



Australian Critical Rare Earth Minerals

Investor Presentation | 18 July 2023

ASX | OD6

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Competent Person Statement

The information contained in this presentation that relates to the Mineral Resource estimation is based on information reviewed by Mr Jeremy Peters who is a Fellow of the Australasian Institute of Mining and Metallurgy and a Chartered Professional Geologist and Mining Engineer of that organisation. Mr Peters is a Director of Burnt Shirt Pty Ltd, consulting to OD6 and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Peters consents to the inclusion of the data in the form and context in which it appears.

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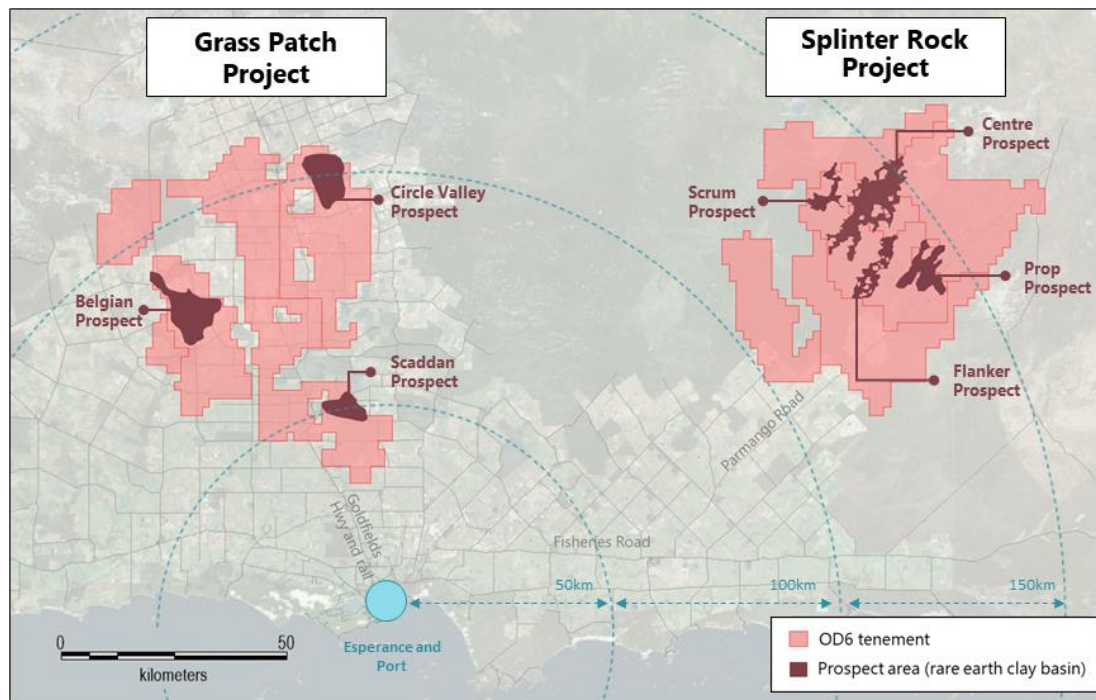
No New Information

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 project areas

- **344Mt @ 1,308ppm TREO Inferred Resource** at a 1,000ppm cut off grade at Splinter Rock
- MagREO represent an average of ~23% of TREO grade
- **10-80m thick intersections**
- **60 to 75%** average acid leach recoveries
- **250km² of clay basins** mapped by an Airborne electromagnetics (AEM) survey
- **<5% of clay basin area included in the Resource**
- Close to port, roads and 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) = $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11} + \text{Tb}_4\text{O}_7 + \text{Dy}_2\text{O}_3$

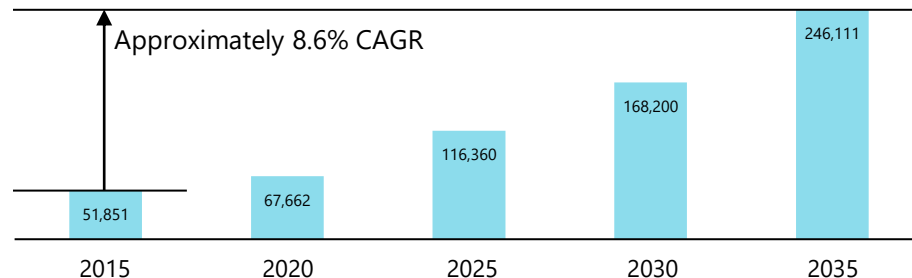
% Magnet REO = $(\text{MagREO} / \text{TREO}) * 100$

Insatiable Demand For Rare Earth Magnets

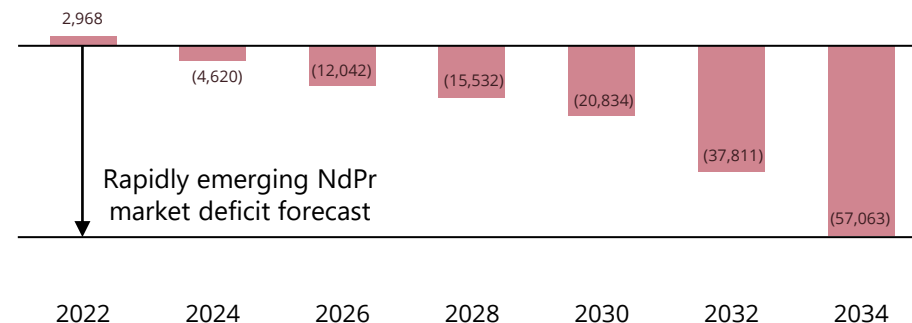
A growing MagREO rare earth demand and supply deficit

- 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 ²
- **Significant NdPr supply deficits** expected
- Demand underpinned by growth from electric vehicles, wind power and consumer electronics

MagREO demand forecast (t) ^{1,2}



NdPr market balance (t) ^{2,3}



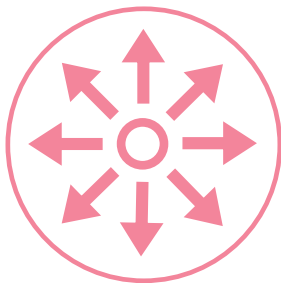
1. MagREO (Magnetic Rare Earth Oxide) = $\text{Pr}_6\text{O}_{11} + \text{Nd}_2\text{O}_3 + \text{Tb}_4\text{O}_7 + \text{Dy}_2\text{O}_3$

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.

