



Leading the development of clay hosted rare earths in Australia

Building a sustainable source of magnet rare
earths for a clean energy future



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COMPETENT PERSONS STATEMENT

The information in this report that relates to Exploration results is based on information compiled by Australian Rare Earths Limited and reviewed by Mr. Rick Pobjoy who is the Technical Director of the Company and a member of the Australian Institute of Mining and Metallurgy (AusIMM). Mr. Pobjoy has sufficient experience that is relevant to the style of mineralisation, the type of deposit under consideration and to the activities 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. Pobjoy consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement (ASX announcement dated 19 September 2023) and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement (ASX announcement dated 19 September 2023) continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement (ASX announcement dated 19 September 2023).

The information in this report that relates to metallurgical results is based on information compiled by Australian Rare Earths Limited and reviewed by Mr. James Davidson who is the Technical Director of Wallbridge Gilbert Aztec and a member of the Australian Institute of Mining and Metallurgy (AusIMM). Mr. Davidson has sufficient experience that is relevant to the metallurgical testing which was 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. Davidson consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

Developing a portfolio of magnet rare earth projects focused on creating value



1. Compelling long-term rare earth market outlook

- Global decarbonisation efforts driving rapid growth in EV's and wind turbines
- Western World is seeking sustainable secure supply chains
- Global governments have listed magnet Rare Earths as critical minerals
- Limited new supply of heavy rare earths



2. Koppamurra: Developing a multi-generational rare earth Province

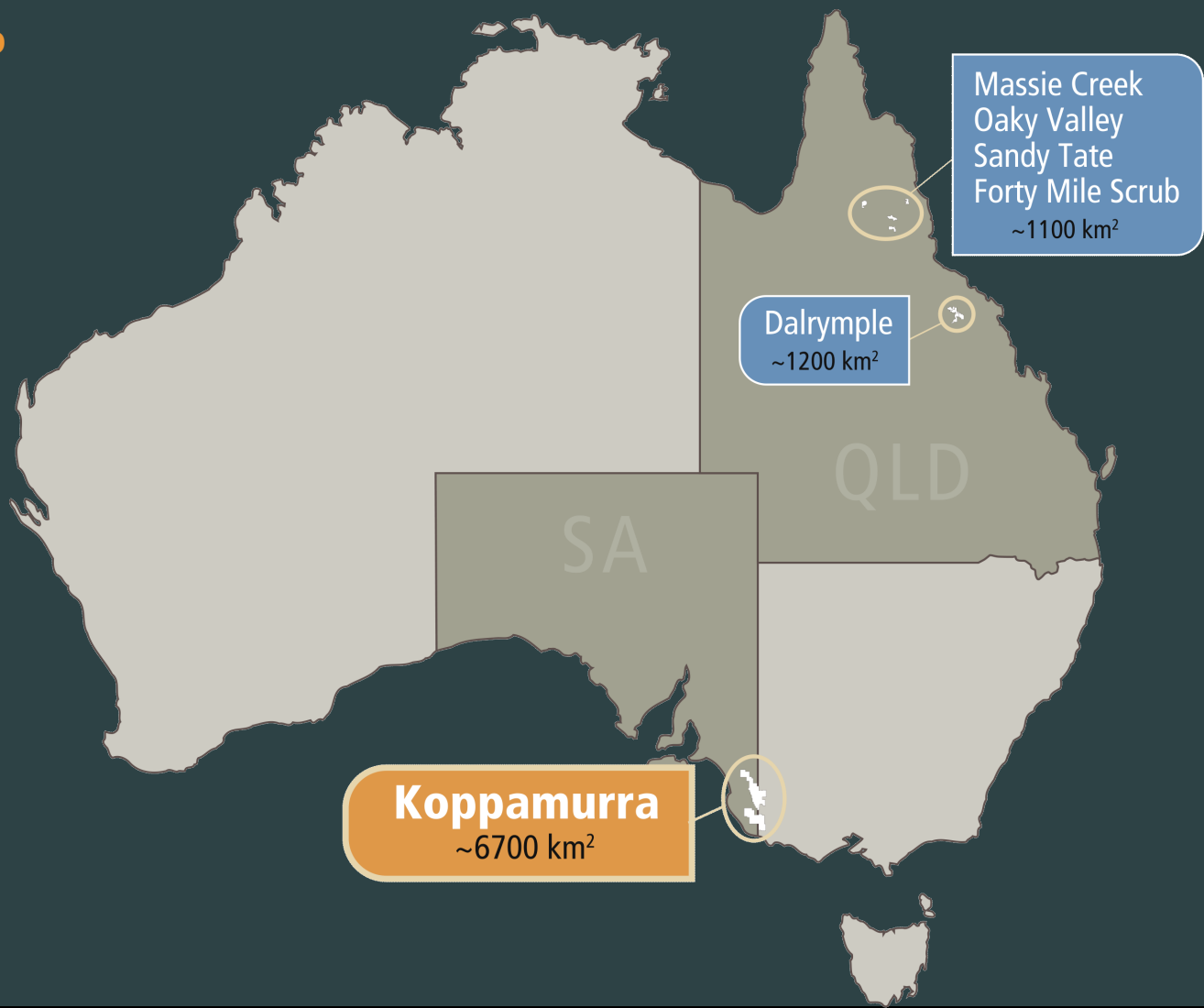
- AR3's multi-generational flagship clay-hosted rare earth project
- Contains all four key REEs including the strategically important heavy rare earths Dy & Tb
- JORC resource of 186Mt at 712ppm TREO with an Exploration Target of 340 Mt to 3.1 Bt¹
- Significant growth opportunity with resource open north and south; expanded tenure under application
- MOU signed with NEO Performance Materials for a Joint Development and Offtake Agreement
- Tier 1 jurisdiction providing clear pathway to production of a sustainable supply of magnet rare earths
- Strong community engagement



