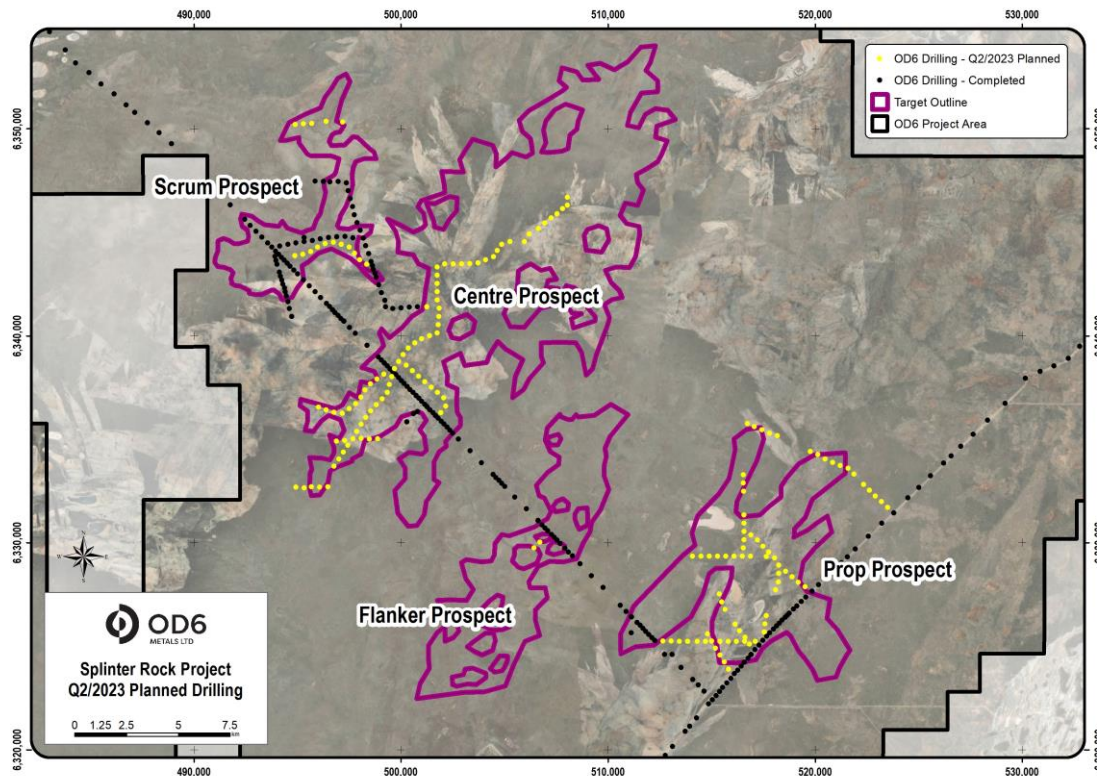




# Next Round of Drilling to Commence

Pursuing the “Best of the Best”

- **188 hole, 10,000m drill program due to start in June 2023**
- Highly targeted utilising AEM
- Focus on testing the length, continuity of grade and thickness of the prospects
- Metallurgical samples will also be selected for further work at ANSTO
- **\$180k will be co-funded by the WA Government** flagship Exploration Incentive Scheme (EIS)



# Targeting a Maiden Mineral Resource Estimate

All key elements present for maximum economic potential



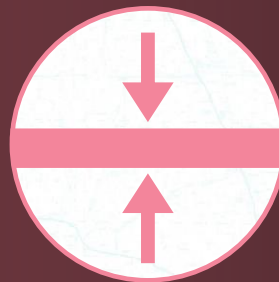
## Grade

Exceptional  
clay rare earth grades  
returned at multiple,  
large-scale Prospect  
areas



## MagREO

Valuable  
magnet rare earth  
elements represent  
large proportion of  
TREO grade



## Thickness

Extensive clay  
thickness with  
evidence of  
continuity and  
consistency of grade



## Leachability

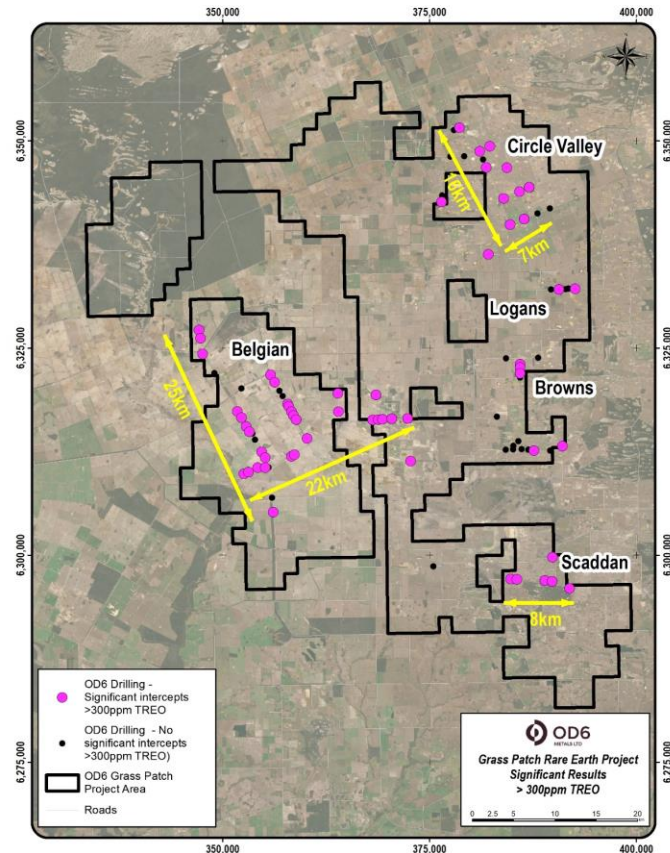
Very high  
metallurgical  
recoveries achieved  
with impressive leach  
response observed