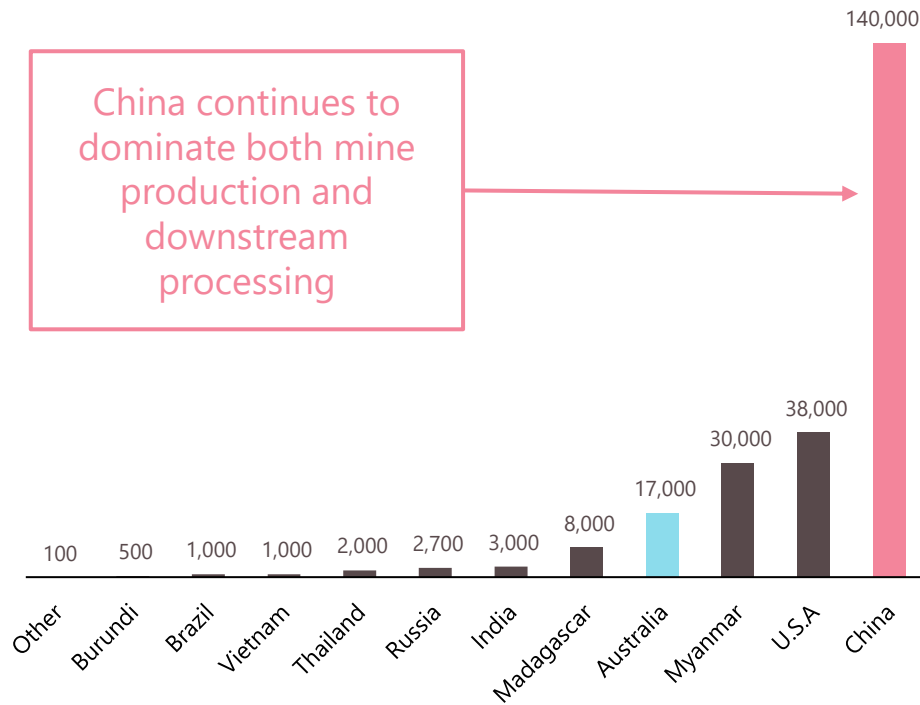
New Australian Supply Urgently Needed

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

2022 Existing global mine production (t)



China continues to dominate both mine production and downstream processing

Rapid Exploration Progress Since Listing

Delivering on our commitments to shareholders

1. Drilling commences at Splinter Rock

Initial 179-hole AC program for 5,862m of drilling

3. Immediate outstanding drilling success

Results from first 65-hole returns grades up to 6,729ppm TREO average 22.3% MagREO

5. Airborne Electromagnetic Survey complete

Vast scale of target areas identified with over 250km² clay basins mapped

7. Second phase drilling complete at Splinter Rock

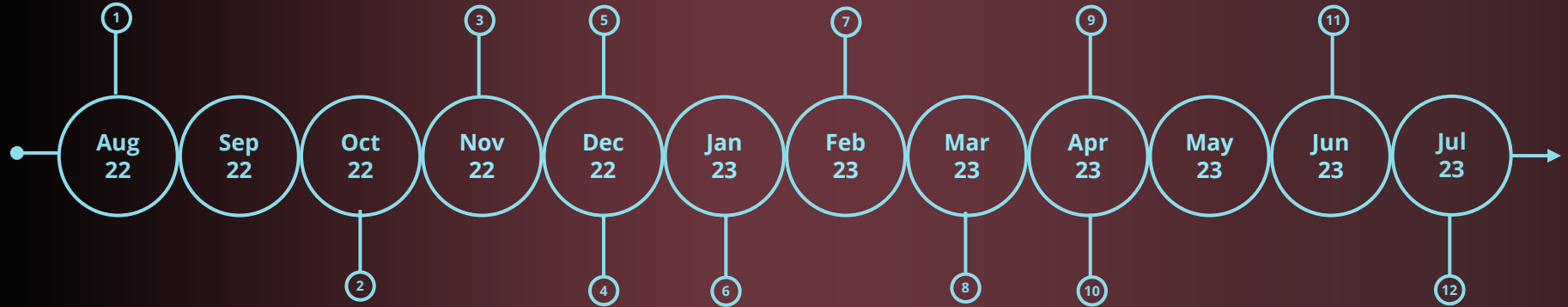
Total 83 holes drilled for 4,305m at average depth of 50m and max depth 100m