3. Growth focused

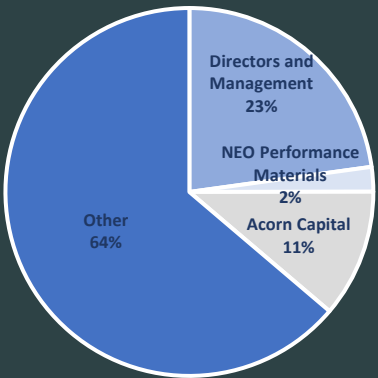
- Exploration upside and optionality
- Building a uniquely qualified capacity, experience and knowledge in rare earths
- Taking a multi-generational province development approach to Koppamurra
- Building a broad portfolio of exploration projects for scale and optionality
- Collaboration with downstream partners

Portfolio



Corporate Snapshot

Shareholder Distribution



\$15.1m

Cash at 30 June 2023

154.2m

Shares on Issue

\$40m

Market capitalisation
@ \$0.26

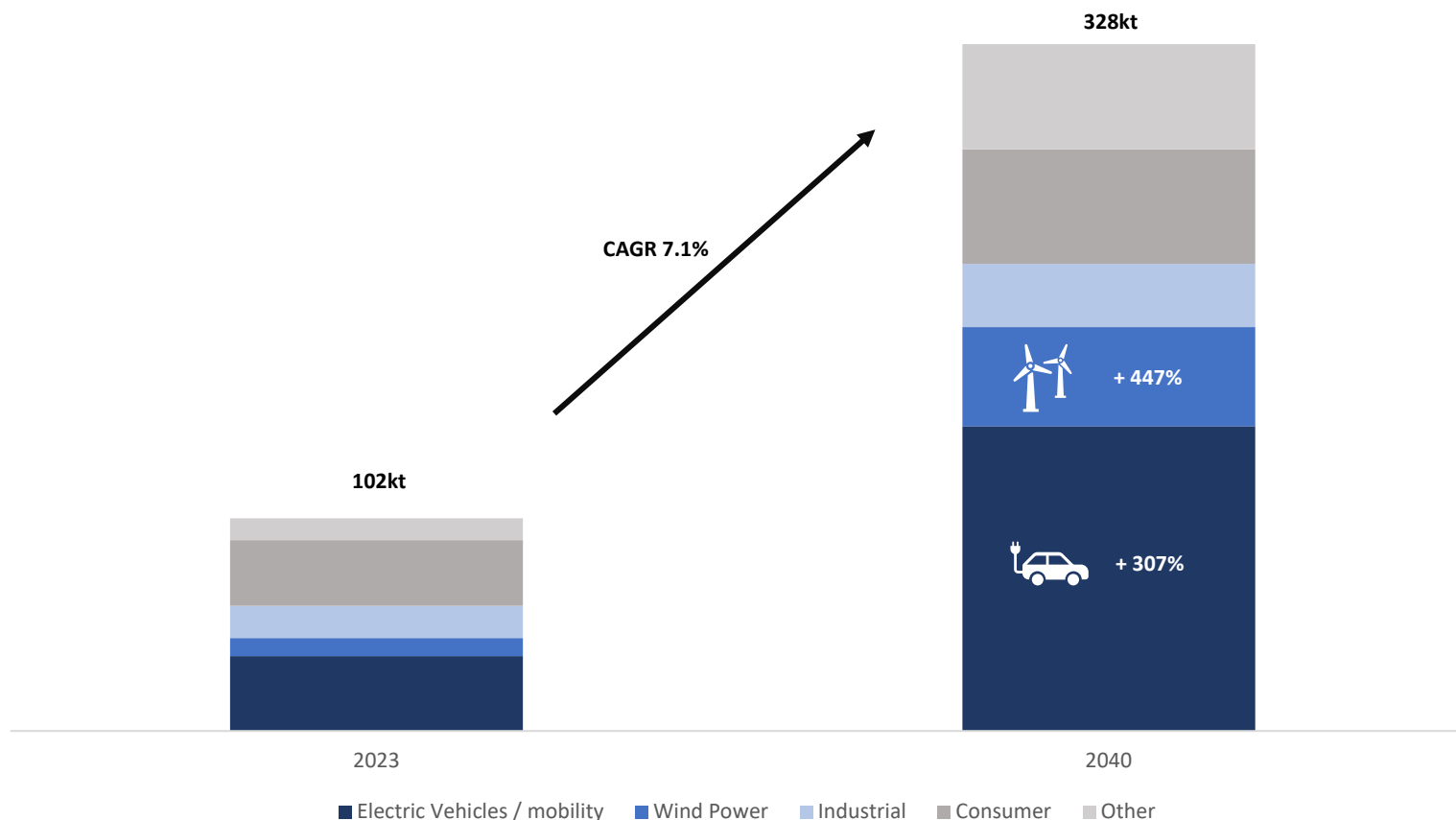
ASX: AR3

Adelaide HQ
Experienced Australian
Board & Management

Rare Earth Market

Global electrification trend to drive high growth in rare earth magnet demand

Forecasted Global REO Magnet Demand Growth by Industry¹



- Electric Vehicles and Wind Power demand to underpin significant growth in REO Magnets through to 2040
- Koppamurra can supply all four key rare earth elements critical to electrification, including the strategically important heavy rare earths (Dy & Tb)
- Growth in robotics, industrial applications, consumer electronics and appliances, aerospace and defence to also support demand

