



ASX: LNR  
[lanthanein.com](http://lanthanein.com)

**Minerals for  
an Electric Future**



**BRIAN THOMAS**  
Technical Director

Brian is an experienced Director and Corporate Executive with significant domestic and international resources management experience



**DAVID FRANCES**  
Non-Executive Chairman

David is an international executive of 30 years with a track record transacting, discovering, funding, developing and operating assets in Australia and Africa



**PETER SWIRIDIUK**  
Non-Executive Director

Peter holds a BSC (Hons), DipEd, MAIG. Peter has over 32 years' experience exploring for copper, gold, diamonds, coal and base metals.



**MATTHEW FOY**  
Company Secretary

Matthew is a professional company secretary and active member of the WA State Governance Council of the Governance Institute of WA



**THOMAS LANGLEY**  
Exploration Geologist

Thomas has a BSc Geology and a MSc Economic Geology with a focus on discovery of company making projects, and environmental and resource economics. MAIG, MAusIMM

## Capital Structure

Shares on Issue	962,825,570	Share Price (5/10/2022)	\$0.040
Options	139,250,000	Market Capitalisation	\$38.50m
Performance Rights	64,423,076	Cash (post raise)	\$ 5.77m
		EV	\$32.74m

# Project Profile



## Light Rare Earth Elements (REE's) Neodymium and Praseodymium

- Hosted in Ironstones and Ferrocarbonatites at the Gascoyne Project
- Hosted in Ionic Clays at Murraydium Project



## Lithium and Light REE's Neodymium & Praseodymium

- LCT Pegmatites and Carbonatites at Mt Clere Project

## Kaolin and Halloysite (HPA Material)

- Koolya Project



# First Nations Groups

Lanthanein Resources acknowledges the traditional custodians of the land on which the company operates and pay respect to their Elders past, present and emerging

- Whadjuk Noongar people on whose lands the company has its offices
- Thiin-Mah Warriyangka, Tharrkari and Jiwarli people whose lands host the Gascoyne Project area
- Nharnuwangga, Wajarri and Ngarlawangga people whose lands host the Mt Clere Project area
- Marlinya Ghoorlie people whose lands host the Koolya Project area in the Yilgarn
- Bindjali people whose lands host the Murraydium Project in South Australia



**Thiin-Mah Elder, Peter Salmon, Walking His Land, Sharing Stories and Songs of His Land**

- The team at Lanthanein have a deep respect for the First Peoples of Australia. We are continuously working with the Traditional Owners and Elders from the areas where the projects are located
- In June and more recently in August Lanthanein conducted Heritage surveys on the Thiin-Mah country and had the privilege of walking alongside Peter Salmon, the Elder of the Thiin-Mah lands, hearing his stories and songs about the land and country which were truly insightful.
- Lanthanein are progressively embedding ESG reporting fully into all of our operations and governance systems. Lanthanein will continue to measure, improve, and disclose our ongoing progress with reporting ESG metrics and indicators.



The definition of governance is evolving as organisations are increasingly expected to define and embed their purpose at the centre of their business. But the principles of agency, accountability and stewardship continue to be vital for truly 'good governance'.



