METEORIC RESOURCES

SIMEXMIN 2024

Caldeira – O melhor depósito de Terras Raras do mundo

ASX:MEI

May 2024

DISCLAIMER

The material in this Presentation has been prepared by Meteoric Resources NL ("Meteoric") and is general background information about Meteoric's current activities as at the date of this presentation. This information is given in summary form and does not purport to be complete. Information in this presentation, including forecast financial information, should not be considered as advice or a recommendation to investors or potential investors in relation to holding, purchasing or selling securities or other financial products or instruments and does not take into account your particular investment objectives, financial situation or needs.

Before acting on any information you should consider the appropriateness of the information having regard to these matters, any relevant offer document and in particular, you should seek independent financial advice. All securities and financial product or instrument transactions involve risks, which include (among others) the risk of adverse or unanticipated market, financial or political developments and, in international transactions, currency risk. This presentation may contain forward looking statements including statements regarding our intent, belief or current expectations with respect to Meteoric's businesses, operations, market conditions, results of operation, financial condition, capital adequacy, specific provisions and risk management practices. Readers are cautioned not to place undue reliance on these forward-looking statements. Meteoric does not undertake any obligation to publicly release the result of any revisions to these forward-looking statements to reflect events or circumstances after the date hereof to reflect the occurrence of unanticipated events. While due care has been used in the preparation of forecast information, actual results may vary in a materially positive or negative manner. Forecasts and hypothetical examples are subject to uncertainty and contingencies outside Meteoric's control. Past performance is not a reliable indication of future performance.

Competent Persons' Statements

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 Company confirms that all material assumptions and technical parameters underpinning the exploration results in this report continue to apply and have not materially changed. The Company is not aware of any new information or data that materially affects the information included in this release.

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 aa 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.

CORPORATE OVERVIEW

Supported by an experienced and competent Board

MEI Snapshot

ASX Code	**MEI**
Share Price (22/03/24 Close)	**A$ 0.24**
Shares on Issue	**1,940M**
Market Capitalisation	**A$477M / US$310M**
Cash (1/03/2024)	**A$ 29M**
Liquidity (3-Month Avg.)	**A$ 3M / day**
Largest Shareholder	**c. 8.47%**

Board of Directors

Executive Chairman	**Dr Andrew Tunks**
Executive Director	**Dr Marcelo de Carvalho**
Non-Executive Director	**Dr Paul Kitto**
Non-Executive Director	**Mr. Peter Gundy**

Chief Executive Officer	**Nick Holthouse**

Meteoric Admitted into the ASX 300

S&P Dow Jones Indices
A Division of S&P Global

INDEX ANNOUNCEMENT

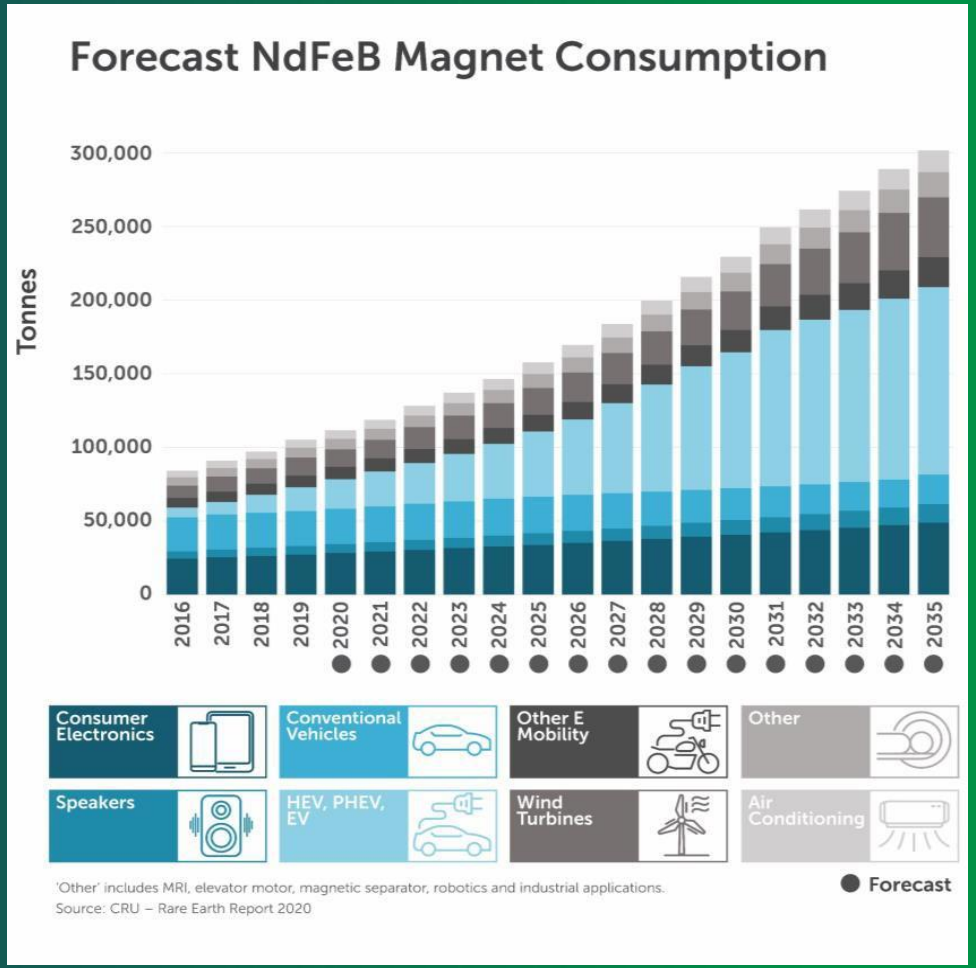
S&P Dow Jones Indices Announces March 2024 Quarterly Rebalance of the S&P/ASX Indices