¹ Source: Adamas Intelligence Forecast (April 2023). Global REO Magnet Demand represents magnet rare earths only (Nd, Pr, Dy, Tb)

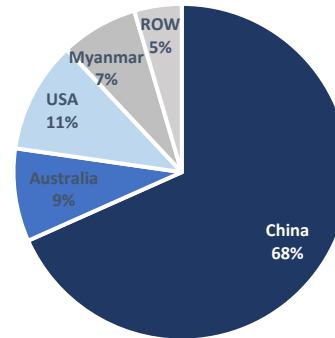
Rare Earth Market

Rare Earth mine production, separation capability is concentrated creating global supply risk

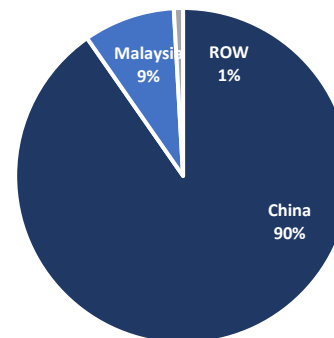
Medium-term (2025-2035) criticality matrix¹



World Mine Magnet Rare Earth Production²



World Magnet Rare Earth Oxide Production²



- Advanced first world economies have identified rare earths as critically important
- Current supply and separation capability is concentrated creating a high risk of supply shock, geopolitical risks
- Australia, the United States, European Union, UK and more have identified the need to diversify and secure supply chains in the national interest

¹ Source: US Department of Energy Critical Materials Assessment, 2023

² Source: Adamas Intelligence Forecast (April 2023), 2022 production

KOPPAMURRA RARE EARTHS PROVINCE



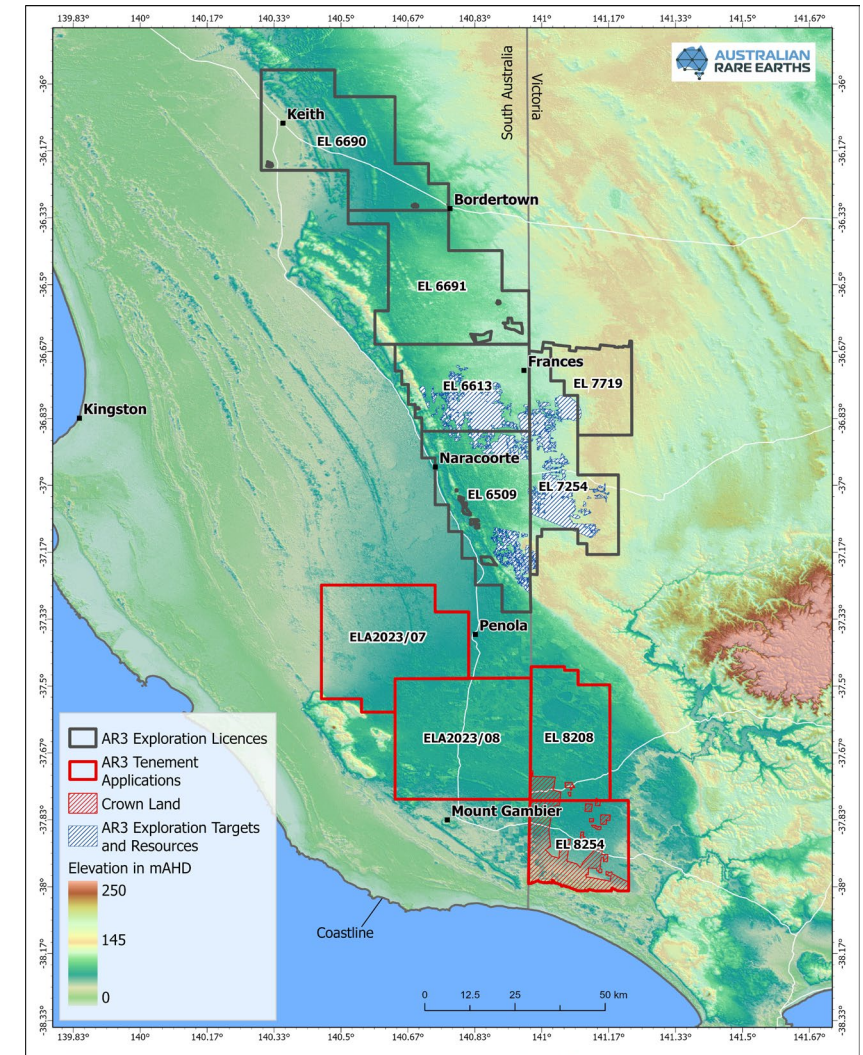
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Koppamurra: developing a multi-generational rare earth Province

A sustainable source of strategically important magnet rare earths

- **100%-owned** clay-hosted critical rare earths deposit located ~300km SE of Adelaide, in southern Australia
- 4,000km² of prospective tenure with additional ~2,700km² under application
- Consistent and shallow mineralisation facilitates **rapid, low-cost exploration and resource definition**
- A Mineral Resource of **186Mt at 712ppm TREO** confirms Koppamurra as a globally significant resource
- An Exploration Target range of **340Mt to 3.1 Bt** demonstrates the multi-generational rare earth province potential
- **Significant exploration growth** opportunity with resource open north and south with additional expanded tenure under application to be explored
- Bulk sample testwork by ANSTO confirms a mixed rare earth carbonate can be recovered at **ambient temperatures and pressures**