An ambition to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations



An ambition to end poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment



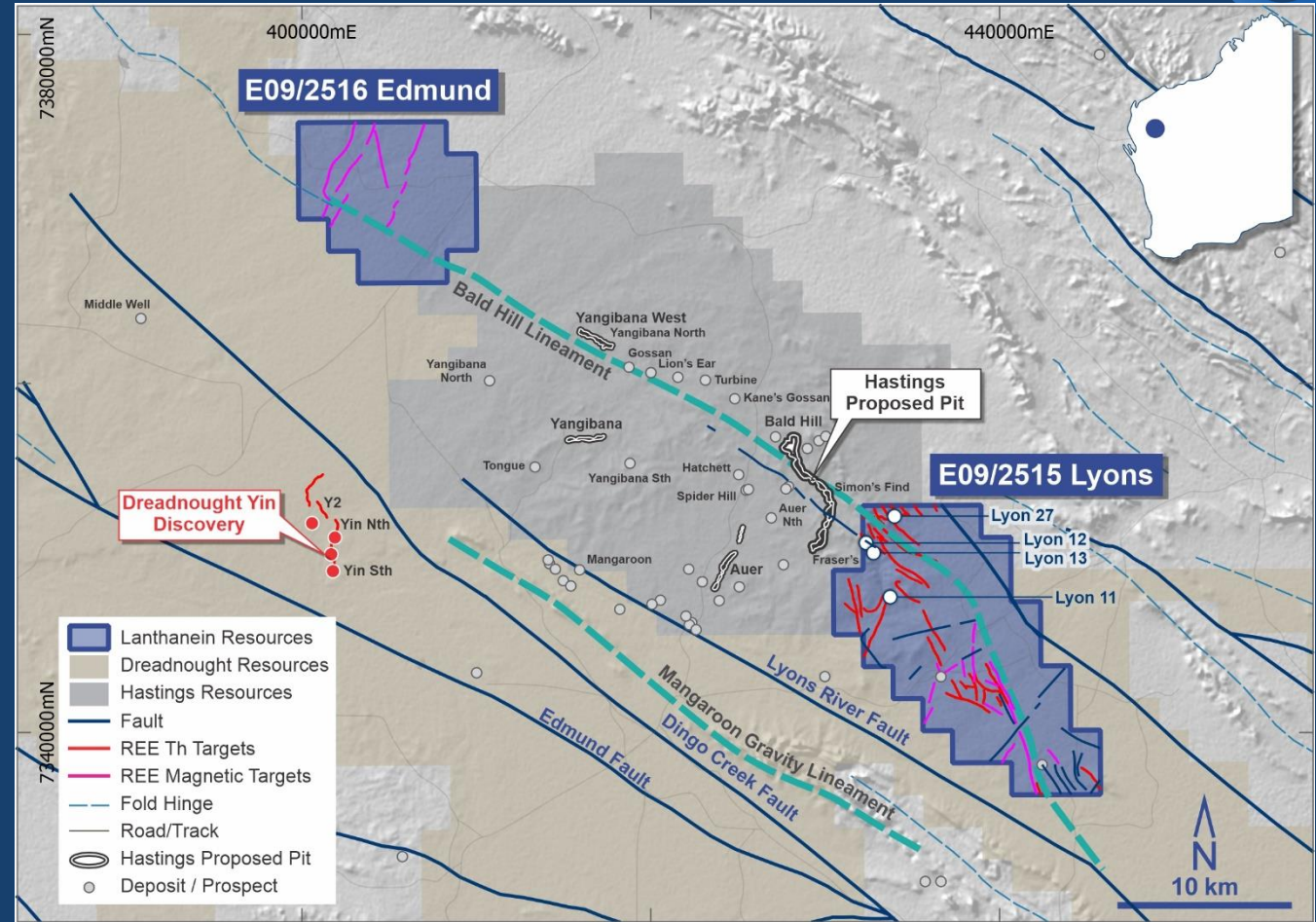
An ambition to ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature





# Gascoyne REE Project

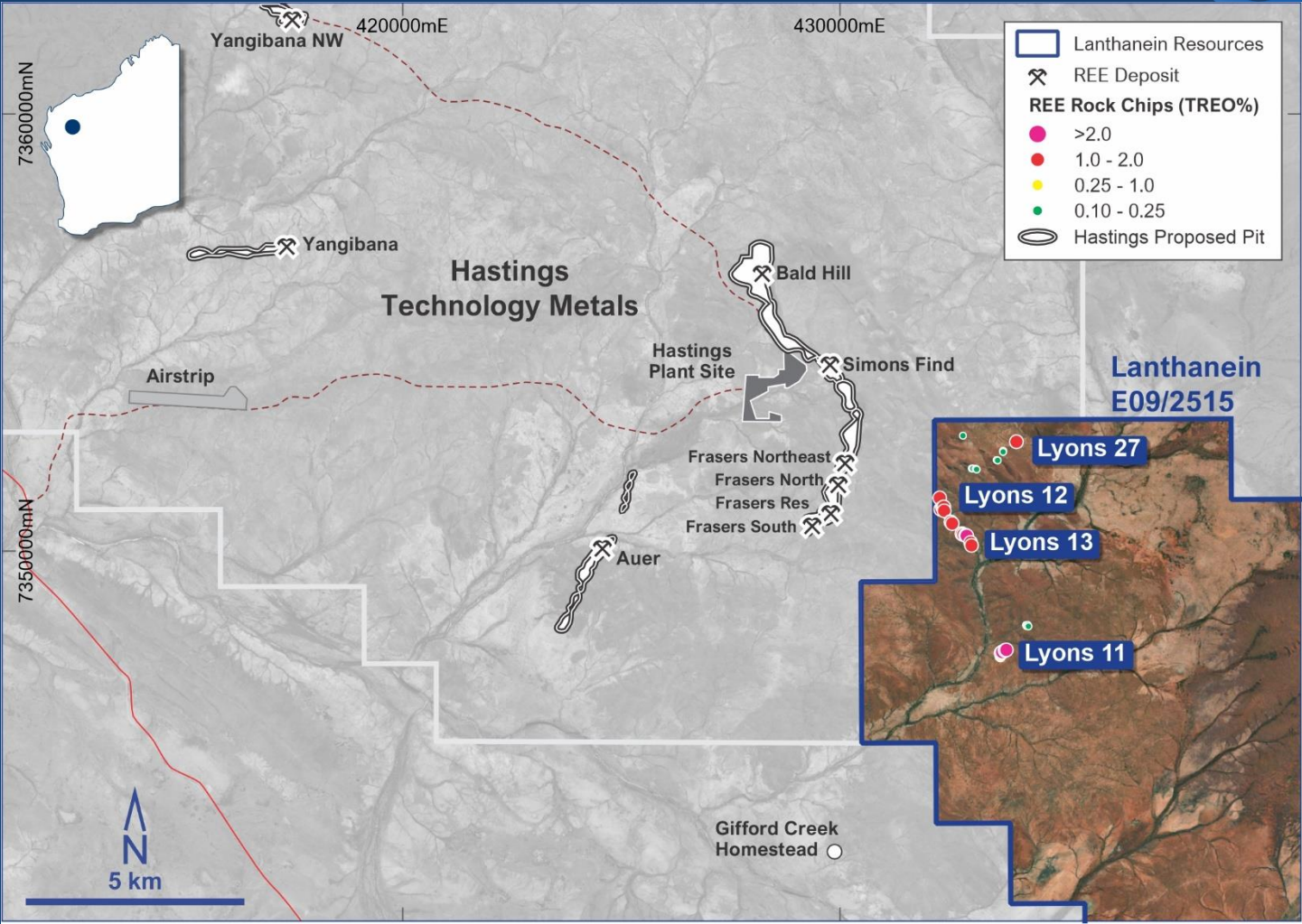
- High grade REE's discovered up to 8.01% TREO
- Rare Earth Elements Hosted in the Yangibana Ironstones within the Durlacher Supersuite Rocks
- Source of the REE's is from the Gifford Creek Ferrocarbonatites which have been intruded along the Bald Hill Lineament
- Hastings Technology Metals (HAS ~\$500m MC) is developing the Yangibana REE Project, Australia's next REE Mine
- Close proximity to Dreadnought's (DRE ~A\$350m MC) recent Yin Rare Earths discovery.
- Lyons and Edmund Project areas both on the Bald Hill Lineament
- No previous exploration for REE's on either area before recent sampling success
- Maiden drill program to test depth extent and width of outcropping ironstones Q3, 2022