9. Very high metallurgical recoveries

Up to 96% of MagREO acid leach recoveries. Average 60 to 75%

11. Third phase drilling underway at Splinter Rock

Further 188 holes for 10,000m planned



2. CSIRO engaged for REE exploration

Utilising cutting edge exploration tools

4. Continued excellent drilling success

Further extensions of 10-80m thick high-grade clay hosted REE

6. Drilling commences at Grass Patch

Initial 93-hole AC program for 3,399m of drilling

8. High-grade REEs identified at Grass Patch

Grades up to 3,340ppm TREO, with up to 38.5% MagREO

10. Bumper REE grades at Splinter Rock

74 out of 83 holes returned significant high grade TREO results

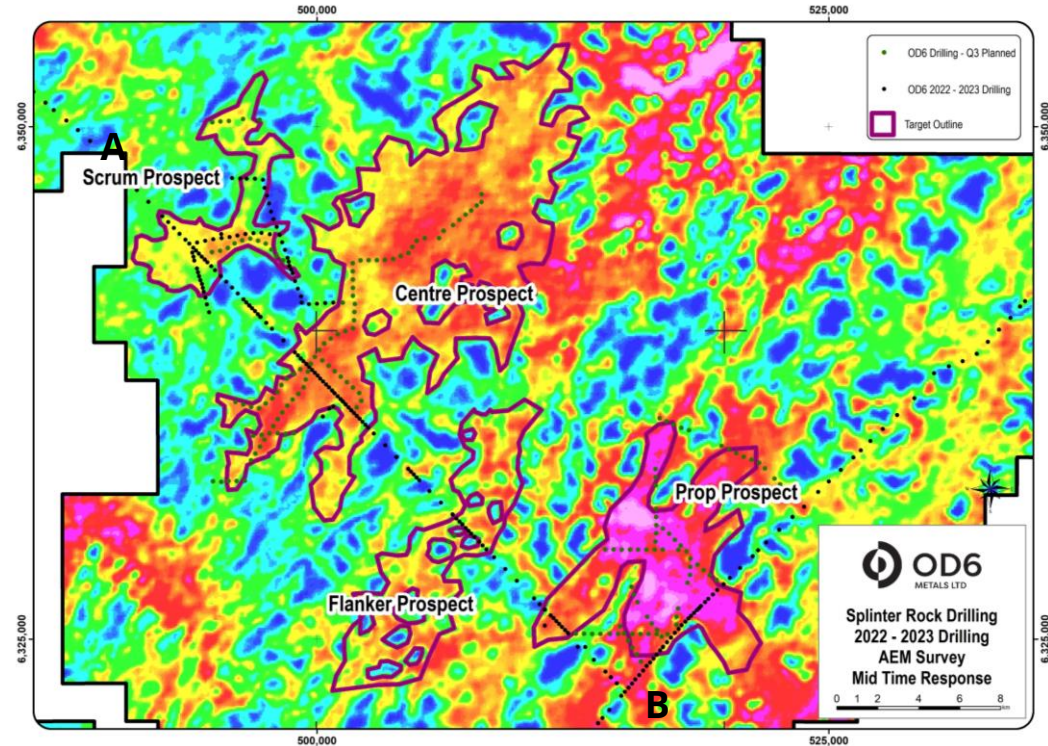
12. Maiden Mineral Resource Estimate

344Mt @ 1,308 ppm TREO Inferred Resource at a 1,000ppm cut off grade

Highly Targeted Exploration Program

Airborne Electromagnetic (AEM) Success

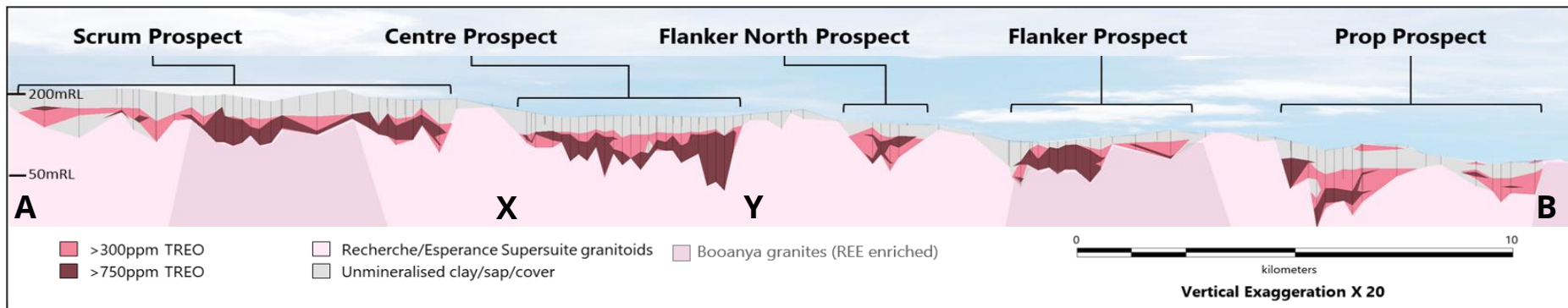
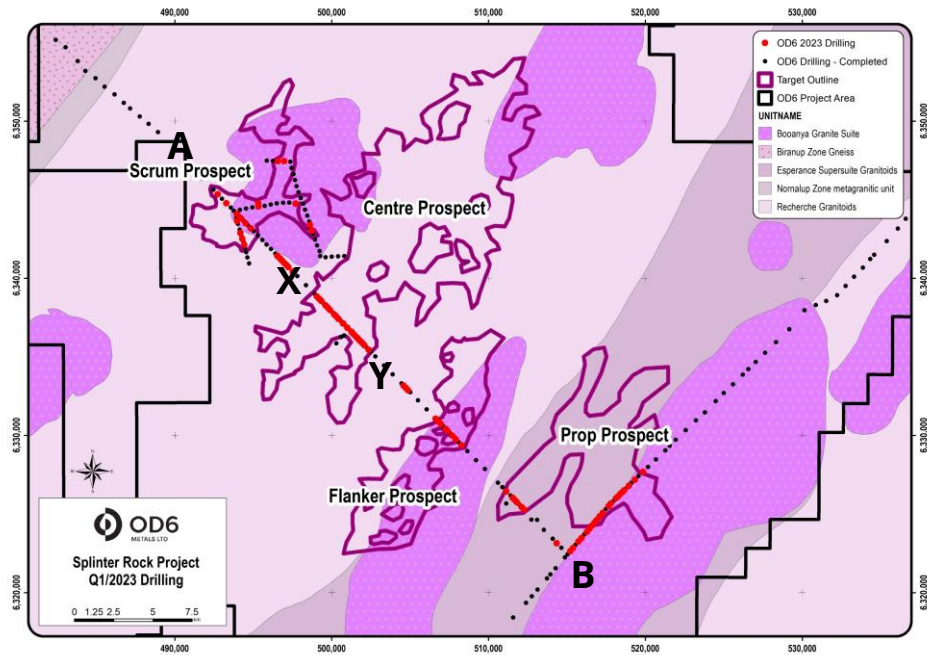
- AEM has facilitated mapping of clay locations, expanse and potential thickness
- **250km² of clay basins mapped**
- Clays are conductive, and are readily mapped with AEM (yellow to red colours).
- Granites are not conductive (blues to green)
- 74 out of 83 holes (~90%) returned significant high grade TREO results from last drill program