Regional surface elevations, outcropping Gambier limestone, AR3 tenure and applications

Koppamurra Mineral Resource and Exploration Target

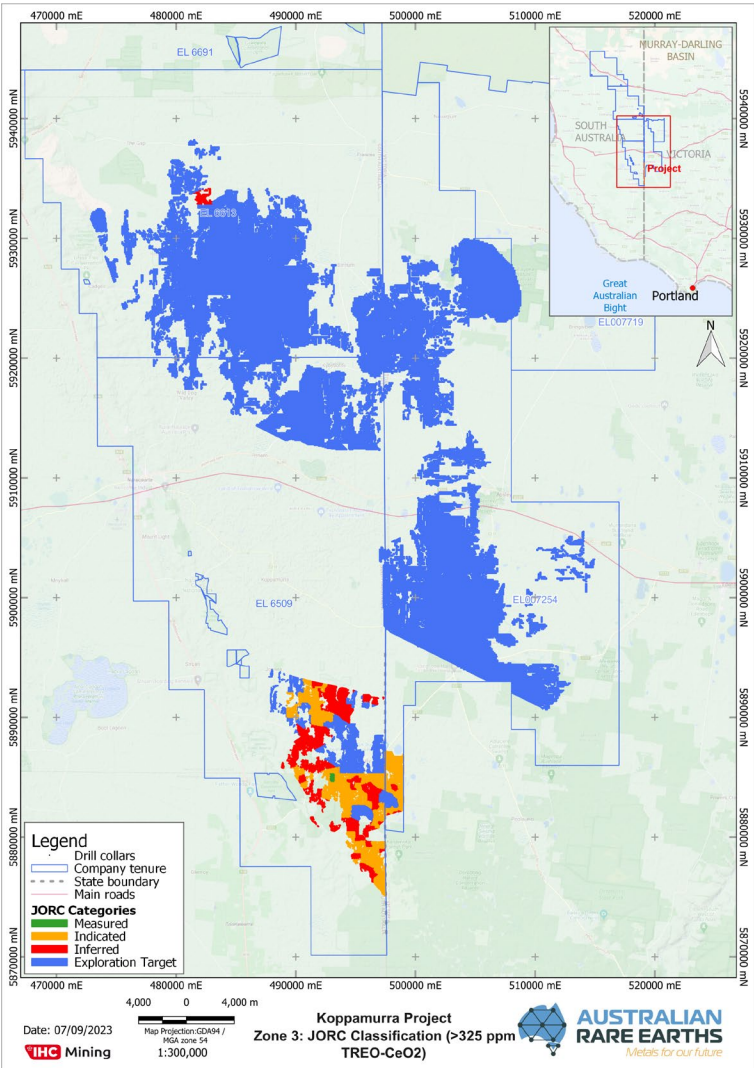
Demonstrating province potential with increased Mineral Resource



- Mineral Resource estimate **increased 84%** to 186 Mt at 712 TREO in Sep'23
- Outstanding scope for ongoing resource growth with current Mineral Resource covering **only ~2%** of Koppamurra tenure¹
- Contains all four key REEs including the **strategically important heavy rare earths Dy & Tb**
- Total of ~56,000 metres drilled since 2021

Koppamurra Mineral Resource Estimate – September 2023										
JORC Category	Tonnes Mt	TREO ppm	Magnet Rare Earths							
			Pr ₆ O ₁₁		Nd ₂ O ₃		Tb ₄ O ₇		Dy ₂ O ₃	
			ppm	% TREO	ppm	% TREO	ppm	% TREO	ppm	% TREO
Measured	0.8	747	33	4.4	122	16.4	3.3	0.4	19	2.5
Indicated	98	716	32	4.4	122	17.0	3.3	0.5	18	2.6
Inferred	88	709	32	4.5	121	17.0	3.2	0.4	18	2.5
Total	186	712	32	4.5	121	17.0	3.2	0.5	18	2.5

Koppamurra Exploration Target – September 2023										
Exploration Target	Tonnes Mt	TREO ppm	Magnet Rare Earths							
			Pr ₆ O ₁₁		Nd ₂ O ₃		Tb ₄ O ₇		Dy ₂ O ₃	
			ppm	% TREO	ppm	% TREO	ppm	% TREO	ppm	% TREO
Total	340-3,100	510 - 780	20 - 30	3.9-3.8	90 - 140	18-18	2.4 - 3.6	0.5-0.5	13 - 20	2.6-2.6