# Gascoyne REE Project

- Lyons Prospects are immediately adjacent to Hastings Technology Metals (ASX:HAS) world class Yangibana REE Project
- Hastings REE's hosted in the same ironstones derived from Gifford Creek Ferrocarbonatites present in the Durlacher Supersuite rocks that host the Lyons Prospects
- Mineralogy and metallurgical characteristics of REE's hosted in Lyons ironstones identical to Hastings

Yangibana Project – Total JORC Mineral Resources <sup>(1)</sup>				
AS AT 30 JUNE 2021				
Category	Million Tonnes	%TREO	%Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>6</sub> O <sub>11</sub>	TREO Tonnes
Measured	4.9	1.01	0.38	49,442
Indicated	16.24	0.95	0.33	154,750
Sub-total	21.14	0.97	0.34	204,192
Inferred	6.27	0.99	0.31	62,225
TOTAL	27.42	0.97	0.33	266,417



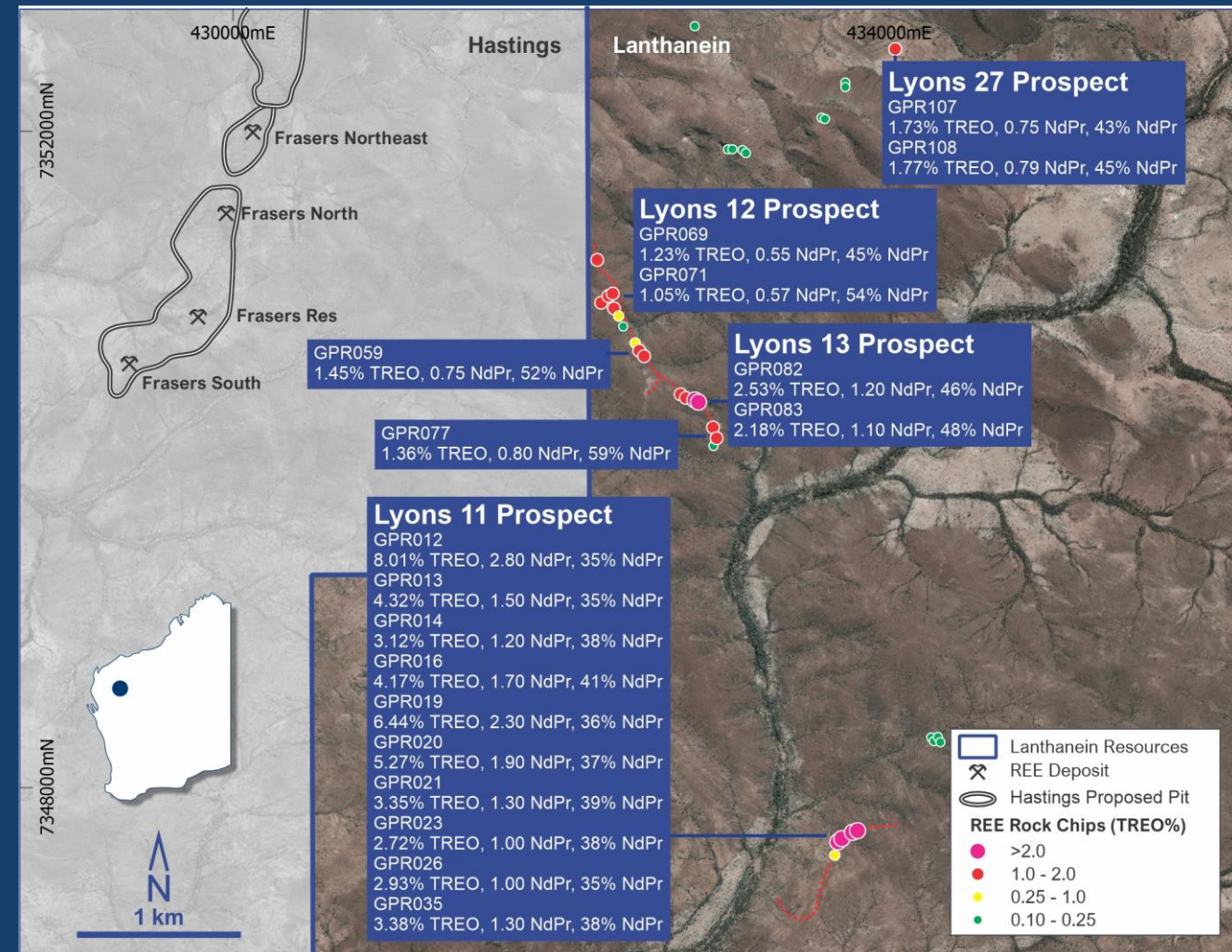


# Gascoyne REE Project

- Multiple high priority outcropping ironstone prospects and carbonatite large tonnage targets to be drilled Q3, 2022
