



Investor Presentation

The World's Highest Grade Ionic
Adsorption Clay REE Deposit

 ASX:MEI

MAY 2023

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The information in this presentation that relates to exploration results is based on information reviewed, collated and fairly represented by Dr Andrew Tunks a Competent Person and a Member of Australian Institute of Geoscientists #2820 and a consultant to Meteoric Resources NL. Dr Tunks has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which has been undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results. Dr. Tunks consents to the inclusion in this report of the matters based on this information in the form and context in which it appears

The information in this presentation that relates to exploration results is based on information reviewed, collated and fairly represented by Dr Carvalho a Competent Person and a Member of the Australasian Institute of Mining and Metallurgy and a consultant to Meteoric Resources NL. Dr.Carvalho has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which has been undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr. Carvalho consents to the inclusion in this report of the matters based on this information in the form and context in which it appears

The information in this presentation that relates to Mineral Resources is based on information compiled by Dr. Beck Nader, a Competent Person who is a Fellow of Australian Institute of Geoscientists #4472. Dr. Beck Nader is a consultant for BNA Mining Solutions. He 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 him as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Dr. Beck Nader consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this presentation that relates to Mineral Resources is based on information compiled by Dr. Volodymyr Myadzel, a Competent Person who is a Member of Australian Institute of Geoscientists #3974. Dr. Volodymyr Myadzel is a consultant for BNA Mining Solutions. He 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 Resources and Ore Reserves’. Dr. Volodymyr Myadzel consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

INVESTMENT HIGHLIGHTS

Meteoric is rapidly validating Caldeira as a Tier-1 Rare Earths Project



Unique asset well positioned comparably to peers

- The Project, comprises of 51 mining licenses (23 licenses and 21 applications).
- Target mineralisation stretches over twenty-kilometres in trend and is completely open at depth



Globally significant, Tier-1 Rare Earths asset

- Global Mineral Resource Estimate - JORC 2012 stands at 409Mt @ 2,626 ppm TREO (ASX 1/5/2023)
- Caldeira basket is 24% magnet REE



Quality historical data

- 85% of all (1311) historic holes finished with TREO grades higher than 1000ppm (ASX 16/12/2022)
- Average recovery of Tb +Dy was 43% and Pr + Nd was 58%



Proven and established jurisdiction

- Stable regulatory regime with over 8,000 mining companies in operation and no history of nationalisation of mining assets
- Existing ionic clay operations with well-developed testing and engineering capabilities (BRE and Serra Verde)



Well capitalised with balance sheet flexibility

- Strong cash balance of ~A\$18.5m (31/3/2023 post Caldeira Project payment)
- Capital to be allocated towards a Scoping Study, extensional and infill drilling as well as further metallurgical testwork



Experienced leadership with a history of creating value

- Proven track record of development success and experience, evidenced by a cross section of ASX listed directorships
- Highly qualified and technically competent, with three board members having a PhD in their applicable field

COMPANY OVERVIEW

Supported by an experienced and competent Board, the share price has performed significantly well this year

MEI Snapshot

ASX Code	MEI
Share Price (28/4/23 Close)	0.175
Shares on Issue	1,742.3M
Market Capitalisation	A\$304M
Liquidity (3-Month Avg.)	c. \$2m / day
Largest Shareholder	c. 9.24%



Board of Directors

Executive Chairman	Dr Andrew Tunks
Executive Director	Dr Marcelo de Carvalho
Non-Executive Director	Dr Paul Kitto
Chief Executive Officer	Nick Holthouse



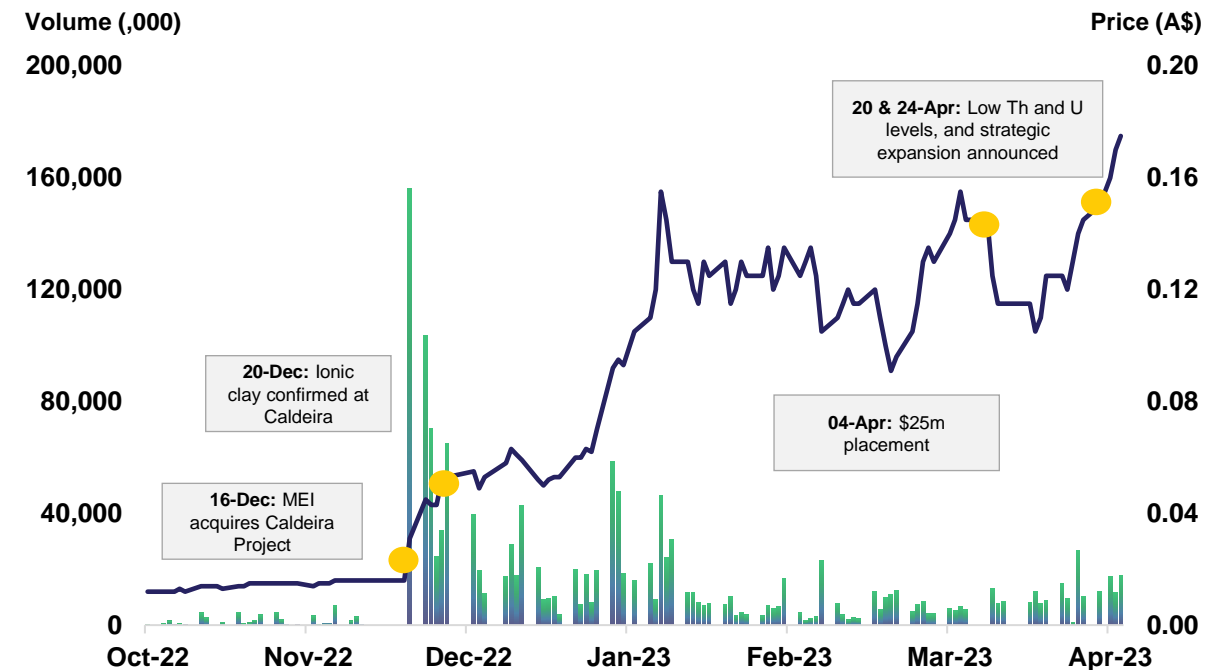
Director Experience and Background



Share Price History



Significant share price appreciation following the transformative acquisition of the Tier-1 Caldeira Project.

Heightened volume following the confirmation of Caldeira as an Ionic Adsorption Clay Deposit, re-commencement of drilling and execution of the definitive acquisition agreement.