Splinter Rock Geology

Heavily enriched in Rare Earths

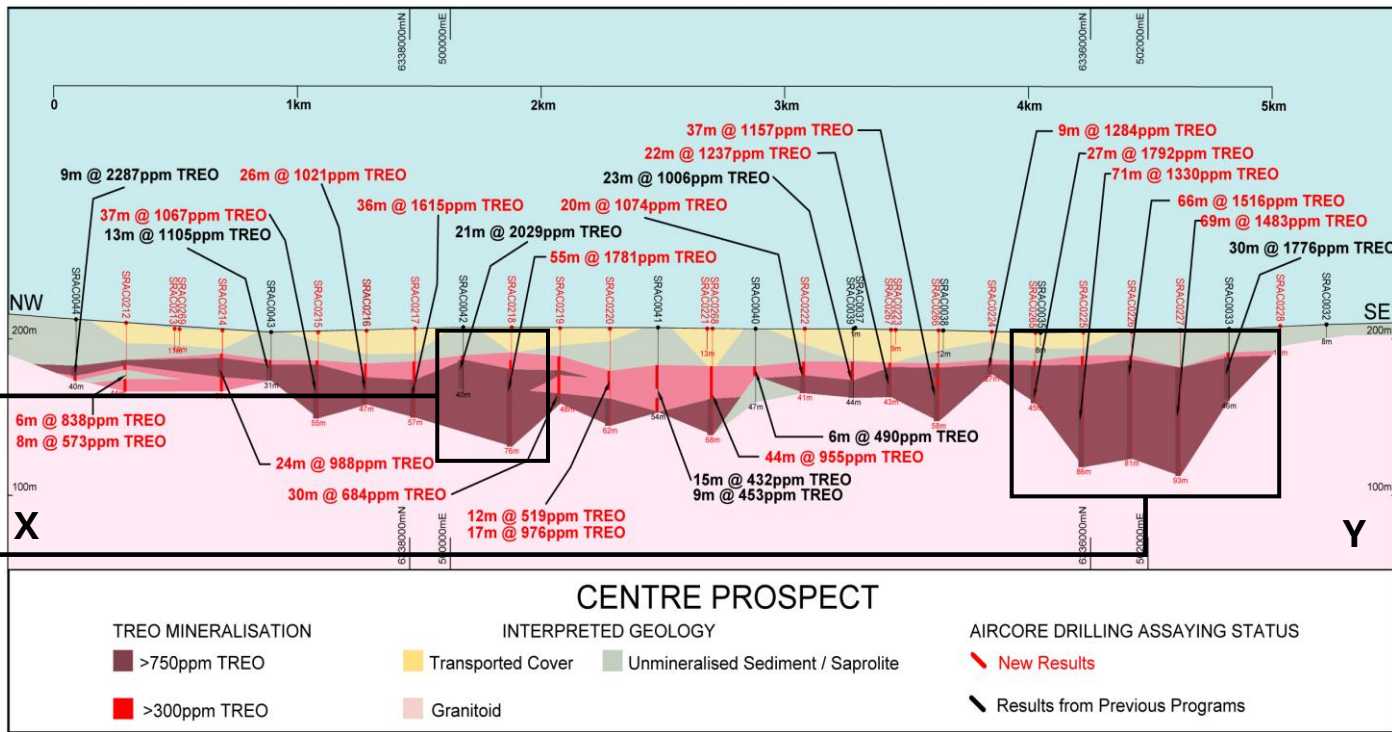
- Splinter Rock tenure and exploration model targeting clay basins fed by REE weathering of Booanya granites
- The strong enrichments in REE distinguishes Booanya granites from all other granite groups in the Esperance area
- **CSIRO engaged to use cutting edge exploration techniques**



Deep REE Clay Basins Drilling Success

The thickest and highest grade in Australia

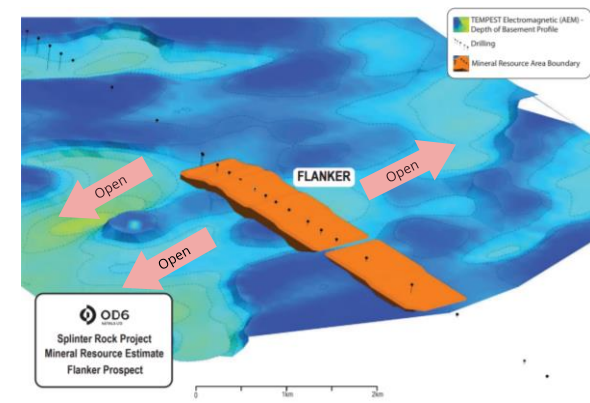
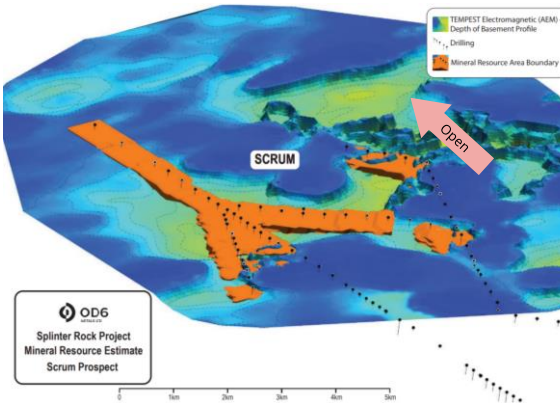
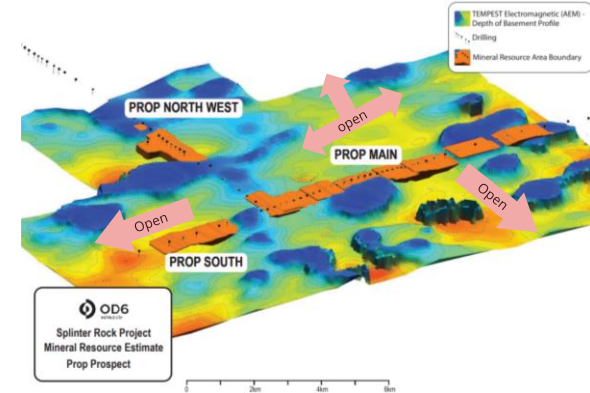
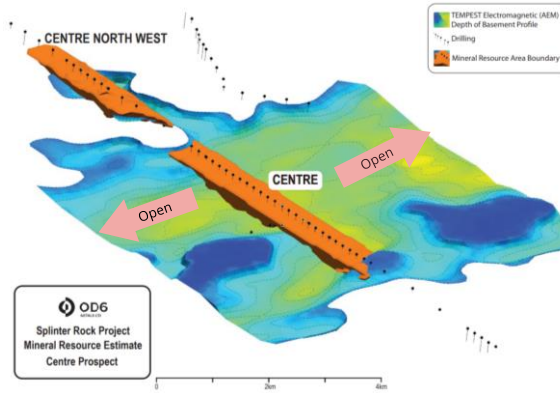
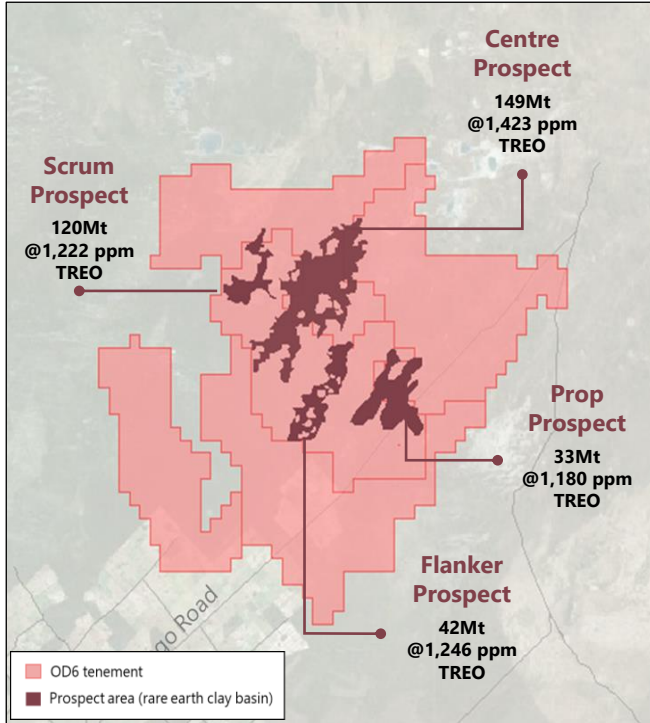
- Near surface, thick clay basins
- **60 to 70m** thick mineralised clays
- **Predicted by AEM** to continue along strike for kilometres