- High grade rare earth discoveries confirmed with exceptional results from rock chips across multiple targets on the Lyons Project Area.

Significant results include:

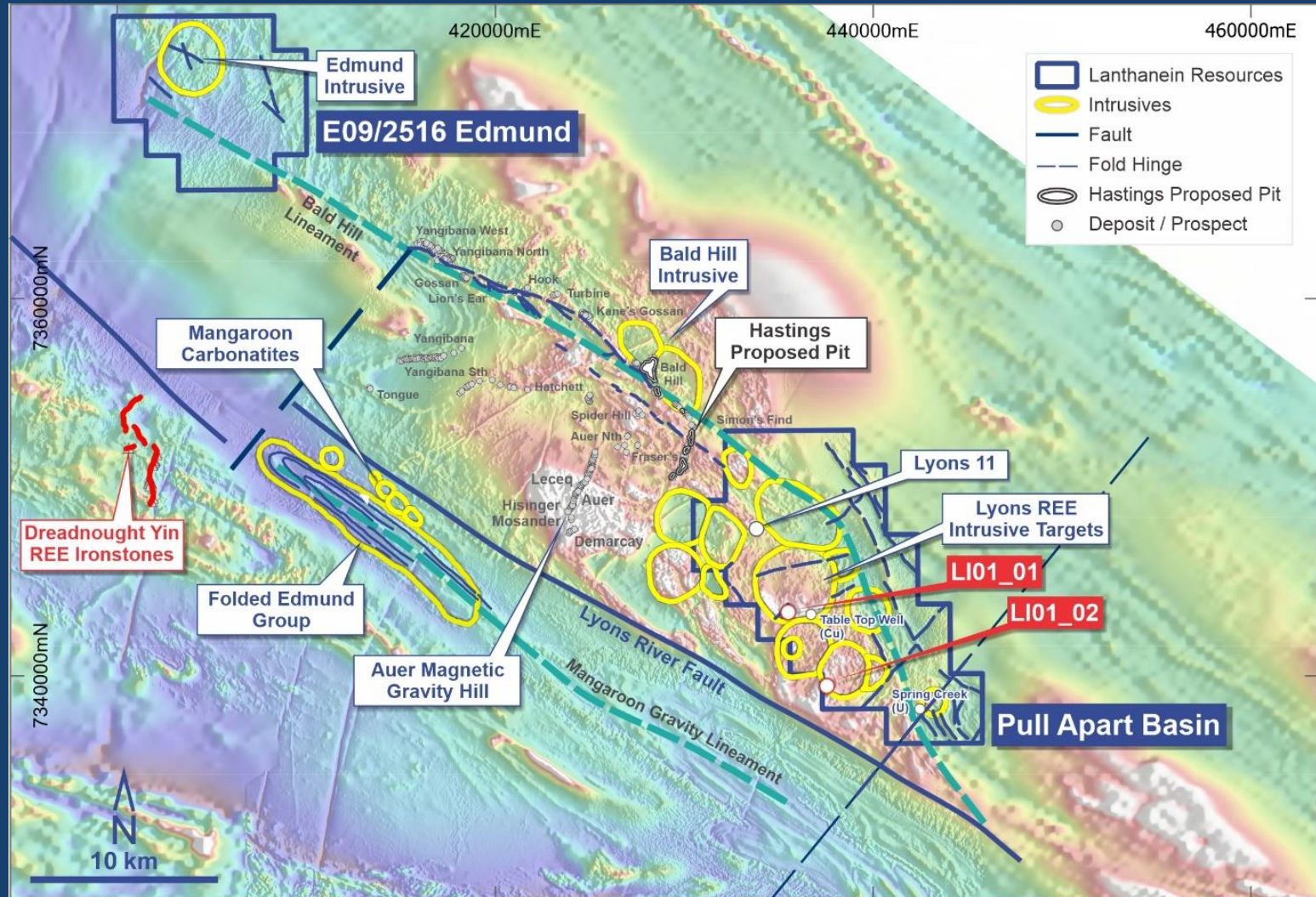
- 8.01% TREO (2.8%  $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$ ) Lyons 11 (GPR012)
- 6.44% TREO (2.3%  $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$ ) Lyons 11 (GPR019)
- 5.27% TREO (1.9%  $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$ ) Lyons 11 (GPR020)
- 4.32% TREO (1.53%  $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$ ) Lyons 11 (GPR013)
- 4.17% TREO (1.69%  $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$ ) Lyons 11 (GPR013)
- 3.38% TREO (1.3%  $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$ ) Lyons 11 (GPR035)
- 2.53% TREO (1.15%  $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$ ) Lyons 13 (GPR082)
- 1.23% TREO (0.55%  $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$ ) Lyons 12 (GPR069)
- 1.77% TREO (0.79%  $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$ ) Lyons 27 (GPR108)