Koppamurra project area JORC Mineral Resource categories

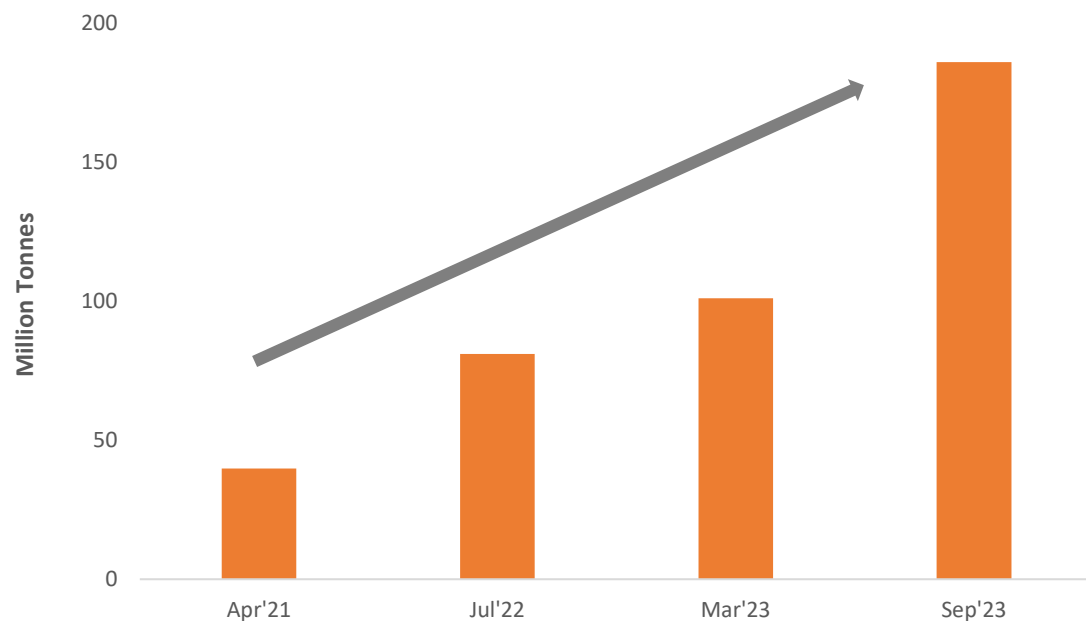
¹ Total Koppamurra tenure includes tenements already granted and those currently under application

Koppamurra: developing a multi-generational rare earth Province

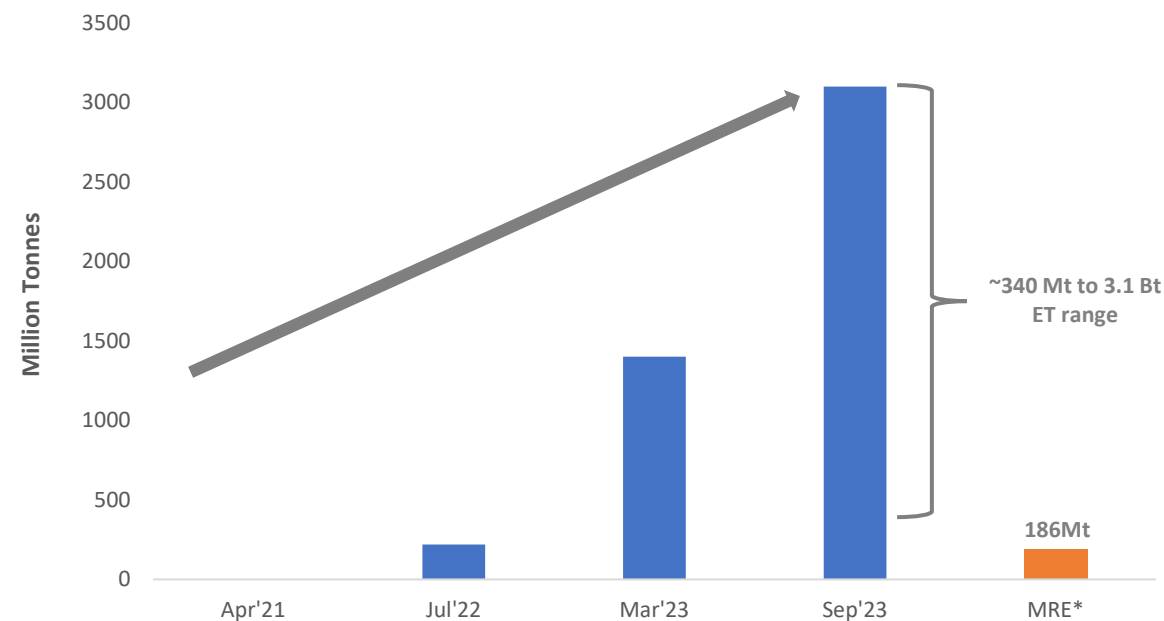
Continue to increase the Province scale with additional drilling

- Mineral Resource of **186Mt at 712ppm TREO** encompassing **~2%** of total tenure
- Exploration Target of up to **3.1 Bt** encompassing **~19%** of total tenure
- Increasing confidence in multi-generational province potential