55m @ 1,781ppm TREO
71m @ 1,330ppm TREO
69m @ 1,483ppm TREO
68m @ 1,316ppm TREO

Mineral Resource Modelling

<5% of identified clay basins included in Mineral Resource Estimate



Splinter Rock Mineral Resource Estimate

At 1,000 ppm cutoff grade



**Australia's
highest grade
and largest clay
hosted MRE**

**Delineated from
less than 5% of
identified target
area**

Prospect	Category	Tonnes (Mt)	TREO (ppm)	Pr ₆ O ₁₁ (ppm)	Nd ₂ O ₃ (ppm)	Tb ₄ O ₇ (ppm)	Dy ₂ O ₃ (ppm)	MagREO (ppm)	MagREO (% of TREO)
Centre	Inferred	149	1,423	71.2	244.6	2.6	14.1	329	23.1
Scrum	Inferred	120	1,222	57.7	208.1	2.7	14.7	283	23.2
Flanker	Inferred	42	1,246	58.9	210.9	2.9	16.0	288	23.2
Prop	Inferred	33	1,180	49.9	179.4	2.3	12.9	244	20.7
Total	Inferred	344	1,308	62.5	220.2	2.6	14.5	300	22.9

The Mineral Resource estimate has been reported by an independent Competent Person in accordance with the provisions of the JORC Code

TREO (Total Rare Earth Oxide) = La₂O₃ + Ce₂O₃ + Pr₆O₁₁ + Nd₂O₃ + Sm₂O₃ + Eu₂O₃ + Gd₂O₃ + Tb₄O₇ + Dy₂O₃ + Ho₂O₃ + Er₂O₃ + Tm₂O₃ + Yb₂O₃ + Lu₂O₃ + Y₂O₃

MagREO (Magnet Rare Earth Oxide) = Nd₂O₃ + Pr₆O₁₁ + Tb₄O₇ + Dy₂O₃

% Magnet REO = (MagREO / TREO)*100

For full Mineral Resource estimate details refer to OD6 ASX announcement 18 July 2023, "Maiden Mineral Resource Estimate". OD6 is not aware of any new information or data that materially affects the Mineral Resource estimate included in that release. All material assumptions and technical parameters underpinning the Mineral Resource estimate in that release continue to apply and have not materially changed.

Splinter Rock Mineral Resource Estimate

Focused on quality over quantity of resource



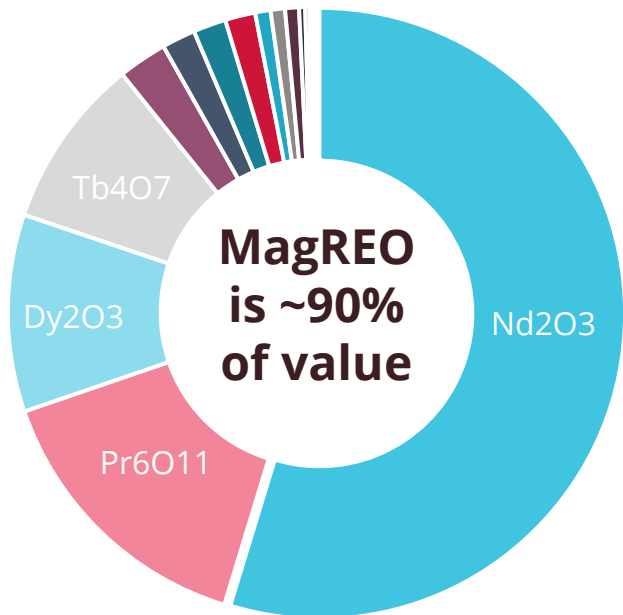
A quality MRE targeting the Best of the Best grade, recovery, strip ratio, acid consumption

Cut-off grade (ppm TREO)	Tonnes (Mt)	TREO (ppm)	Contained TREO (k tonne)	MagREO (ppm)	MagREO (% of TREO)	Contained MagREO (k tonnes)
400	1,141	869	992	198	22.7	225
600	838	1,006	842	230	22.9	192
800	583	1,140	664	262	30.0	152
1,000	344	1,308	450	300	22.9	103
1,200	196	1,471	288	338	22.9	66
1,400	105	1,625	171	372	22.9	39

MRE TREO Value and Distribution

Nd, Pr, Dy, Tb represent ~90% of potential contained value

TREO REE value

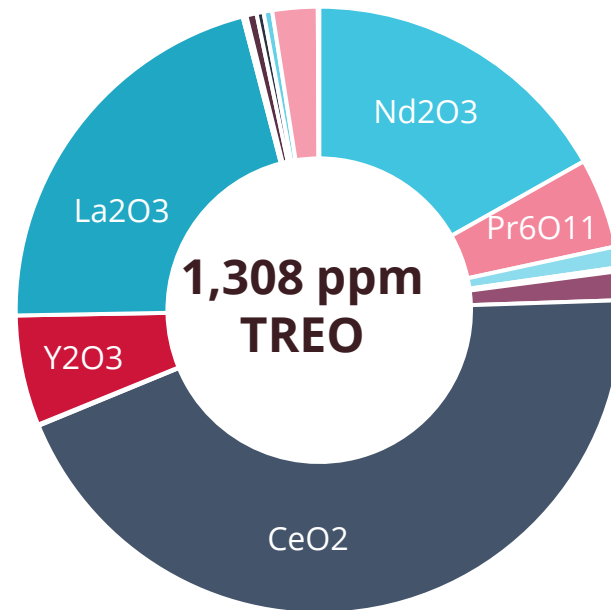


TREO % distribution

Value Distribution

Value	Distribution	
Nd2O3	54.7%	16.8%
Pr6O11	15.0%	4.8%
Dy2O3	10.4%	1.1%
Tb4O7	9.0%	0.2%
Gd2O3	2.6%	1.5%
CeO2	1.8%	44.3%
Lu2O3	1.7%	0.1%
Y2O3	1.6%	5.9%
La2O3	0.8%	21.2%
Ho2O3	0.8%	0.2%
Er2O3	0.7%	0.5%
Eu2O3	0.3%	0.4%
Yb2O3	0.2%	0.5%
Sm2O3	0.2%	2.4%
Tm2O3	0.1%	0.1%