RARE EARTH DEPOSIT TYPES AND COMPARABLES

Ionic clay allows for expedited development timelines, reduced capex requirements and a higher value product

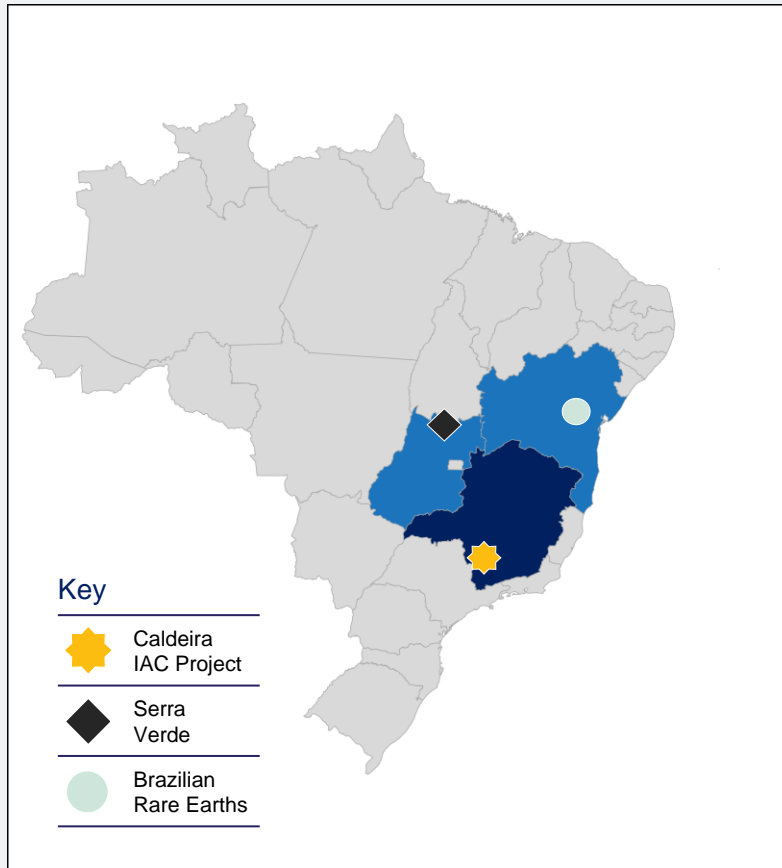
	Ionic Clay-hosted REE	Hard Rock-hosted REE
		
Location	<ul style="list-style-type: none"> Predominantly mined in China, with small deposits found in Myanmar However, global clay-hosted REE stocks are depleting 	<ul style="list-style-type: none"> Majority of production based in China, with some projects under consideration in Australia, United States, and Africa
Payability	<ul style="list-style-type: none"> 70% - 80% payability as mixed rare earth elements Contains both light and heavy REEs 	<ul style="list-style-type: none"> 35% - 40% payability as a mineral concentrate Typically light REEs only
Scale	<ul style="list-style-type: none"> Lower initial capex allows for increased scalability Typically ~US\$15/kg TREO annual output (<i>capital intensity</i>)¹ 	<ul style="list-style-type: none"> Significant scale required for economic feasibility due to high initial capex Typically ~US\$150/kg TREO annual output (<i>capital intensity</i>)
Exploration	<ul style="list-style-type: none"> Quick and inexpensive – aircore drilling into deeply weathered granite (clays) 	<ul style="list-style-type: none"> Similar to other hard rock base minerals requiring substantial drilling and geochemistry
Mining	<ul style="list-style-type: none"> Surface mining, with minimal stripping of waste material Progressive rehabilitation of landscape – pits backfilled leaving no tailings or waste dumps 	<ul style="list-style-type: none"> Drill and blast with large mining fleet (typically, with high strip ratios) Capital-intensive open cut and underground operations required
Processing	<ul style="list-style-type: none"> Simple washing of REE from clay in ammonium sulphate No radioactive waste streams 	<ul style="list-style-type: none"> High temperature mineral cracking using strong acids Tailings are often radioactive and are costly to dispose

Source: (1) Hochschild Mining plc, Capital Markets Presentation, September 2021

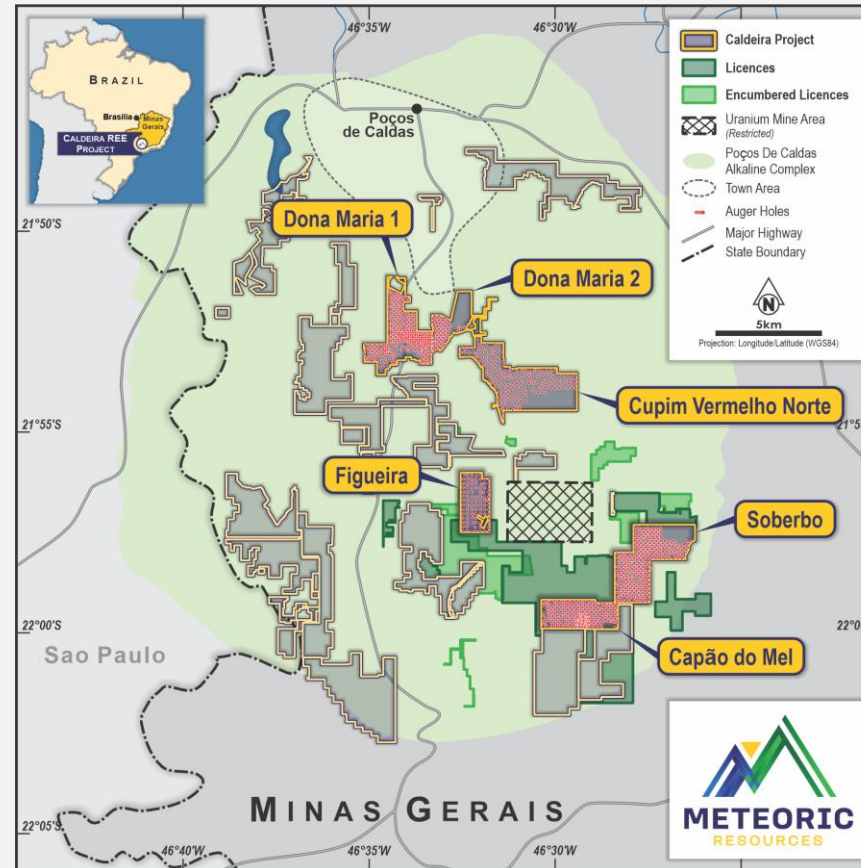
IONIC ADSORPTION CLAY - BRAZILIAN LANDSCAPE

Meteoric Resources is well positioned to capitalise on a proven mining jurisdiction and unique project

Comparable Brazilian Assets



Project Mining Licenses



Caldeira Project Highlights

- 51 Licences with 23 ML's and 21 MLA's - 171km²
- The Project area is 170km² - 20% drilled
- Project lies within the state of Minas Gerais approximately four hours drive north of São Paulo