Mineral Resource Estimate*



Exploration Target*

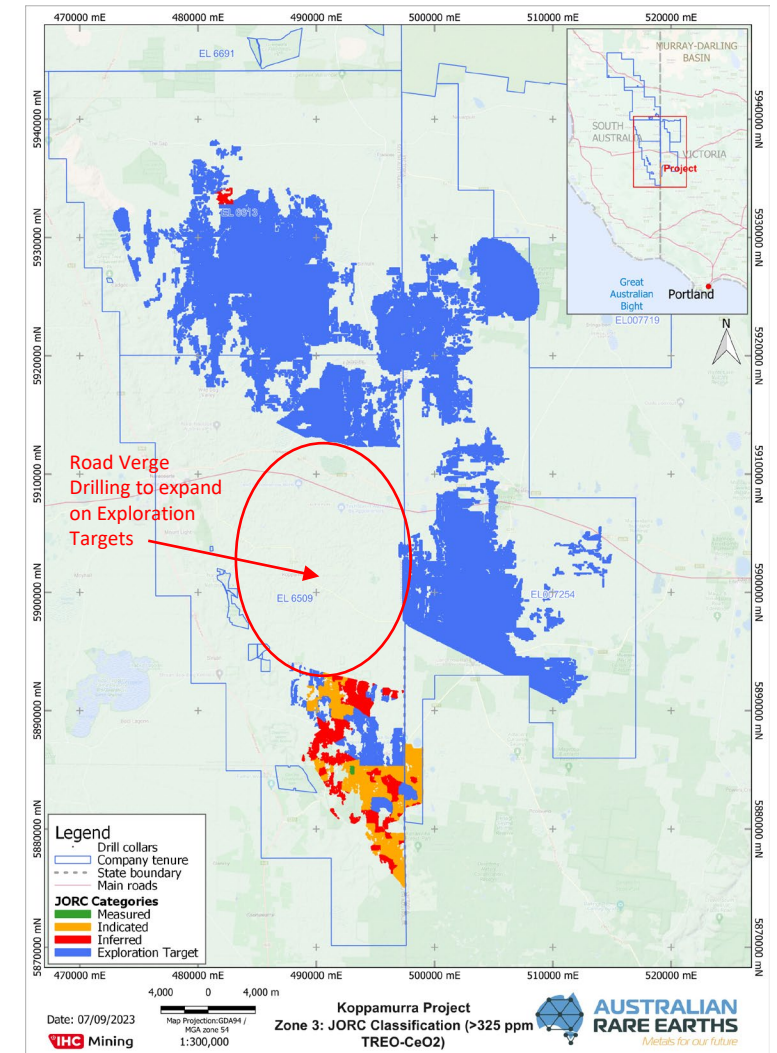


* Mineral Resource estimate and Exploration Target as at September 2023

Koppamurra Exploration

Continue to increase the Province scale with additional drilling

- Koppamurra drilling program **re-commencing Oct'23**:
 - Expand the Exploration Target and further demonstrate the significant Province scale
 - Infill drilling to grow the Mineral Resource and inform Province development planning
- Approximately **30,000m of drilling planned** through to June'24
- Exploration Target and Resource updates based on planned drilling due **H1'24** and again in **H2'24**
- Rapidly assess additional southern tenure once applications are granted



Koppamurra project area JORC Mineral Resource categories

Koppamurra flowsheet development

Process development in collaboration with world experts

- **Completed an Australian first** for an ionic clay hosted rare earth resource with a successful pilot scale production of a **Mixed Rare Earth Carbonate** (MREC):
 - Produced at ambient temperatures and pressures
 - Simple low cost 'off the shelf equipment'
- Consistent magnet rare earth recoveries demonstrated across a wide geographical area
- Non-binding MOU with NEO Performance Materials for a Joint Development and **Offtake Agreement**
- **Assembled a world class metallurgical team:**



Bulk sample processing at ANSTO for MREC production



Mixed Rare Earth Carbonate

Environment



Minimising our footprint

- All projects designed to minimise environmental impact
- Trial mining program demonstrating progressive land rehabilitation to its former use
- Ensuring our activities will not impact local water resources

Social & Community



Building regional prosperity

- Building trust and transparency through early and active engagement with local communities
- Supporting regional economies with jobs, supplier opportunities and growth
- R&D and educational initiatives with local schools and Universities
- Safety culture to drive performance

Governance



Establishing accountability and stewardship

- Board of Directors with extensive experience and complementary skill set
- Traceability of a responsibly mined rare earth supply from a Tier 1 jurisdiction
- Creating value for all stakeholders including shareholders, community and sovereign capability

Mine design incorporating progressive land rehabilitation

Successful trial mining and rehabilitation program

“Building trust by doing what you say you’ll do”



April 2022



September 2022



September 2023

EXPLORATION PORTFOLIO



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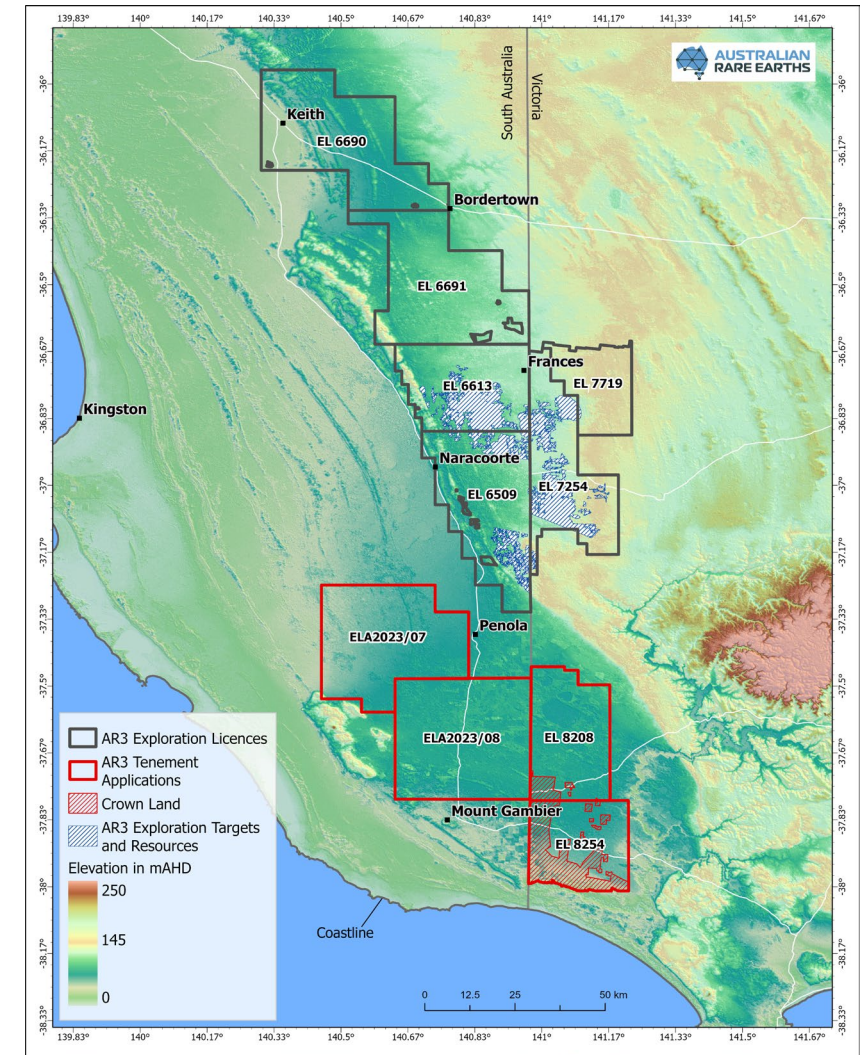