MagREO



TREO (Total Rare Earth Oxide) = La2O3 + CeO2 + Pr6O11 + Nd2O3 + Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Lu2O3 + Y2O3

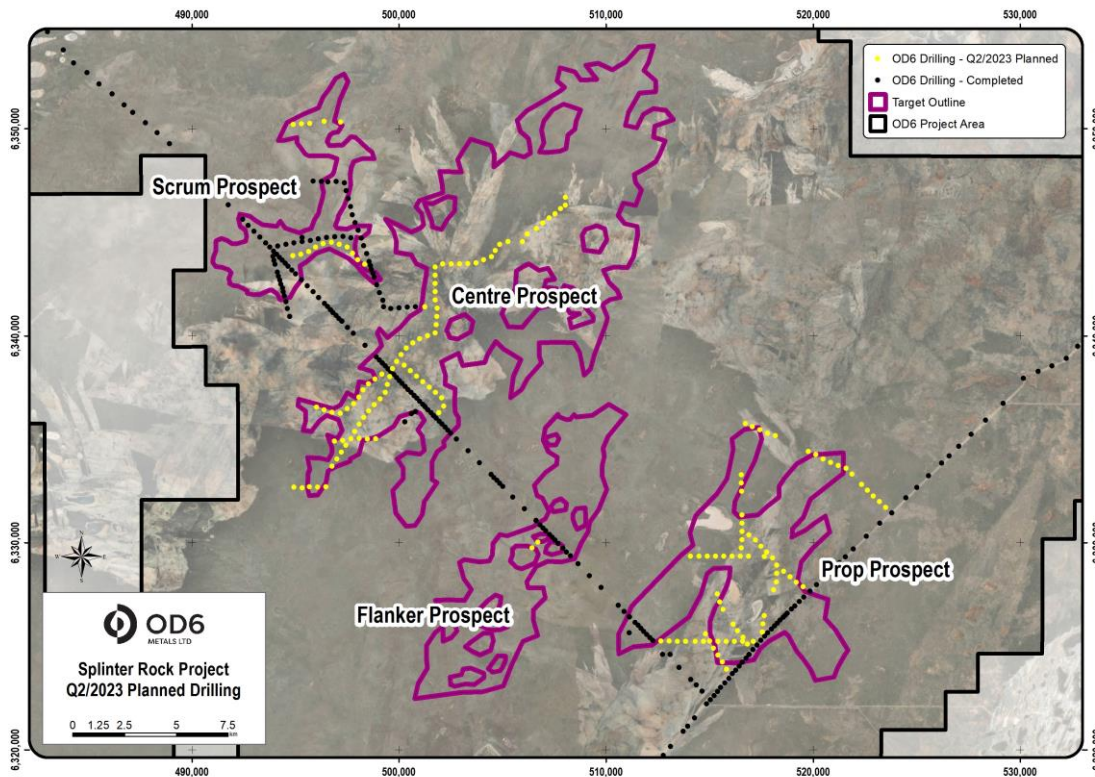
MagREO (Magnet Rare Earth Oxide) = Nd2O3 + Pr6O11 + Tb4O7 + Dy2O3

Note: Contained value is based on spot pricing sourced from Adamas Intelligence "Rare Earth Pricing Quarterly Outlook" Q2 2023. The chart is illustrative only of where rare earth economic value will be primarily derived from.

Phase 3 Drilling Continues At Splinter Rock

Pursuing the “Best of the Best”

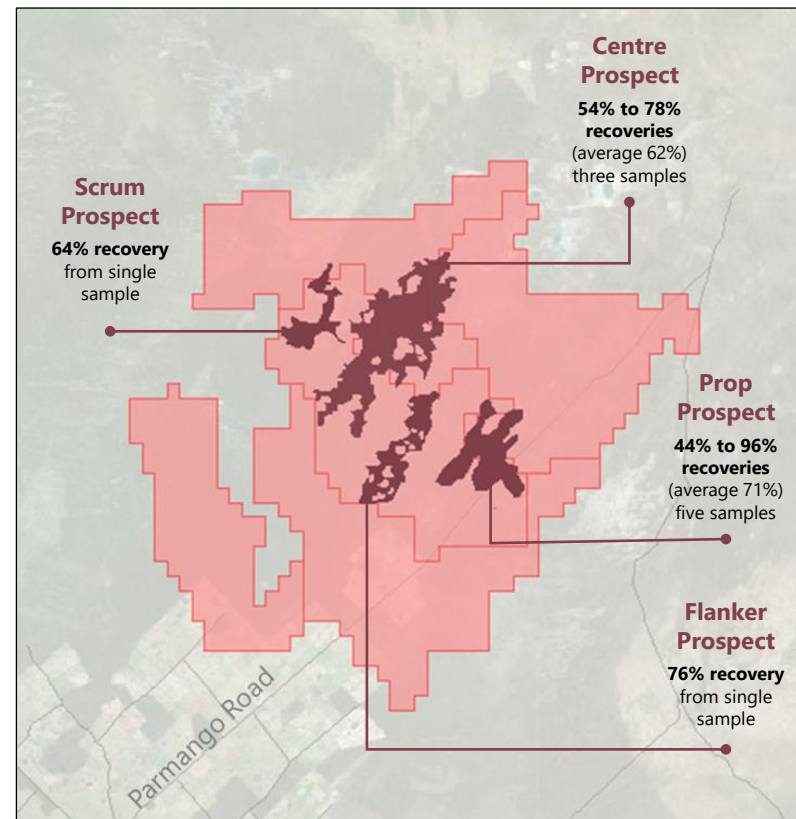
- **188 hole, 10,000m drill program commenced in June 2023**
- Highly targeted utilising AEM
- Focus on testing the length, continuity of grade and thickness of the prospects
- Metallurgical samples will also be selected for further work at ANSTO
- **A\$180k will be co-funded by the WA Government** flagship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