SYDNEY, MARCH 1, 2024: S&P Dow Jones Indices announced today the changes in the S&P/ASX Indices, effective prior to the open of trading on **Monday, March 18, 2024**, as a result of the March quarterly review.

BRASIL NO QUADRO DA TRANSIÇÃO ENERGÉTICA

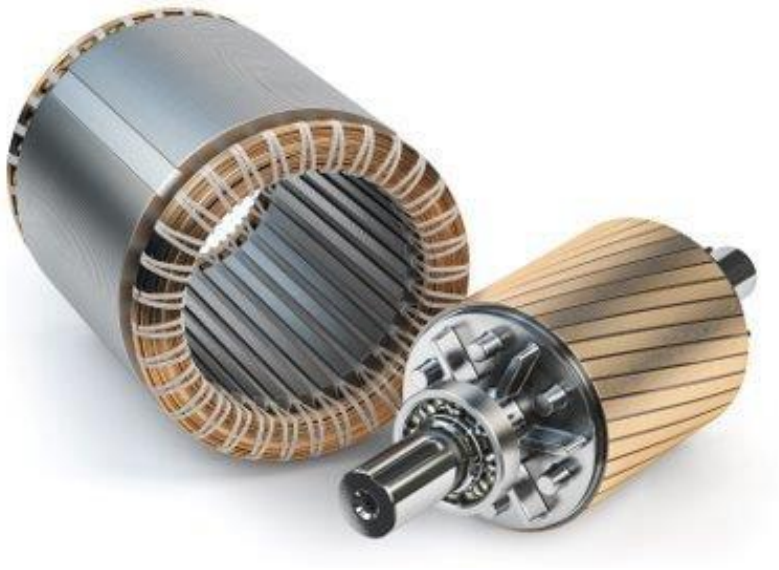
O Brasil é um player emergente nos minerais de transição energética e pode liderar esse mercado nos próximos anos

- As empresas de lítio e o Vale do Lítio abriram a possibilidade de uma nova era industrial no Brasil.
- Maioria dos depósitos de Argila Iônica (fora da China) estão no Brasil – mais por vir.
- Melhores depósitos do mundo.
- Grande investimento em exploração de argila iônica no mundo.
- Todos os níveis de governo estão empenhados em ajudar as empresas a desenvolverem-se.



METEORIC RESOURCES

O QUE SÃO TERRAS RARAS?



4 REE have permanent magnet power

praseodymium 59 Pr | neodymium 60 Nd

Light Rare Earth Elements (LREE)

terbium 65 Tb | dysprosium 66 Dy

Heavy Rare Earth Elements (HREE)