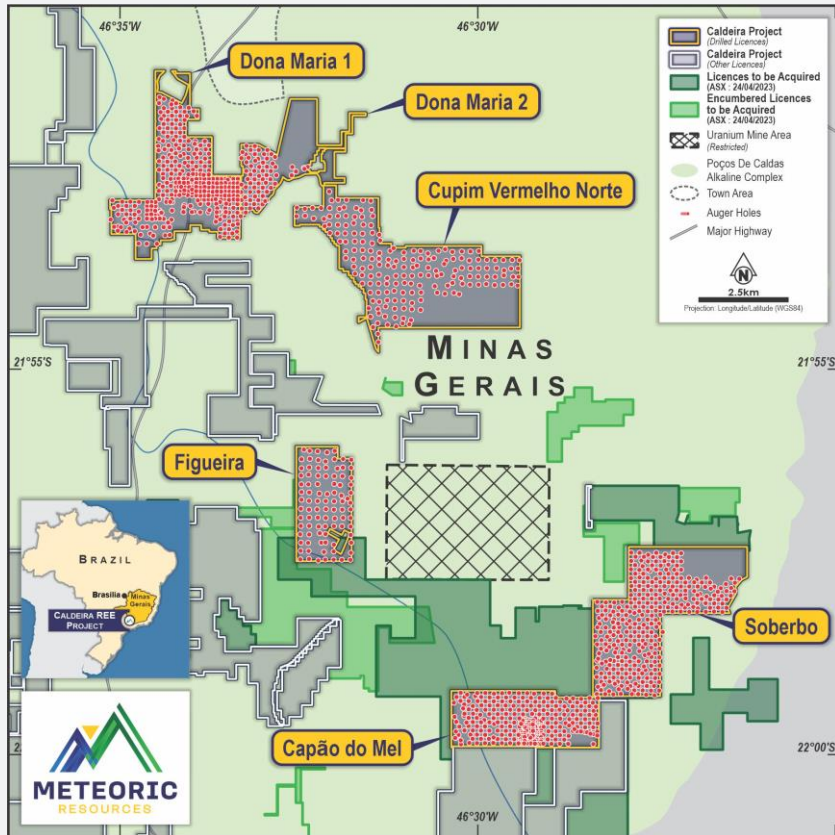
Mature Jurisdiction

- Stable regulatory regime with over 8,000 mining companies in operation and no history of nationalisation of mining assets
- One of the world's largest producers of niobium, iron-ore, tantalum, lithium, vanadium and bauxite backed by a strong presence from major international mining companies
- Existing ionic clay operations with well-developed testing and engineering capabilities
- Supportive community engagement with local landholders

HISTORIC EXPLORATION

JOGMEC successfully explored project between 2016 and 2019

Drilling Collar Plan – 1311 Holes



Significant mineralisation has been drilled in 6 licences.
Each red dot is a hole collar

Historic Exploration

- The Poços de Caldas Intrusive Complex covers an area of approximately 800km², constituting the largest occurrence of alkaline rocks in South America
- Rare Earth elements were documented within the basement alkaline rocks as long ago as the 1950's
- The discovery of extensive REE within the regolith clay zone was originally made by Alvaro Fochi Chief Geologist at the Togni Group
- The Japan Organisation for Metals and Energy Security (“JOGMEC”) conducted extensive drilling and metallurgy work on Caldeira between 2016 to 2019
 - Shallow Auger holes for 13,037m (Av depth = 7m)
 - Of the 1,311 holes drilled, over 85% finish with grades in excess of 1000 ppm TREO
- The prospective zone of the project stretches across 20km and is open in all directions and at depth

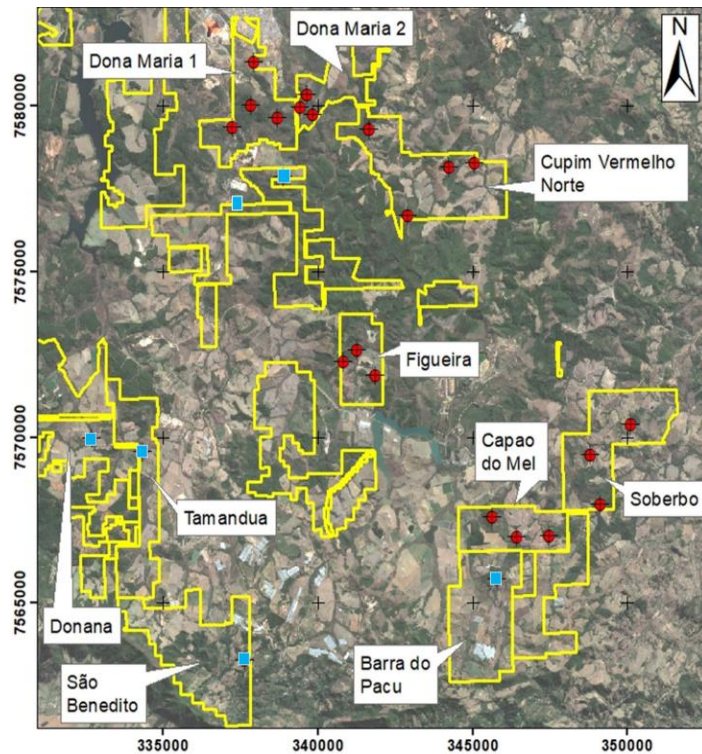
Deposit Characteristics

- A selection of drilling results across six licences returned ultra-high grade intersections from surface (ASX: 16/12/2022):
 - 20m @ 5,918 ppm TREO ending in 2,239 ppm TREO
 - 15m @ 7,551 ppm TREO ending in 7,915 ppm TREO
 - 15m @ 7,042 ppm TREO ending in 3,425 ppm TREO
 - 12m @ 8,367 ppm TREO ending in 5,829 ppm TREO
 - 19m @ 6,895 ppm TREO ending in 7,840 ppm TREO
 - 20m @ 6,779 ppm TREO ending in 4,652 ppm TREO
 - 20m @ 8,924,ppm TREO ending in 9,945 ppm TREO
- Enriched HREO basket with strongly enriched Magnet REO's – Tb₂O₃, Dy₂O₃, Nd₂O₃ and Pr₂O₃ - averaging greater 24% of TREO