Strong Metallurgical Results

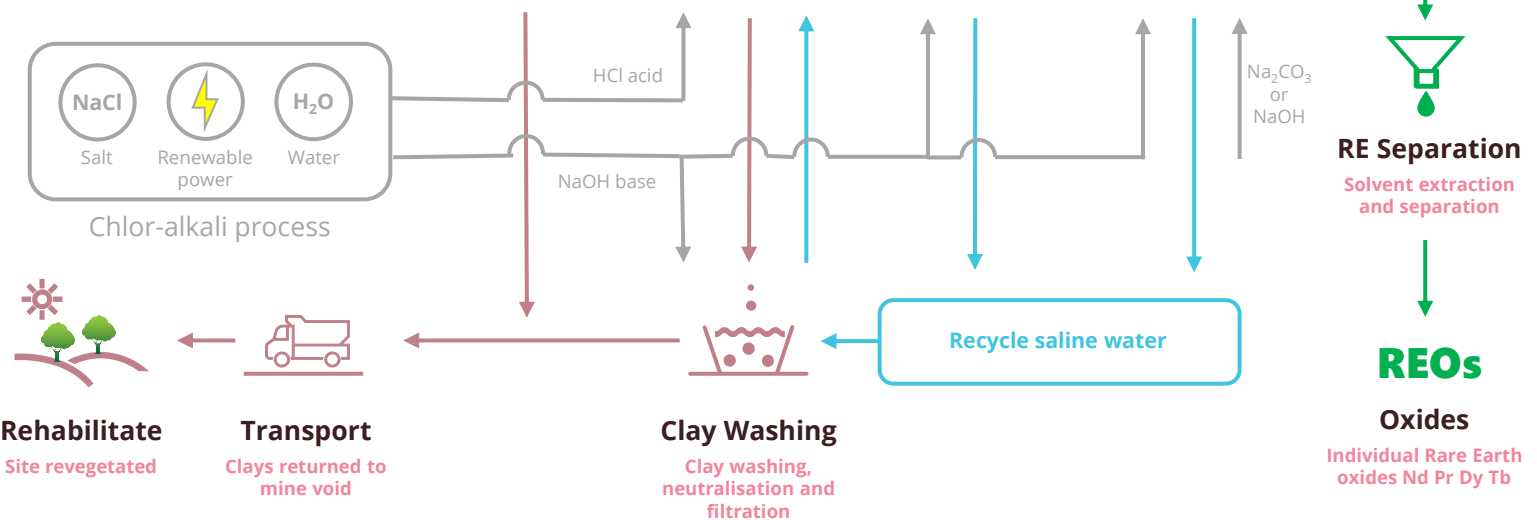
Identifying the best metallurgical areas

- 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
- >50 new samples at ANSTO with more to be added from Phase 3 drilling to identify “best of the best” areas



Indicative Processing Steps

Simplified process map to deliver rare earth products



-
- No drill and blast
- No crushing
- No milling
- No flotation
- No high temperature cracking
- No high pressure leach
- No high temperature leach

→ Clay → Rare Earths → Water → Reagents

Maximising Economic Potential

All key elements present for maximum economic potential



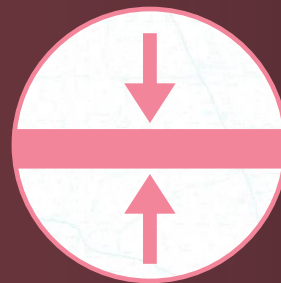
Grade

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

Pursuing The Best Of The Best

A disciplined approach to maximising value

Explore

- Identify high-grade, 'sweet-spot' REE zones
- Aggressively grow Mineral Resources via latent scale potential
- Target thick areas with low strip ratio potential
- Low cost exploration, high value for money
- CSIRO collaboration

Design

- Optimise leach recovery and impurity removal
- Remove coarse grain material to reduce acid consumption
- Produce a MREC with potential conversion to REO
- Refine process with ANSTO

Evaluate

- Pursue "Best of the Best" grade, recovery, stripping ratio and acid consumption
- Integrate ChlorAlkali Benefits
- Renewable energy sourcing – solar / wind
- Existing Infrastructure – port, road
- Deliver Scoping Study

Sustainably Creating Value

Acting with integrity to responsibly deliver rare earth resources for a low carbon future



Our aim is to minimize our environmental impact, look after our people, grow with our communities and create value for our investors

Our sustainability priorities:



Workplace health and safety and mental health



Aboriginal engagement, heritage and Traditional Owners



Business ethics



Regulatory compliance and change



Flora and fauna



Corporate governance and risk management

Corporate snapshot

High calibre leadership team, tight capital structure and well funded

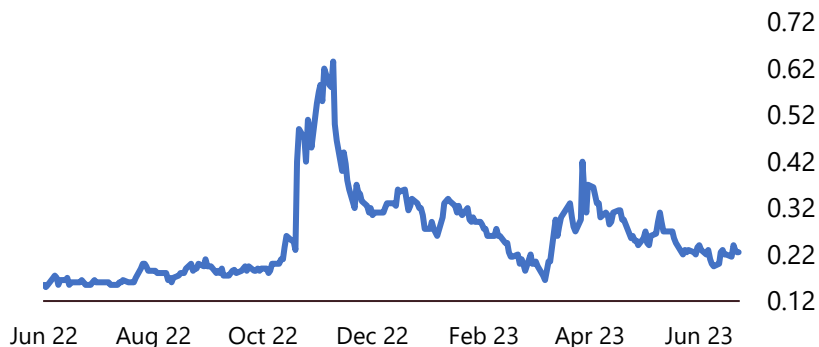
Capital Structure

ASX: OD6

Price per share ¹	A\$0.225
Total number of shares on issue ²	102.45M
Performance rights and options ²	32.70M
Market capitalisation (undiluted) ¹	A\$23.05M
Cash ²	A\$3.52M
Debt ²	A\$0.00M
Enterprise value ¹	A\$19.53M

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 14 July 2023

2. As at 30 June 2023. Refer to ASX announcement "[Quarterly Activities and Cashflow Report](#)"

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 maiden Mineral Resource Estimate declared