Koppamurra Province

- Exploration Licence applications lodged covering new prospective tenure south of Koppamurra
- Additional tenure targeting shallow Gambier limestone overlain by clay; analogous to the geological setting at Koppamurra
- Once granted, additional ~2,700 km² will expand the Koppamurra project area to more than ~6,700km²
- Resource remains open north and south including EL6691 and EL6690 to the north of the current Exploration Target

Next Steps

- Continue to grow the resource at Koppamurra with drilling re-commencing Oct'23
- Once southern Exploration Licence applications are granted, commence rapid exploration assessment



Regional surface elevations, outcropping Gambier limestone, AR3 tenure and applications

Creating a Rare Earth Exploration portfolio

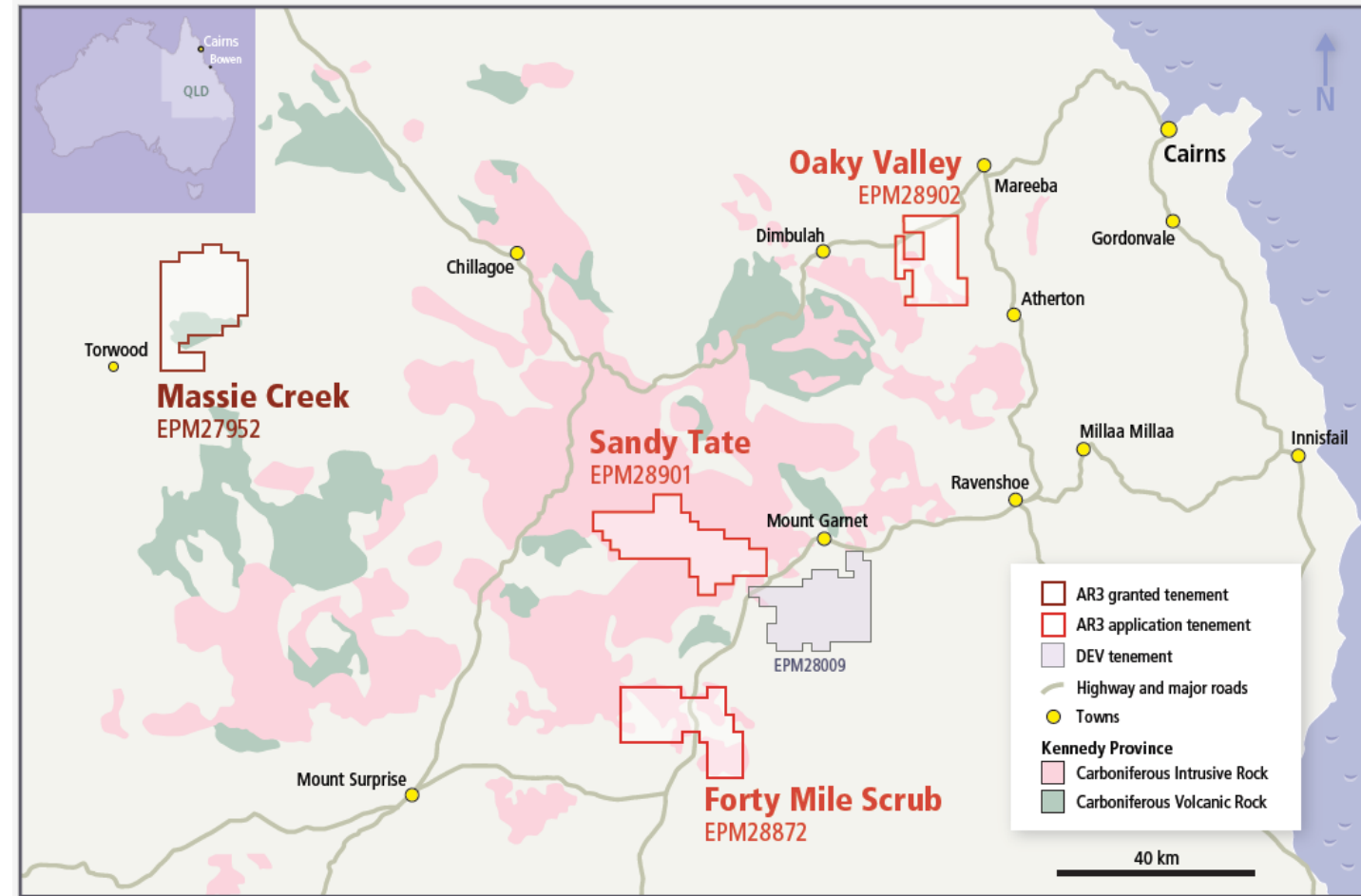
Building a uniquely qualified capacity, experience and knowledge in ionic clay rare earths