CALDEIRA GRADES, DRILLING INTERCEPTS AND PEERS

Outstanding grades, wide continuous intercepts and open at depth

Caldeira Project – Current Exploration

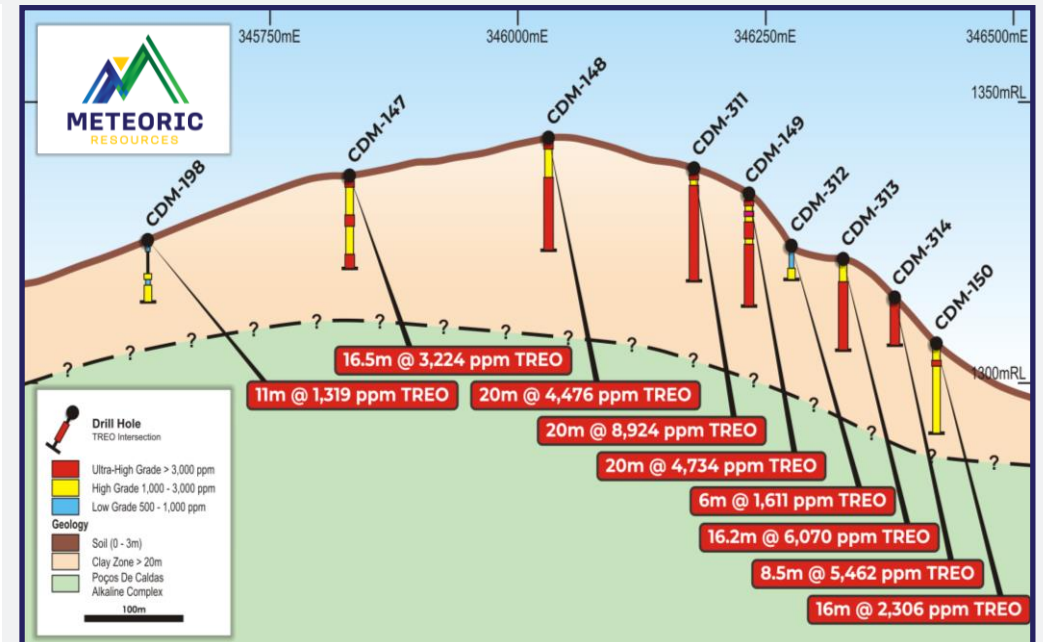


Legend
 ● Twin diamond hole collar
 ■ New target -collar

2.5 5 Km

- Phase 1 Diamond Drilling program is underway
- A program of 25 diamond holes was designed to test depth of REE mineralisation. The Diamond Drill cores will be split into 2 portions with half for assay and half to come back to Australia for metallurgical test work at ANSTO laboratory in Sydney
- 20 of the holes are designed to twin historic auger holes drilled by the previous explorer, with the remaining 5 holes to expand known mineralisation

Capo Do Mel Prospect



Stylised Cross Section 7,566,800m N

New drilling is designed to intersect the underlying granite (green) at depth to establish the thickness of the prospective clay zone. Every hole on this section finished in grades above 1,000ppm TREO. Vertical exaggeration = 5 times (refer ASX release 16/12/2022).

TIER 1 IONIC ADSORPTION CLAY (IAC) RARE EARTH

The due diligence program and previous metallurgical work has proven the project's IAC characteristics across various prospects

Metallurgy Bulk Sample (ASX:20/12/22)

- 4,917ppm TREO
- 25.5% Magnet REE
- MREO = 1,250 ppm

Classification	Element	REE (ppm)	Conversion Factor	Oxide	REO (ppm)	REO /TREO %	
LREE	Lanthanum	La	1961	1.1728	La ₂ O ₃	2300	46.8%
	Cerium	Ce	731	1.2284	Ce ₂ O ₃	898	18.3%
	Praseodymium	Pr	274	1.1702	Pr ₆ O ₁₁	321	6.5%
	Neodymium	Ne	756	1.1664	Nd ₂ O ₃	882	17.9%
HREE	Samarium	Sm	86	1.1596	Sm ₂ O ₃	100	2.0%
	Europium	Eu	22	1.1579	Eu ₂ O ₃	25	0.5%
	Gadolinium	Gd	60	1.1526	Gd ₂ O ₃	69	1.4%
	Terbium	Tb	8	1.151	Tb ₄ O ₇	9	0.2%
	Dysprosium	Dy	35	1.1477	Dy ₂ O ₃	40	0.8%
	Holmium	Ho	6	1.1455	Ho ₂ O ₃	7	0.1%
	Erbium	Er	15	1.1435	Er ₂ O ₃	17	0.3%
	Thulium	Th	2	1.1142	Tm ₂ O ₃	2	0.0%
	Ytterbium	Yt	11	1.1379	Yb ₂ O ₃	13	0.3%
	Lutetium	Lu	2	1.1372	Lu ₂ O ₃	2	0.0%
Yttrium	Y	183	1.2697	Y ₂ O ₃	232	4.7%	
Totals			4151			4917	100%

Metallurgy Results and Future Work

- Leach in ammonium sulphate solution
- pH 4
- Maximum leach % occurring within 5-10mins
- Recoveries to the leach are exceptional
 - Nd & Pr above 70%
 - Tb 60-70% and
 - Dy 50-60%
- Metallurgical recoveries
 - Nd 64%
 - Pr 52%
 - Tb 47%
 - Dy 39%