# Gascoyne REE Project

- Regional magnetics and radiometrics have picked up ferrocarbonatite targets under cover on Lanthanein's Lyons EL
- Ferrocarbonatites the source of the REE rich ironstones on Lanthanein and Hastings ground
- Applications in for two DMIRS Exploration Incentive Scheme funded deep exploration holes to be put into the two best targets in Q2 2023
- Dreadnought has similar but smaller carbonatite targets at Mangaroon and near Yin





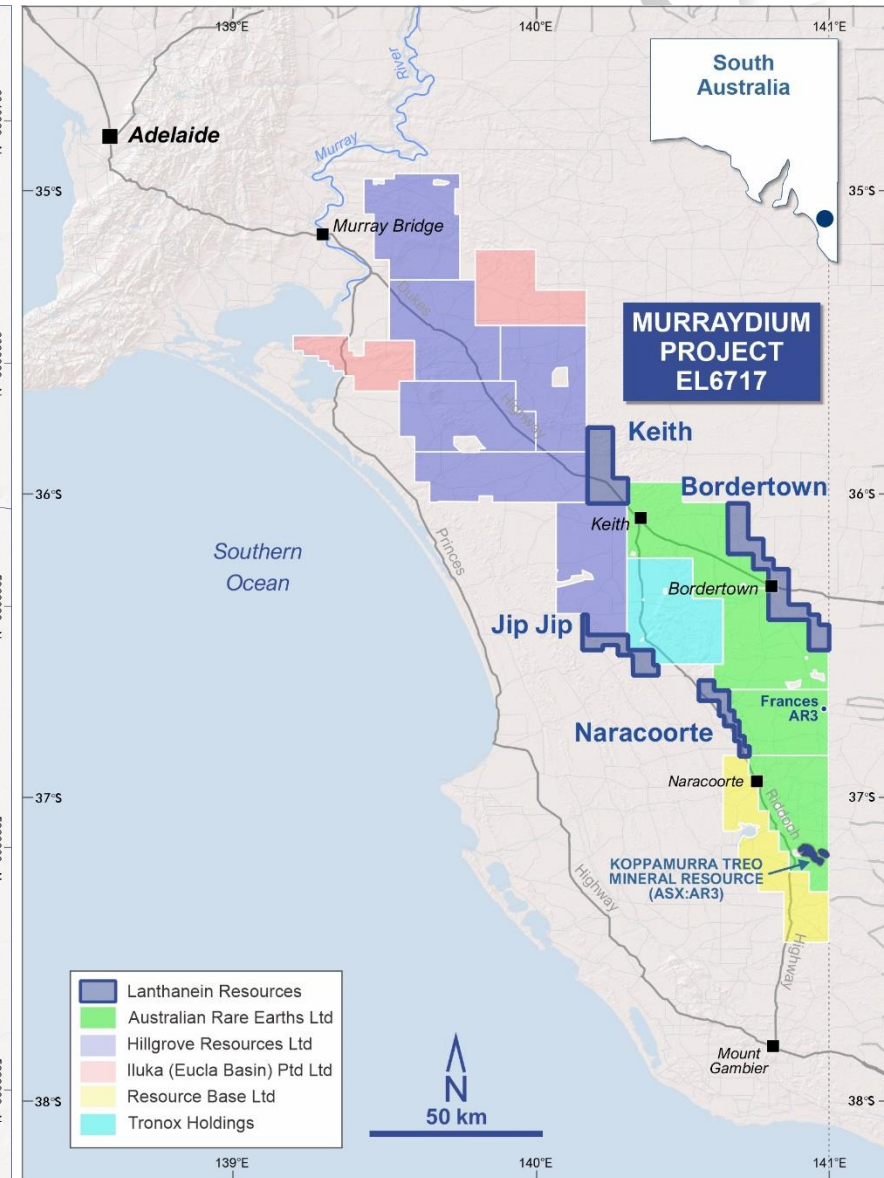
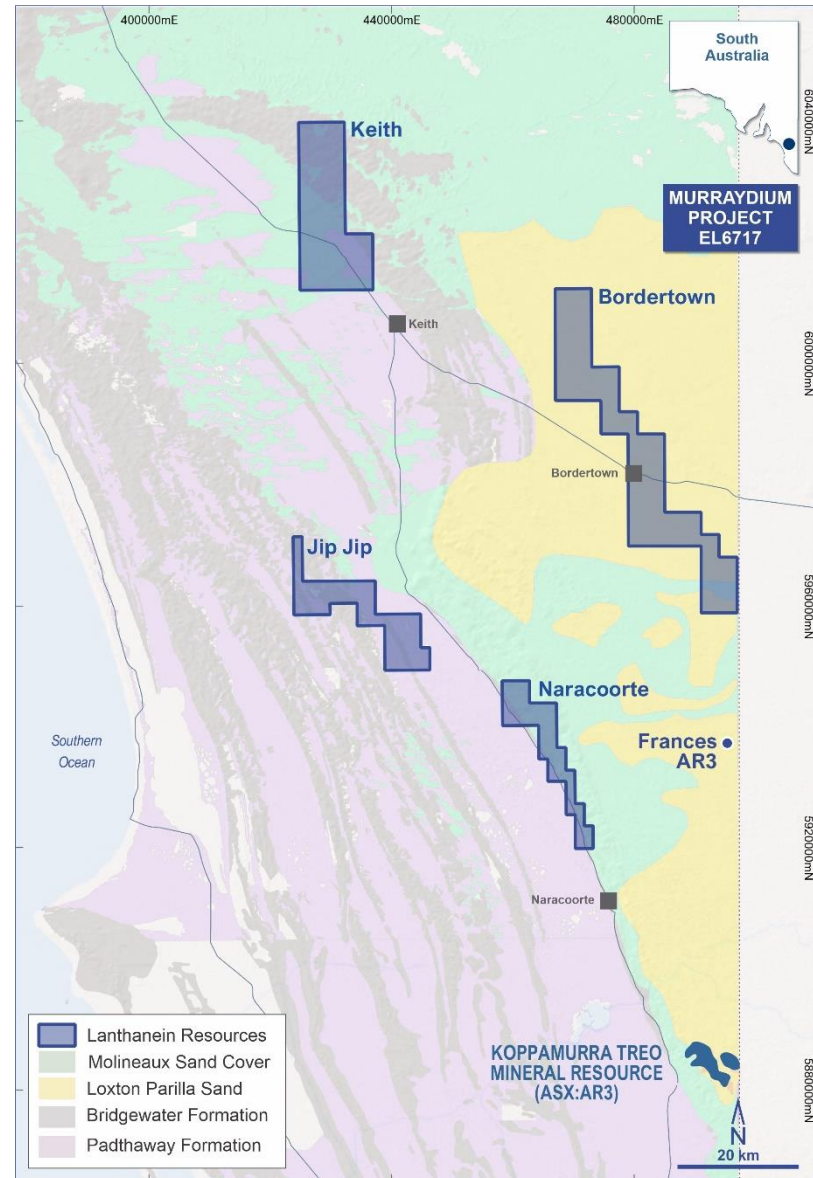
# Murraydium REE Project

- Targeting Ionic Clay hosted REE's
- Australian Rare Earths (ASX : AR3) have REE Resource at Koppamurra on neighbouring tenement
- Koppamurra Resource and new AR3 prospect Frances hosted in the same Loxton Parilla Sands as present on Bordertown Block
- Drilling on Bordertown Block scheduled for Q4 2022