# Grass Patch Project

## Three high-potential Prospect areas confirmed

- High-grade clay REEs successfully identified in 93-hole reconnaissance drilling program
- Grades of up **3,340ppm TREO with up to 38.5% MagREO encountered**
- Thick clays encountered of up to 59m (average range of 3m to 20m)
- Three key areas to be targeted for further exploration:
  - Belgian Prospect
  - Circle Valley Prospect
  - Scaddan Prospect
- High-potential Prospect areas to undergo metallurgical testing to determine potential recoveries and inform future exploration



# Corporate snapshot

High calibre leadership team, tight capital structure and well funded

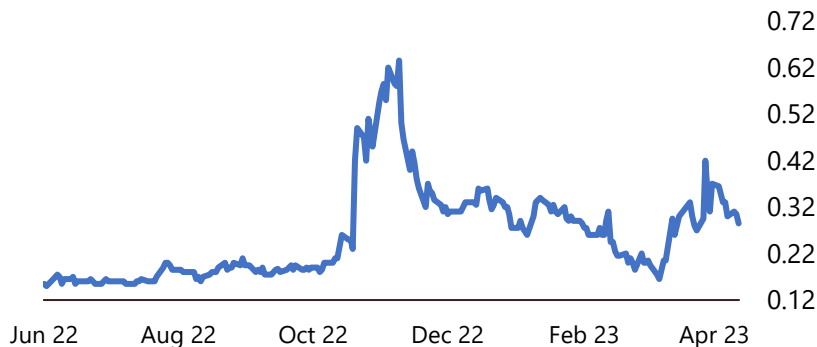
## Capital Structure

ASX: OD6

Price per share <sup>1</sup>	A\$0.31
Total number of shares on issue <sup>2</sup>	102.45M
Performance rights and options <sup>2</sup>	32.70M
Market capitalisation (undiluted) <sup>1</sup>	A\$31.76M
Cash <sup>2</sup>	A\$4.72M
Debt <sup>2</sup>	A\$0.00M
Enterprise value <sup>1</sup>	A\$27.04M

## Share Price History

A\$/share



**Dr Darren Holden**

NON-EXECUTIVE  
CHAIR



**Mr Brett Hazelden**

MANAGING  
DIRECTOR



**Mr Piers Lewis**

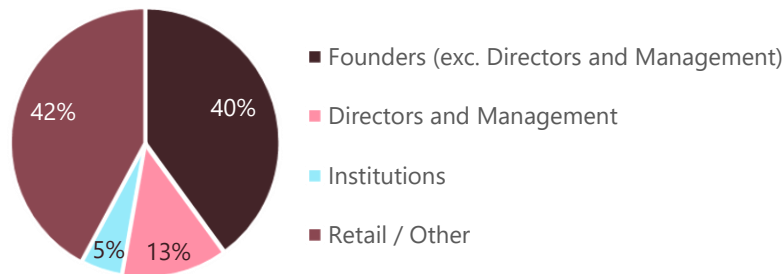
NON-EXECUTIVE  
DIRECTOR



**Dr Mitch Loan**

NON-EXECUTIVE  
DIRECTOR

## Register Detail



**Note:** 47,435,249 shares (46%) escrowed until 22 June 2024

1. As at 1 May 2023  
2. As at 31 March 2023

# Investment Highlights

1

## **Dominant land holding near Esperance port**

100% interest in a vast tenement package with multiple rare earth mineralised prospects

2

## **Targeting critical rare earth element materials**

Consumption of rare earth magnets expected to triple by 2035

3

## **Globally significant new discovery**

Exceptional rare earth grades >1,00ppm TERO @ ~22% Mag REO and extensive thicknesses of 10m to 80m

4

## **Strong metallurgical results**

Simple Acid Leach process with high recoveries of 60% to 75%

5

## **Focused on Maiden Mineral Resource Estimate**

Rapidly unlocking over 250km<sup>2</sup> of identified clay basins of international importance

6

## **Skilled board and management**

High calibre geological, metallurgical, project development and corporate professionals

# Contact us

## Registered Office

c/o LCP Group

Level 1, 50 Kings Park Road

West Perth WA 6005

Phone: +61 8 6189 8515

Email: [info@od6metals.com.au](mailto:info@od6metals.com.au)

## Share Registry

Computershare Investor Services

Level 11, 172 St Georges Tce

Perth WA 6000

[www.od6metals.com.au](http://www.od6metals.com.au)

ASX | OD6