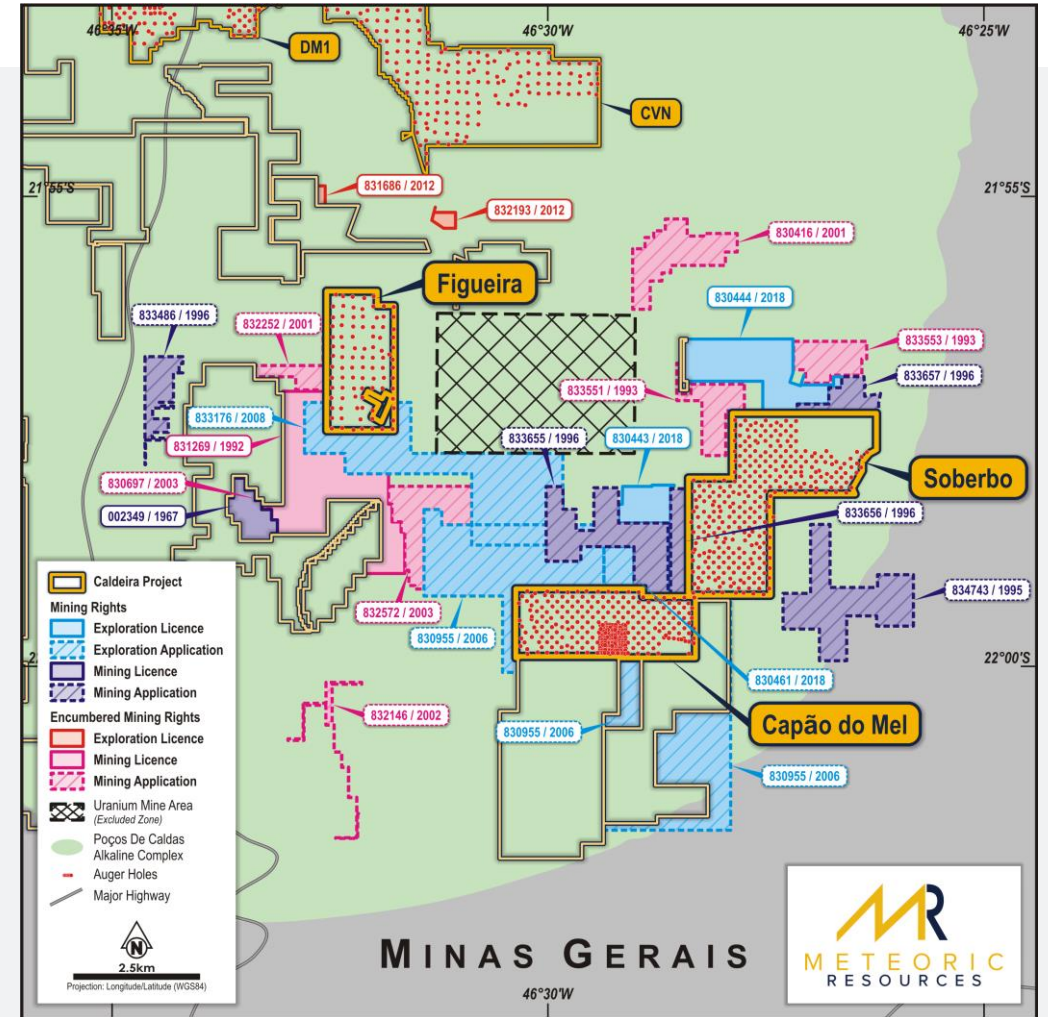
Metallurgical Recoveries

REO	Sample1	Sample2	Sample3	Sample4	AVERAGE
La ₂ O ₃	61%	62%	59%	64%	62%
Ce ₂ O ₃	4%	4%	4%	4%	4%
Pr ₆ O ₁₁	53%	51%	49%	54%	52%
Nd ₂ O ₃	65%	63%	61%	67%	64%
Sm ₂ O ₃	53%	52%	48%	53%	52%
Eu ₂ O ₃	55%	53%	52%	56%	54%
Gd ₂ O ₃	56%	57%	53%	57%	56%
Tb ₄ O ₇	50%	47%	42%	48%	47%
Dy ₂ O ₃	41%	38%	35%	40%	39%
Ho ₂ O ₃	33%	28%	15%	29%	26%
Er ₂ O ₃	28%	29%	31%	29%	29%
Tm ₂ O ₃	26%	25%	22%	25%	25%
Yb ₂ O ₃	15%	19%	17%	19%	18%
Lu ₂ O ₃	21%	21%	19%	22%	21%
Y ₂ O ₃	37%	38%	35%	37%	37%

STRATEGIC ACQUISITION

Consolidating landholding area by a further 40%

- Meteoric has entered into a binding agreement to acquire significant and strategic Ionic Clay Rare Earth Element (REE) licences contiguous with the most highly prospective areas of its Tier 1 Caldeira REE Project in the Minas Gerais State of Brazil
- The Acquisition comprises 21 Licences (2 Mining Licences, 12 Mining Licence Applications, 4 Exploration Licences and 3 Exploration Licence Applications)
- The Licences cover 49km², increasing the total area covered by the Company by 40% to 172km²
- Importantly, the acquisition amalgamates a large contiguous block of ground, covering approximately 67km², in the most prospective southern portion of the Caldeira Project, amalgamating the previously drilled highly prospective Capão do Mel, Soberbo and Figueira Licences.



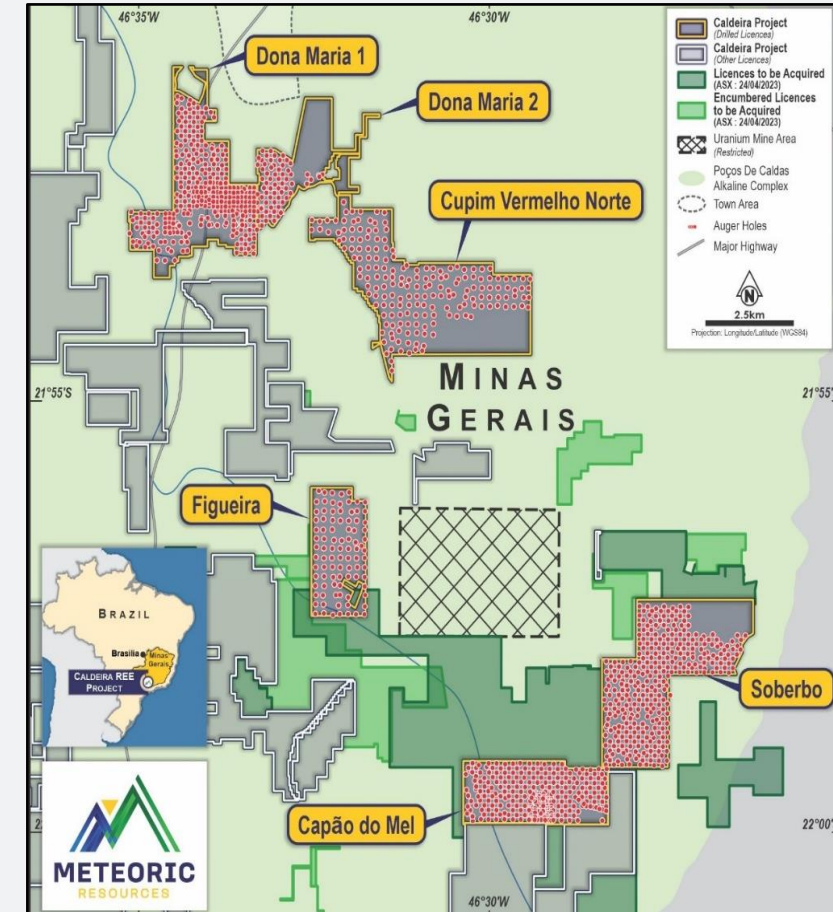
Licence status of the Acquisition. Unencumbered Licences outlined in Blue. Encumbered Licences outlined in Red. highlighted is the Exclusion Zone around the The Osamu Utsumi Uranium Mine. The Mine operated between 1982- 1995.