hydrogen 1 H																	helium 2 He
lithium 3 Li	beryllium 4 Be											boron 5 B	carbon 6 C	nitrogen 7 N	oxygen 8 O	fluorine 9 F	neon 10 Ne
sodium 11 Na	magnesium 12 Mg											aluminium 13 Al	silicon 14 Si	phosphorus 15 P	sulfur 16 S	chlorine 17 Cl	argon 18 Ar
potassium 19 K	calcium 20 Ca	scandium 21 Sc	titanium 22 Ti	vanadium 23 V	chromium 24 Cr	manganese 25 Mn	iron 26 Fe	cobalt 27 Co	nickel 28 Ni	copper 29 Cu	zinc 30 Zn	gallium 31 Ga	germanium 32 Ge	arsenic 33 As	selenium 34 Se	bromine 35 Br	krypton 36 Kr
rubidium 37 Rb	strontium 38 Sr	yttrium 39 Y	zirconium 40 Zr	niobium 41 Nb	molybdenum 42 Mo	technetium 43 Tc	ruthenium 44 Ru	rhodium 45 Rh	palladium 46 Pd	silver 47 Ag	cadmium 48 Cd	indium 49 In	tin 50 Sn	antimony 51 Sb	tellurium 52 Te	iodine 53 I	xenon 54 Xe
caesium 55 Cs	barium 56 Ba		hafnium 72 Hf	tantalum 73 Ta	tungsten 74 W	rhenium 75 Re	osmium 76 Os	iridium 77 Ir	platinum 78 Pt	gold 79 Au	mercury 80 Hg	thallium 81 Tl	lead 82 Pb	bismuth 83 Bi	polonium 84 Po	astatine 85 At	radon 86 Rn
francium 87 Fr	radium 88 Ra		rutherfordium 104 Rf	dubnium 105 Db	seaborgium 106 Sg	bohrium 107 Bh	hassium 108 Hs	meitnerium 109 Mt	darmstadtium 110 Ds	roentgenium 111 Rg							

Light Rare Earth Elements LREEs

Heavy Rare Earth Elements HREEs

High Value, High Demand Elements

lanthanum 57 La	cerium 58 Ce	praseodymium 59 Pr	neodymium 60 Nd	promethium 61 Pm	samarium 62 Sm	europium 63 Eu	gadolinium 64 Gd	terbium 65 Tb	dysprosium 66 Dy	holmium 67 Ho	erbium 68 Er	thulium 69 Tm	ytterbium 70 Yb	lutetium 71 Lu
actinium 89 Ac	thorium 90 Th	protactinium 91 Pa	uranium 92 U	neptunium 93 Np	plutonium 94 Pu	americium 95 Am	curium 96 Cm	berkelium 97 Bk	californium 98 Cf	einsteinium 99 Es	fermium 100 Fm	mendelevium 101 Md	nobelium 102 No	lawrencium 103 Lr

METEORIC RESOURCES

TIPOS DE DEPÓSITOS DE TERRAS RARAS E COMPARÁVEIS

Depósitos de argila iônica permite prazos de desenvolvimento acelerados, requisitos de investimento reduzidos e um produto de maior valor

	Ionic Clay-hosted REE		Hard Rock-hosted REE	
	METEORIC RESOURCES; aclara; ionic RARE EARTHS; HRE HEAVY RARE EARTHS LIMITED; mineração SERRA VERDE; AUSTRALIAN RARE EARTHS Metals for our future; BRAZILIAN RARE EARTHS		MP MATERIALS; Lynas Rare Earths; HASTINGS Technology Metals Limited; ARAFURA RESOURCES LIMITED; Peak RARE EARTHS; NORTHERN MINERALS; ILUKA	
Escala	✓	▪ O investimento inicial mais baixo permite maior escalabilidade ▪ Normalmente ~US$15/kg de produção anual de ETR (intensidade de capital)1	?	▪ Normalmente ~US$150/kg de produção anual de ETR (intensidade de capital)
Mina	✓	▪ Mineração de superfície, com remoção mínima de resíduos ▪ As cavas foram preenchidas sem deixar rejeitos ou depósitos de resíduos	?	▪ Perfurar e detonar com grande frota de mineração (normalmente, com altas taxas de decapagem) ▪ São necessárias operações a céu aberto e subterrâneas com uso intensivo de capital
Processo	✓	▪ Dissolução simples de ETR de argila em sulfato de amônio ▪ Altas recuperações e nenhum fluxo de resíduos radioativos	?	▪ Craqueamento mineral em alta temperatura usando reagentes fortes para minerais REE ▪ Recuperações mais baixas e rejeitos muitas vezes radioativos e cuja eliminação é dispendiosa
Exploração	✓	▪ Rápido e barato – perfuração de núcleo de ar raso em granito (argila) profundamente desgastado na superfície	?	▪ Semelhante a outros minerais de base de rocha dura que requerem perfuração e geoquímica substanciais
Produtos	✓	▪ Contém ETR leves e pesados de alto valor (NdPr e DyTb)	✓	▪ Normalmente apenas ETR leves (NdPr)
Operações	?	▪ Nenhuma operação ocidental estabelecida ▪ Primeiro projeto brasileiro (Serra Verde) com produção prevista para final de 2023	✓	▪ Dois produtores alinhados ao Ocidente com operações estabelecidas
Localização	?	▪ Extraído predominantemente na China e em Mianmar ▪ O Brasil é uma jurisdição emergente com 3 projetos de alta qualidade	?	▪ Maioria da produção baseada na China ▪ Operações na Austrália (Mt Weld) e EUA (Mountain Pass)