344Mt @ 1,308ppm TREO Inferred Resource utilising a 1,000ppm cut off grade

4

Strong metallurgical results

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

5

Sustainably creating value

Acting with integrity to responsibly deliver rare earth resources for a low carbon future

6

Skilled board and management

High calibre geological, metallurgical, project development and corporate professionals

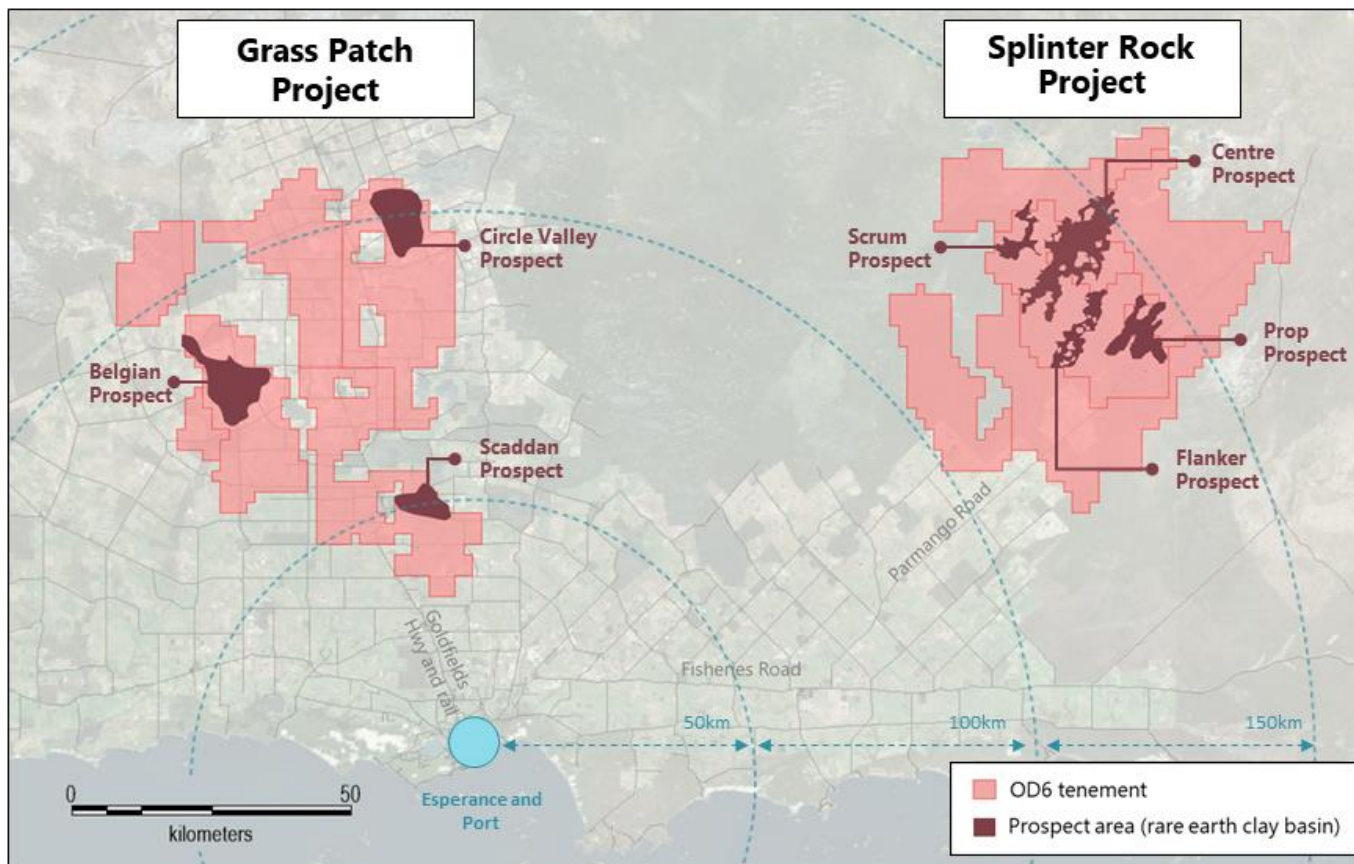
Appendix

The background features a wavy, grid-like pattern of dots in shades of purple and blue, creating a sense of depth and movement. The dots are arranged in a grid that undulates across the frame, with some dots appearing brighter than others. The overall color palette is dark, with the grid pattern providing a focal point.

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Immense 4,828km² tenement package

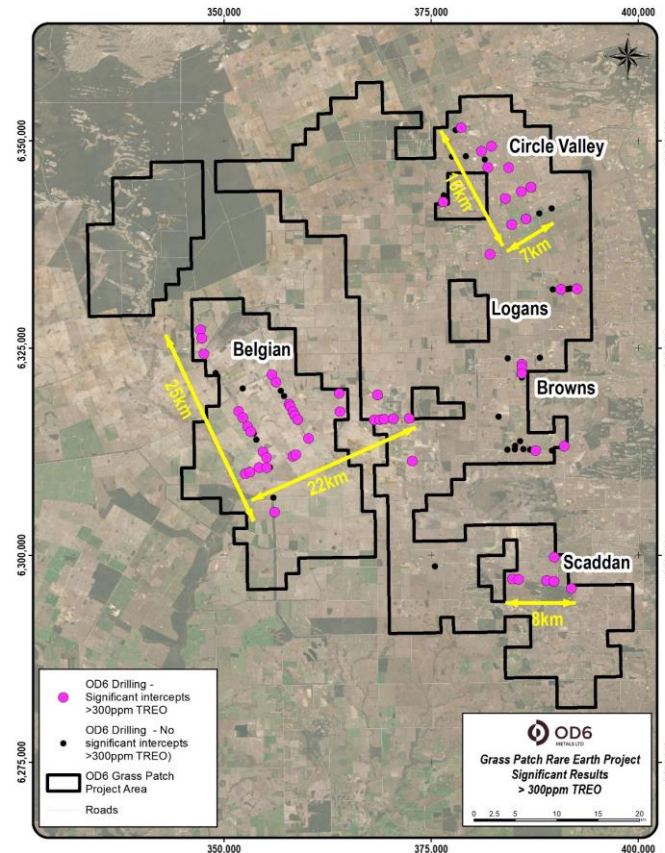
Multiple large-scale prospects identified



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



Contact us



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