Koppamurra Mineral Resource Estimate – July 2022										
JORC Category	Tonnes Mt	TREO ppm	Magnet Rare Earths							
			Pr <sub>6</sub> O <sub>11</sub>		Nd <sub>2</sub> O <sub>3</sub>		Tb <sub>4</sub> O <sub>7</sub>		Dy <sub>2</sub> O <sub>3</sub>	
			ppm	% TREO	ppm	% TREO	ppm	% TREO	ppm	% TREO
Indicated	45	835	37	4.4	142	17	4	0.5	22	2.6
Inferred	36	721	32	4.4	122	17	3	0.5	19	2.6
<b>Total</b>	<b>81</b>	<b>785</b>	<b>34</b>	<b>4.4</b>	<b>133</b>	<b>17</b>	<b>4</b>	<b>0.5</b>	<b>21</b>	<b>2.6</b>
<b>Exploration Target<sup>1</sup></b>										
	90-220	629-849	29-41	4.6-4.8	110-150	17-18	3-4	0.5-0.5	16-22	2.5-2.6
<b>April 2021 Initial Resource</b>										
Inferred	39.9	725	32	4.4	124.6	17.2	3.5	0.5	19.2	2.6

Mineral Resources reported at a cut-off grade of 325 ppm TREO-CeO<sub>2</sub>, consistent with the previous MRE.