Resumo Executivo - Projeto Caldeira

Desenvolvendo o maior depósito de terras raras do mundo (IAC)– Fora da cadeia de abastecimento chinesa

Projeto de terras raras **Classe Mundial**, globalmente significativo, que abriga recursos de aproximadamente **530 milhões de toneladas**, que podem ser ampliados para >1 B toneladas**. Alto teor** contido em argilas na superfície com baixa radioatividade in situ e recuperada.

O projeto tem **vantagens** claras sobre projetos comparáveis em teor, escala e metalurgia - **uma oportunidade única para os EUA e UE** garantirem o fornecimento estratégico de ER, que atualmente é dominado pela China.

Fluxograma de **processo simples e ecologicamente correto**, sem necessidade de perfuração e detonação, alta temperatura ou craqueamento cáustico, juntamente com lavagem com AMSOL para recuperação, permitindo que o MEI seja um projeto **ESG de nível 1.**

Localizado numa **jurisdição mineira comprovada e estabelecida** com regime fiscal favorável. Status de projeto de alta prioridade recebido do governo com Memorando de Entendimento estabelecido para **priorizar licenciamento e aprovações**

Caminho rápido para a produção – O estágio 1 é REO **de 10 kt, aproximadamente 5% da demanda global de Nd/Pr** para o mercado até 2027. Produção facilmente escalonável com REO de **20 kt planejado (7 kt NdPr) com escala de 10 a 15% para o mercado até 2030.**

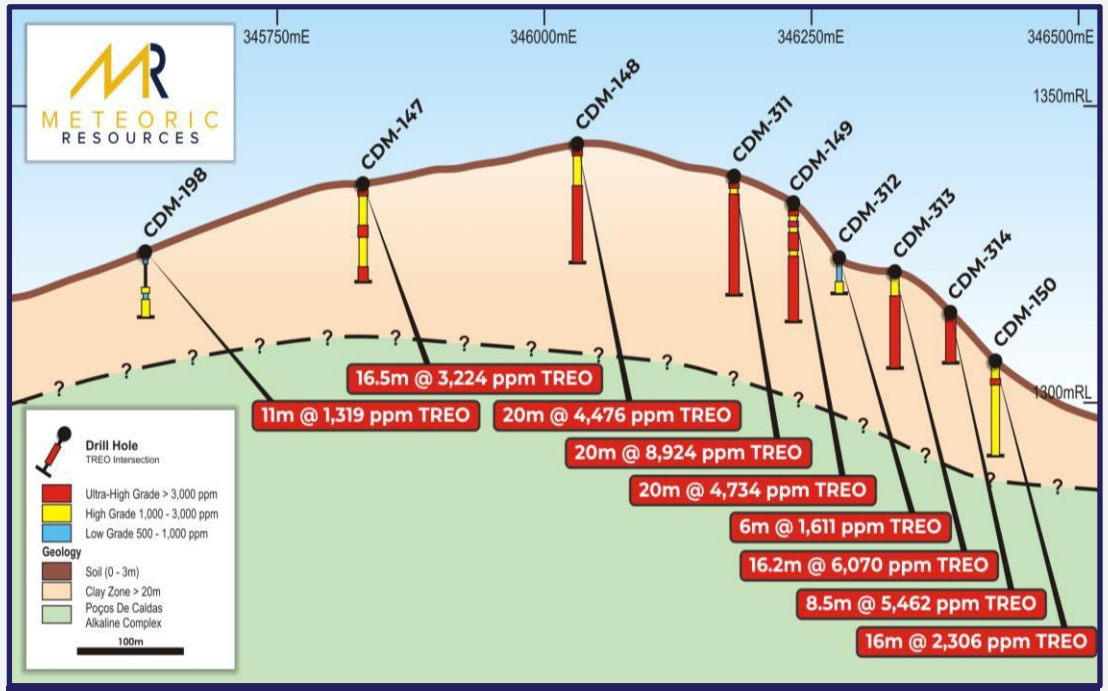
A empresa está procurando um **parceiro ocidental** para desenvolver o projeto e garantir a retirada e auxiliar no processamento **downstream até ímãs ETR**

Equipe **de liderança experiente** com histórico de criação de valor. Histórico comprovado de desenvolvimento de projetos e experiência central em terras raras e operação no Brasil.