North Queensland

- Four exploration prospects in emerging highly prospective ionic clay hosted rare earths region
- ~1100Km² of exploration tenure once all applications are granted
- Regional exploration by others in the sector has identified clay hosted rare earth mineral intersections of significance with positive metallurgical recoveries

Next Steps

- Follow-up sampling and metallurgical test work planned for Massie Creek prospect H2'23
- Once Exploration Licence applications are granted, commence rapid, on-ground, exploration assessment



Prospect locations in Kennedy Province, North Queensland

Creating a Rare Earth Exploration portfolio

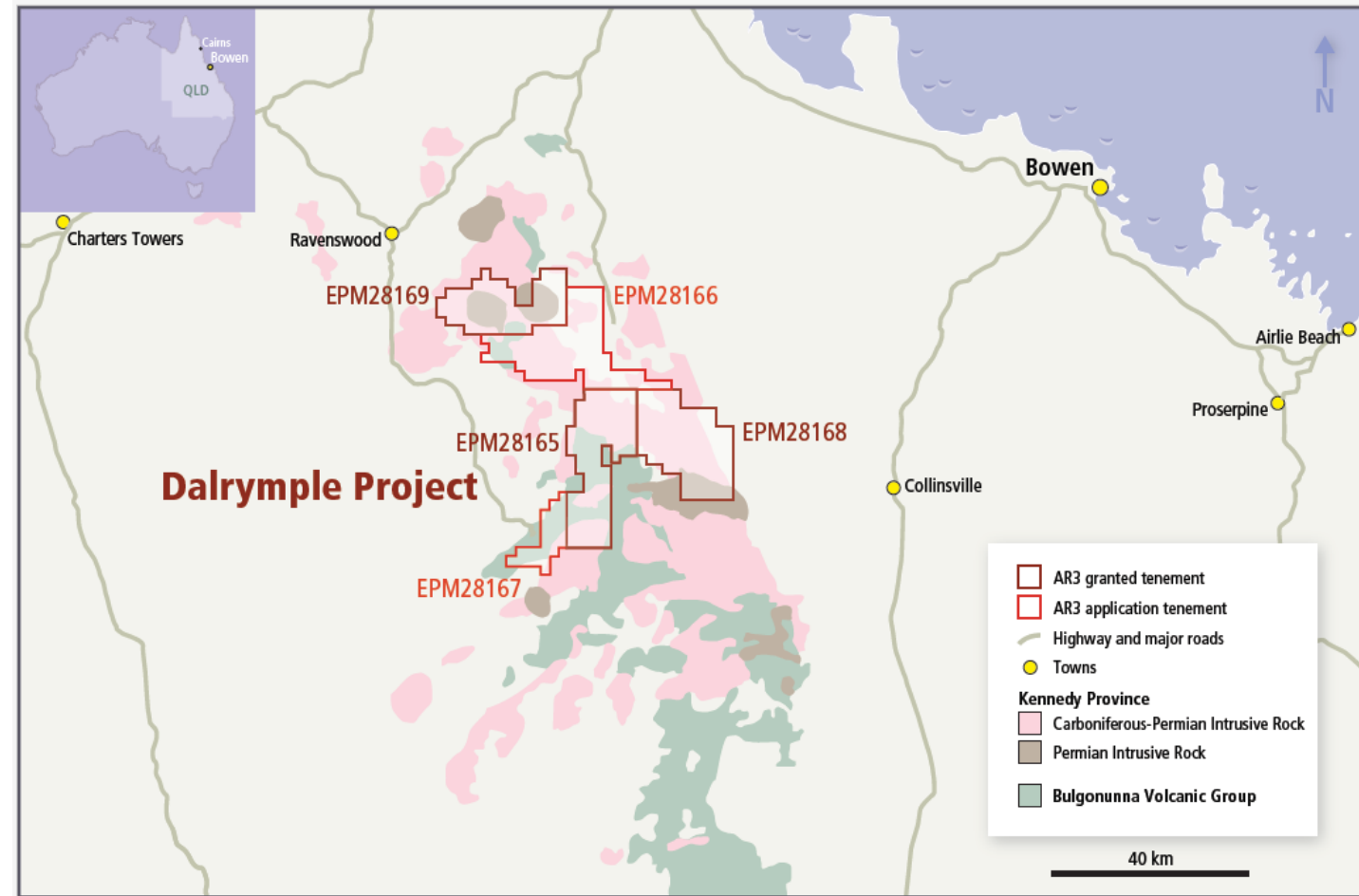
Building a uniquely qualified capacity, experience and knowledge in ionic clay rare earths

Dalrymple Project

- ~1200Km² of exploration tenure once all applications are granted
- Highly accessible ground near existing road and rail infrastructure
- Regional exploration by others in the sector has identified clay hosted rare earth mineral intersections of significance with positive metallurgical recoveries

Next Steps

- Follow-up sampling and metallurgical test work planned for H2'23



Dalrymple location, North Queensland

Developing a portfolio of magnet rare earth projects focused on creating value



1. Compelling long-term rare earth market outlook



2. Koppamurra Project: Developing a multigenerational rare earth Province



3. Growth focused

Next Steps

1. Continue to grow Koppamurra rare earth Province

- Drilling to commence Oct'23 to grow the Mineral Resource and to inform Province development planning
- Expand the Exploration Target and further demonstrate the significant Province scale
- Metallurgical test work continues – focused on optimising the production process flow sheet
- Continue to build strong stakeholder support (Community, Customers, Government)

2. Rapidly assess and evaluate opportunities in the Exploration Portfolio



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ASX: AR3

Securing Australia's rare earths for a diversified sustainable future