CALDEIRA PROJECT MAIDEN RESOURCE – 409Mt @ 2626 ppm TREO

World's Highest Grade Ionic Adsorption Clay REE Deposit (ASX 1/5/2023)

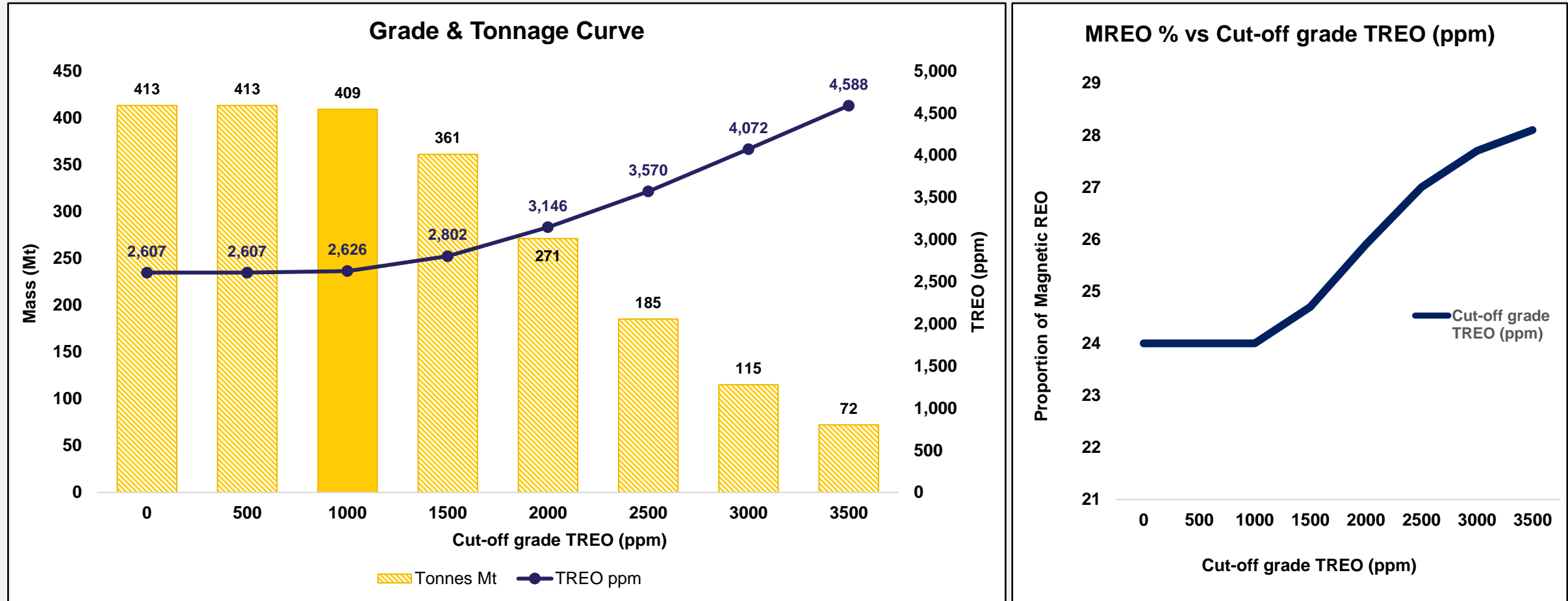
- The Global Mineral Resource Estimate (MRE) reported against the guidelines of JORC 2012 stands at **409Mt @ 2,626 ppm TREO at a 1000ppm cut off**.
- Magnet REO (MREO) grades are 631ppm comprising 24% of the TREO basket.
- Average drill depth used in the maiden resource is 6.9m and 85% of all holes finish in TREO grades above 1,000 ppm – deposit is completely open at depth.
- Levels of U and Th at the Caldeira Project are very low, with values that are typically lower than most other Ionic Clay REE deposits and significantly lower than hard rock rare earth projects.

Licence	JORC 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	MREO ppm	MREO/TREO (%)
Capão do Mel	Inferred	68	2,692	148	399	4	22	572	21.3%
Cupim Vermelho Norte	Inferred	104	2,485	152	472	5	26	655	26.4%
Dona Maria 1 & 2	Inferred	94	2,320	135	404	5	25	569	24.5%
Figueira	Inferred	50	2,811	135	377	5	26	542	19.3%
Soberbo	Inferred	92	2,948	190	537	6	27	759	25.8%
Total	Inferred	409	2,626	154	447	5	25	631	24.0%