Sondagem Histórica

Excelentes teores, intercessões contínuas e abertas em profundidade

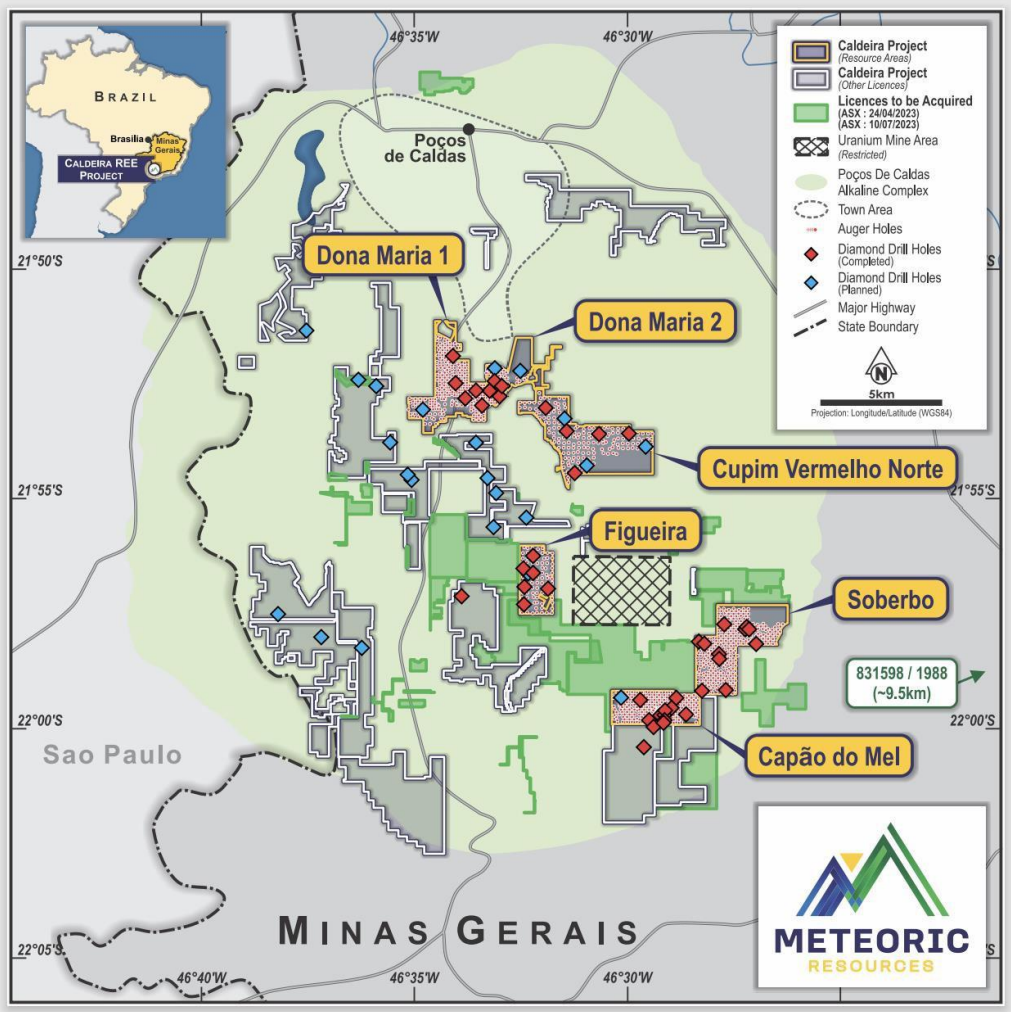
Capão Do Mel Prospect



Stylised Cross Section

A nova sondagem foi concebida para interceptar a rocha subjacente (verde) em profundidade para estabelecer a espessura da potencial zona argilosa. Cada furo nesta seção terminou com teores acima de 1.000 ppm de TREO. Exagero vertical = 5 vezes (consulte a versão ASX 16/12/2022).