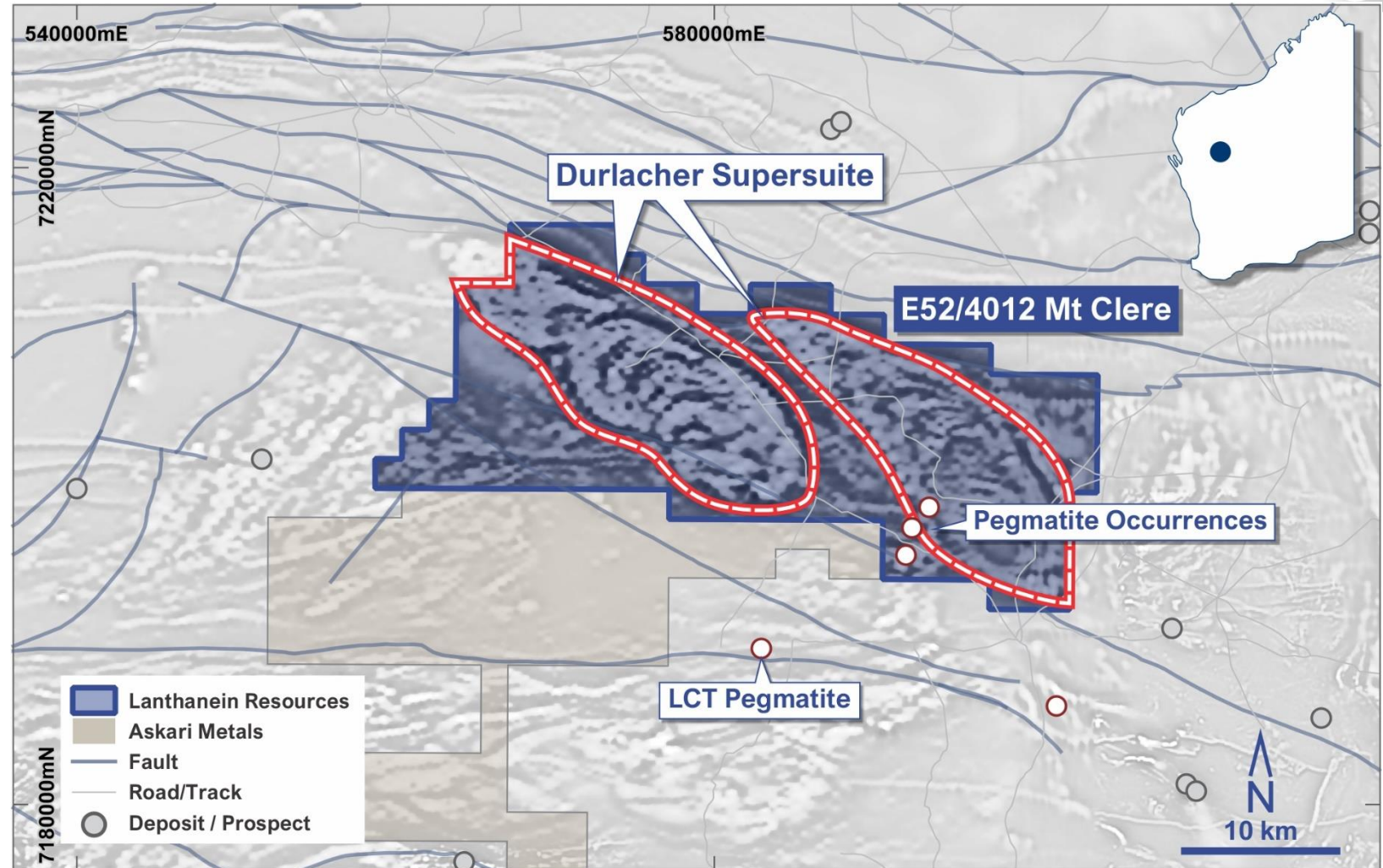
1 - The potential quantity and grade of the Exploration Target is conceptual in nature. Further exploration is required to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.