SUBSTANTIAL ULTRA HIGH GRADE RESOURCE

Magnetic Rare Earth Oxide proportion increases as cut-off grade increases



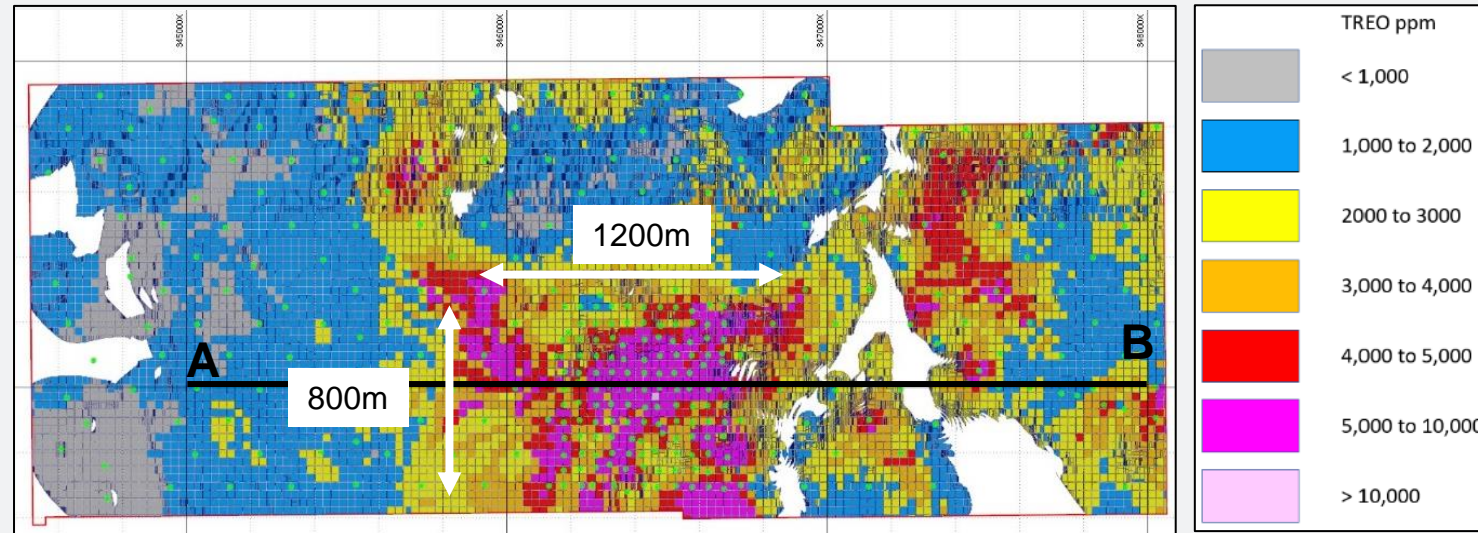
High Grade Opportunities

Capao do Mel

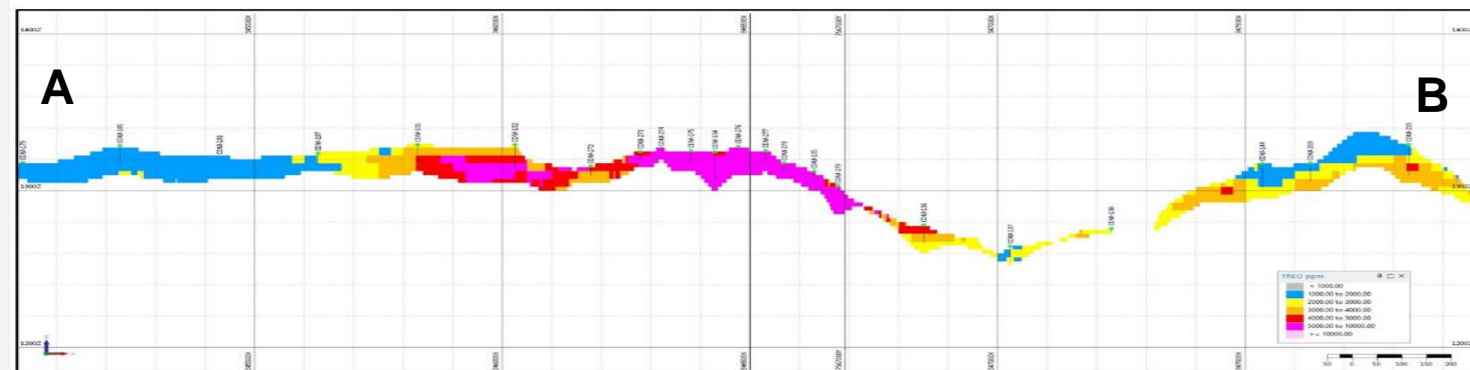
Possible high-grade starter pit

- An ultra high grade zone measuring 1200m by 800m
- Open at depth and to the south.
- Immediate infill drilling target to move into Measured and Indicated based on Pit Optimisation
- 200kg bulk sample
 - 4,917ppm TREO including 1,252ppm MREO

Classification	Element	REE (ppm)	Conversion Factor	Oxide	REO (ppm)	REO /TREO %	
LREE	Lanthanum	La	1961	1.1728	La ₂ O ₃	2300	46.8%
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Yttrium	Y	183	1.2697	Y ₂ O ₃	232	4.7%	
Totals		4151			4917	100%	



Grade distribution plan (block model) of Capão do Mel showing a super high-grade zone approximately 1300m EW and 1000m NS, and open to the south into the adjacent Meteoric licence (ML816211/1971) - which is yet to be tested.



Grade distribution cross section Display Limits A– B (block model) - Capão do Mel. Vertical Exaggeration x 5

INDICATIVE TIMETABLE AND KEY MILESTONES

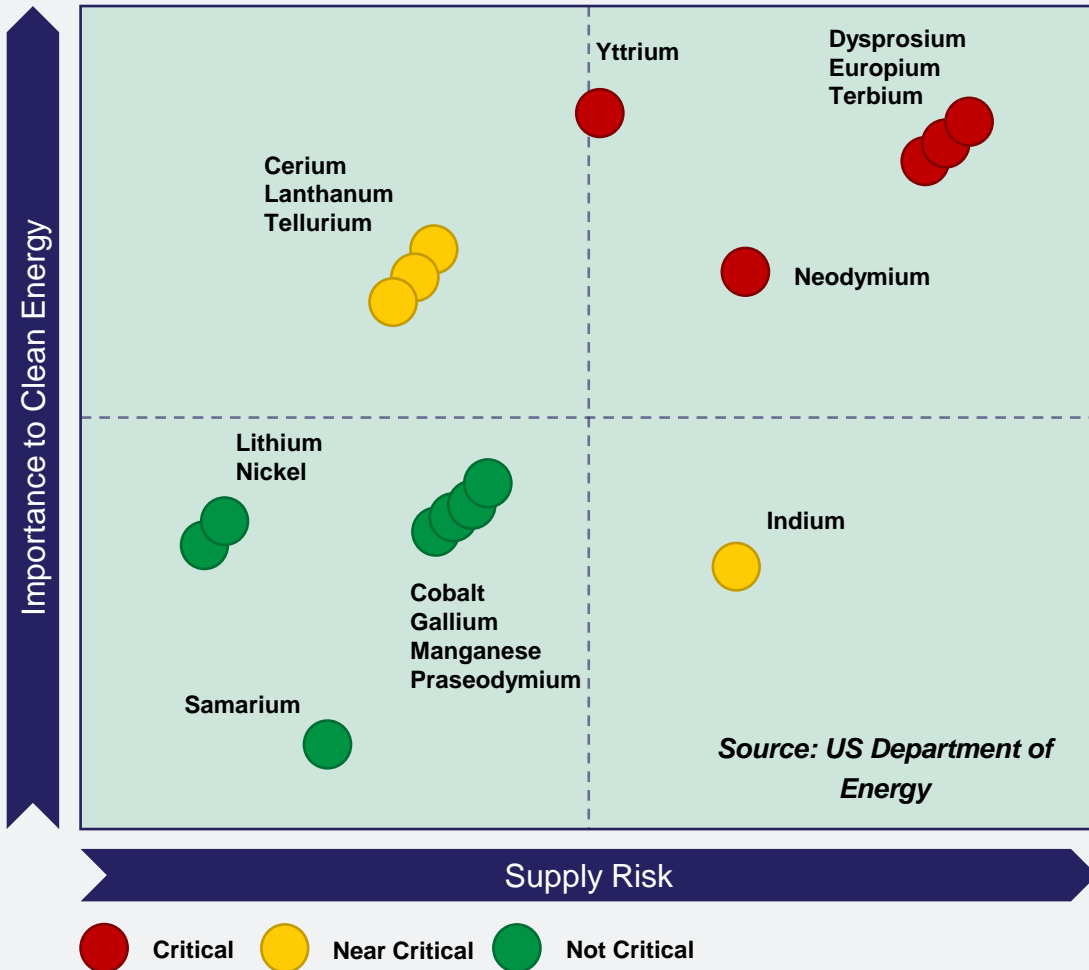
Meteoric is positioned for a milestone 2023 with several material catalysts at the project level



LIMITED SUPPLY FOR HREE DEMAND

Caldeira scale and grade will play a critical piece in global Nd-Pr & Tb-Dy supply