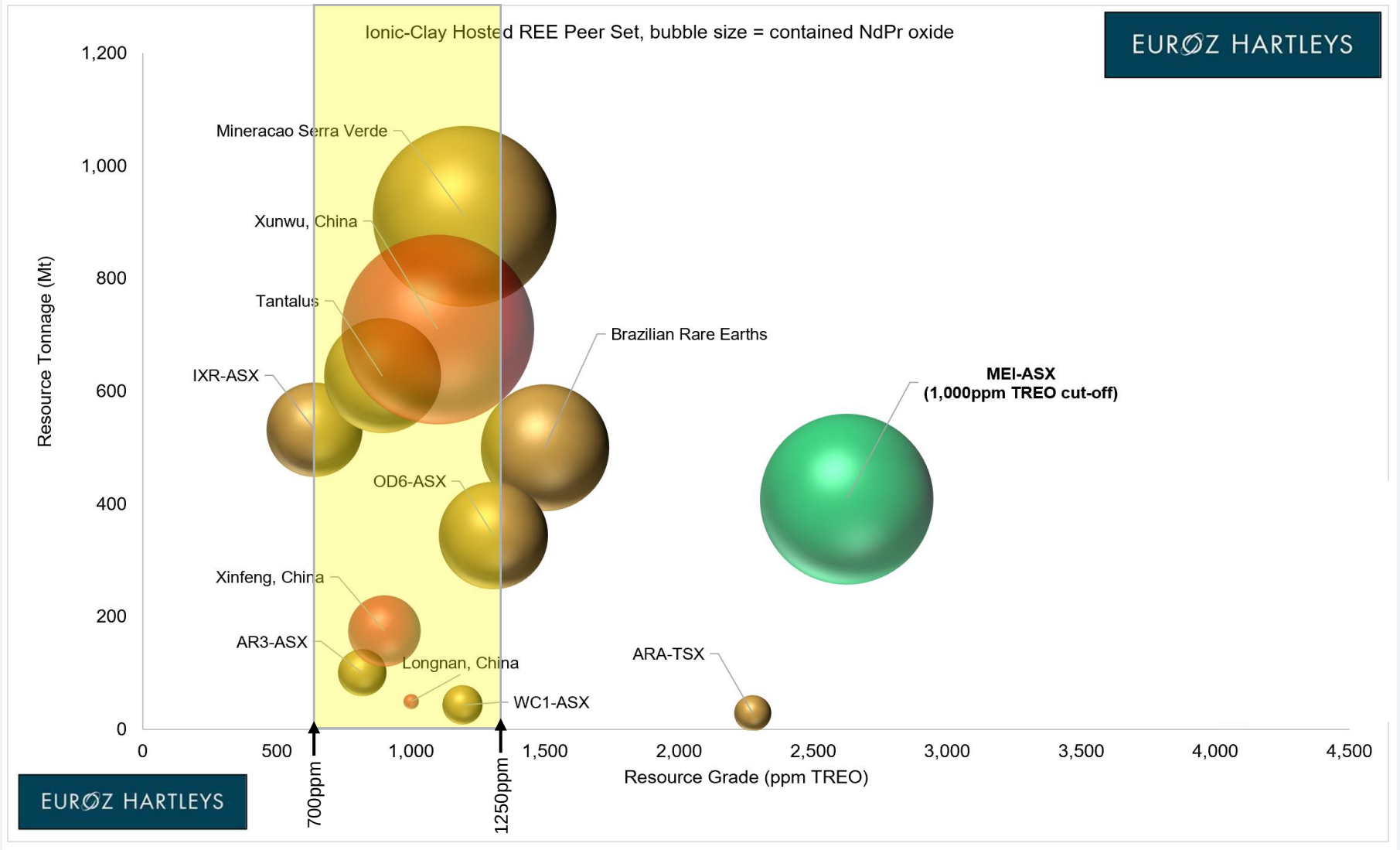
Caldeira Project – Diamond Drilling



METEORIC RESOURCES

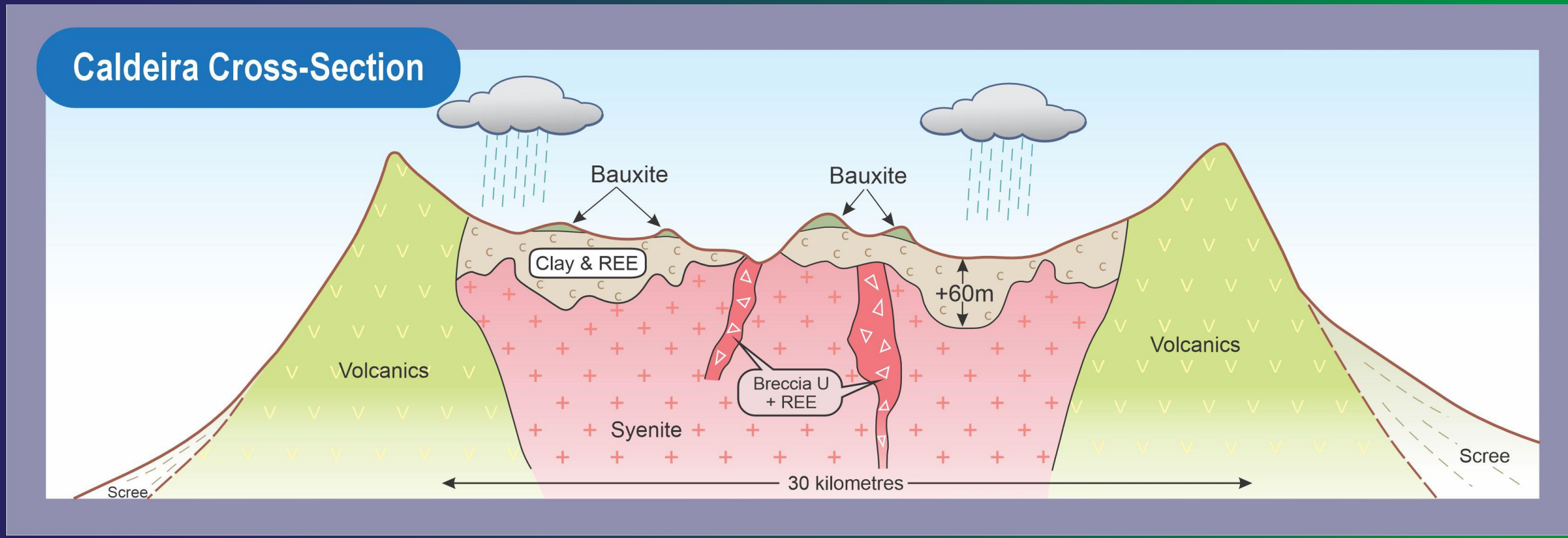
IONIC CLAY LANDSCAPE

Caldeira is the World's Highest Grade Ionic Adsorption Clay REE Deposit



METEORIC RESOURCES

PORQUE É TÃO BOM?