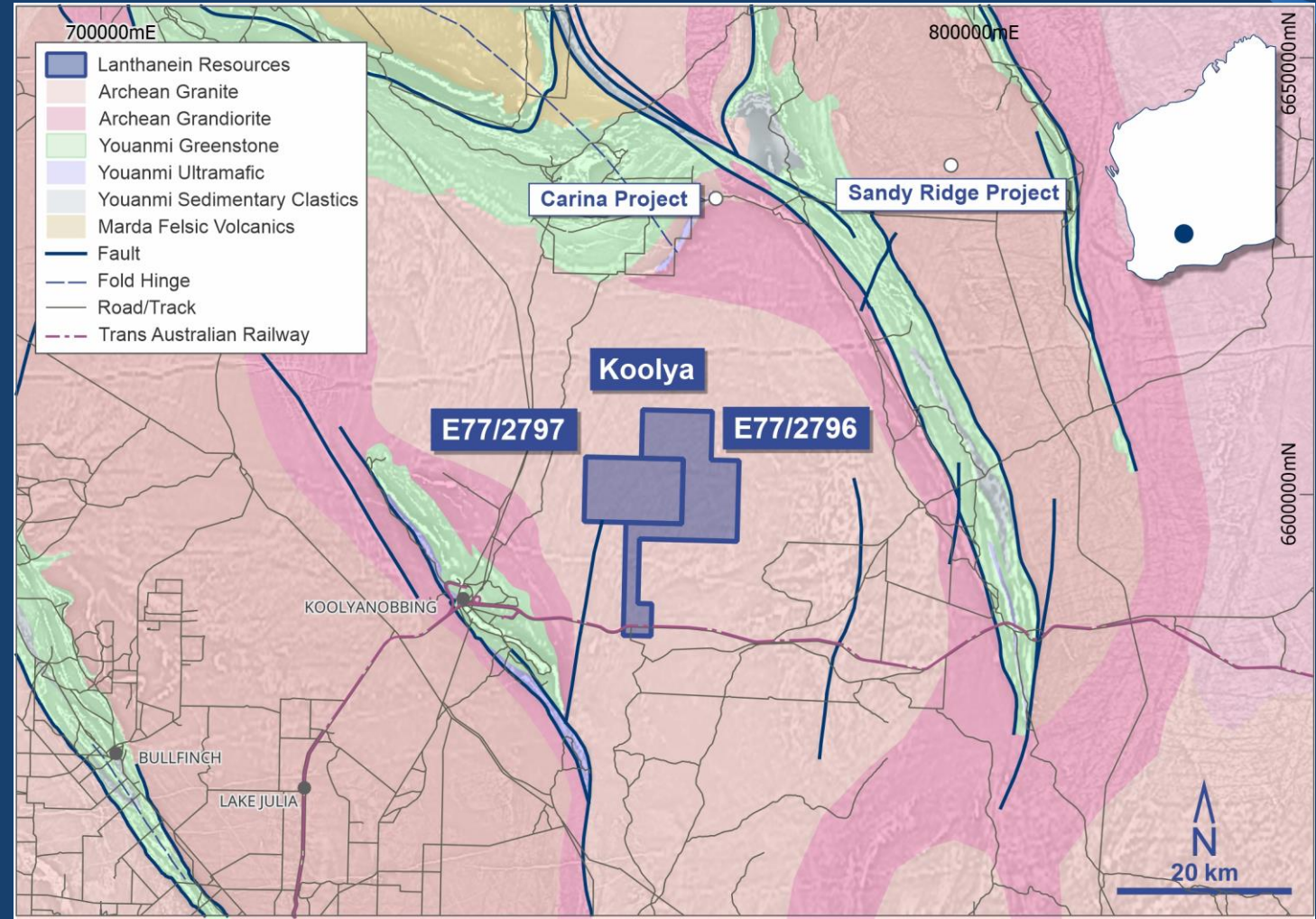
# Mt Clere REE and Lithium Project

- Targeting Rare Earth Elements in Durlacher Supersuite sequence of rocks, the same host rocks as Yangibana
- Lithium potential in LCT Pegmatites in the southeast of the tenement
- Field reconnaissance trip completed Q2, 2022 with additional geochemistry sampling and drill programs planned
- Emerging rare earth province highlighted by Krakatoa ASX: KTA discovering ion adsorption clays enriched in REE's to the west of Mt Clere



# Koolya Kaolin Project

- 240km<sup>2</sup> of kaolinised granite prospective for bright white kaolin clay and high purity alumina (HPA) feedstock
- Tenure supportive for large scale development
- No competing land ownership, pastoral lease or freehold farmland
- Excellent infrastructure with Trans Australian Railway allowing bulk transport up to 5,000t per train
- HPA market growth due to investment in EV and battery market





# The Opportunity / Investment Thesis

- Emerging Rare Earth Elements Explorer
- Gascoyne Project adjacent to Hastings Technology Metals (ASX:HAS) established resources and reserves at Yangibana, the next world class REE mine now with a downstream pathway to production with the Neo Performance Materials (TSX:NEO) investment
- Same rocks with same mineralogy with same metallurgical characteristics as at Yangibana
- Murraydium Ionic Clay Hosted REE Project adjacent to Australian Rare Earth's (ASX:AR3) established Koppamurra resource
- Diversity of REE source, both primary Ferrocarnatite sourced (Gascoyne) and Ionic Clay Hosted (Murraydium)