Globally Critical Asset

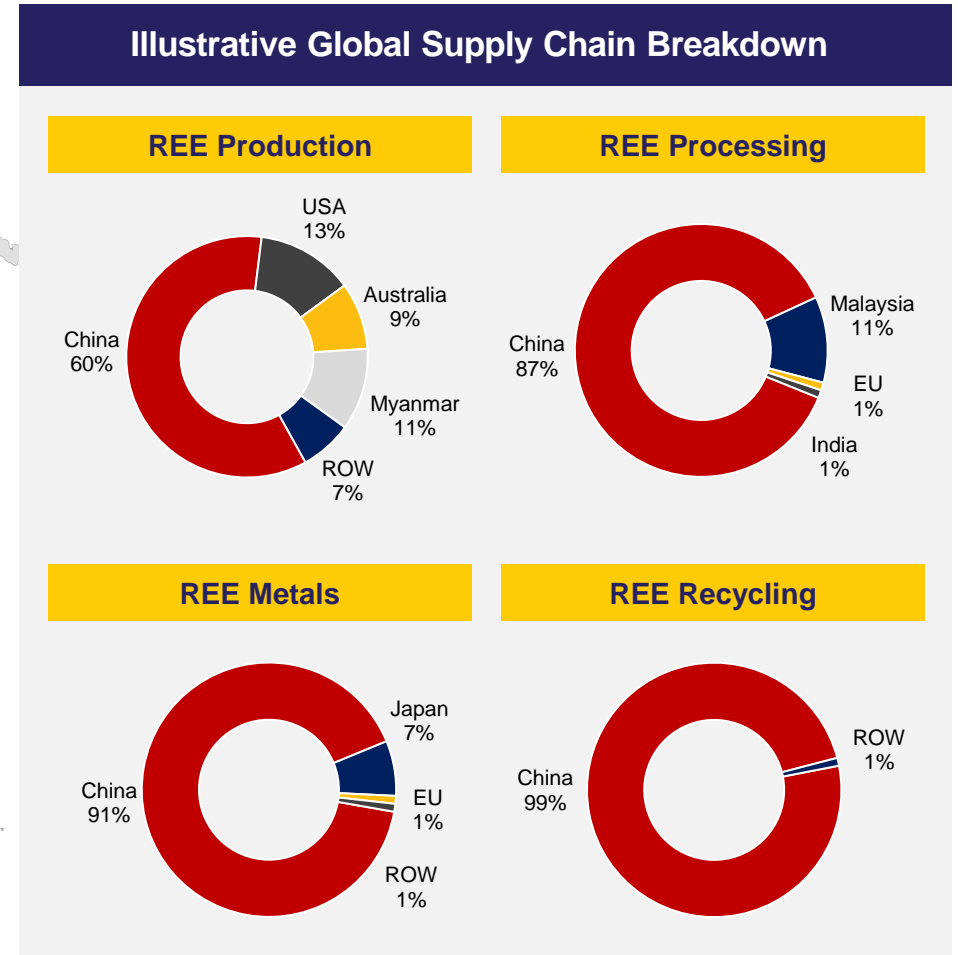
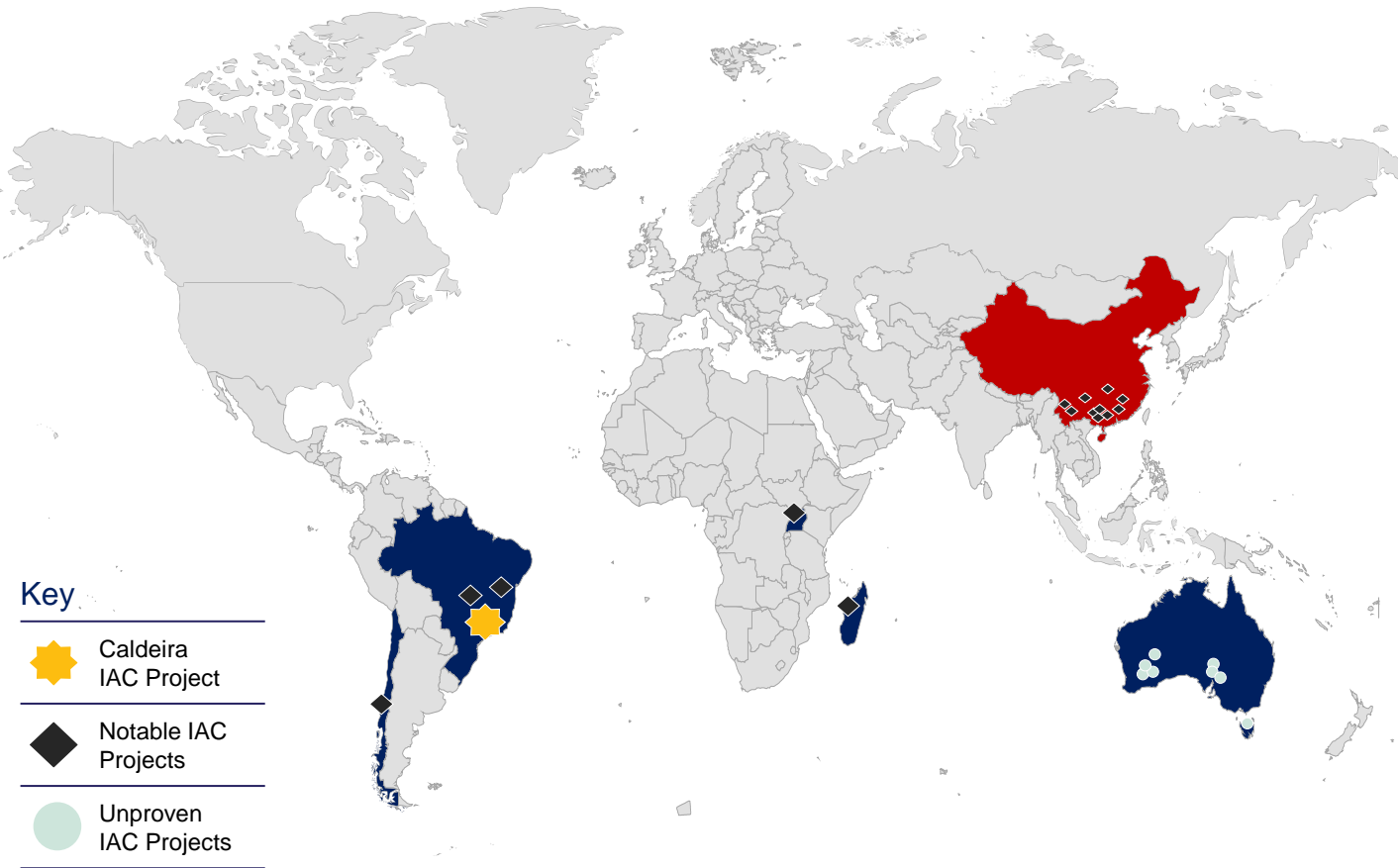


Expected new supply 2021-2023 (excl. China)

	⁵⁹ Pr	⁶⁰ Nd	⁶⁵ Tb	⁶⁶ Dy
Operational Expansions				
MP Materials	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Lynas Rare Earths	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Projects				
Meteoric Resources	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Vital Metals	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Hastings Technology Metals	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Arafura Resources	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Pensana Rare Earths	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Australian Strategic Materials	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Peak Resources	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Northern Minerals	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Aclara	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Serra Verde	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ionic Rare Earths	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>

GLOBALY SIGNIFICANT IAC DEPOSITS & INFRASTRUCTURE

China holds a dominant position in the global rare earth element market - accounting for c. 60% of global production



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