METEORIC RESOURCES

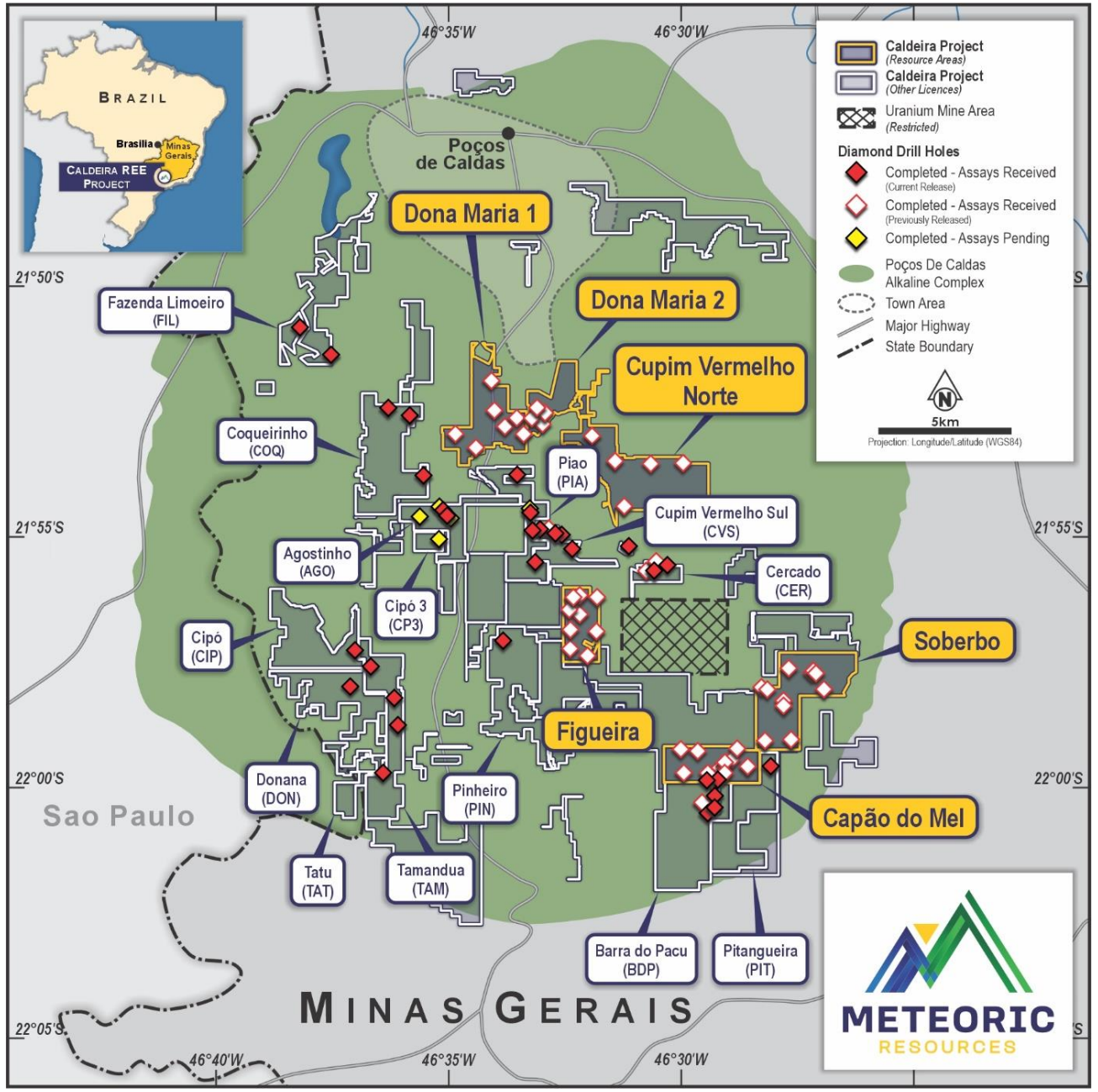
CALDEIRA LICENCES

Caldeira Project Highlights

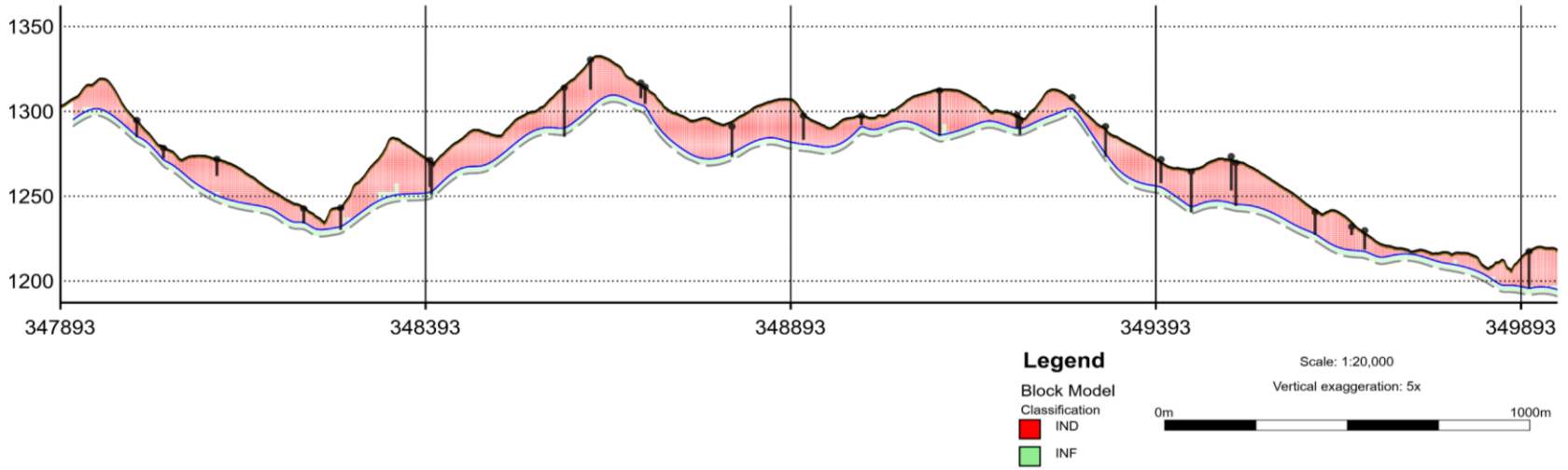
- 69 Licences including 28 ML's and 27MLA's – for an area of 193km^2
- Only 6 licences were drilled in previous exploration
- Project lies within the state of Minas Gerais approximately four hours drive north of Saõ Paulo

Exploration

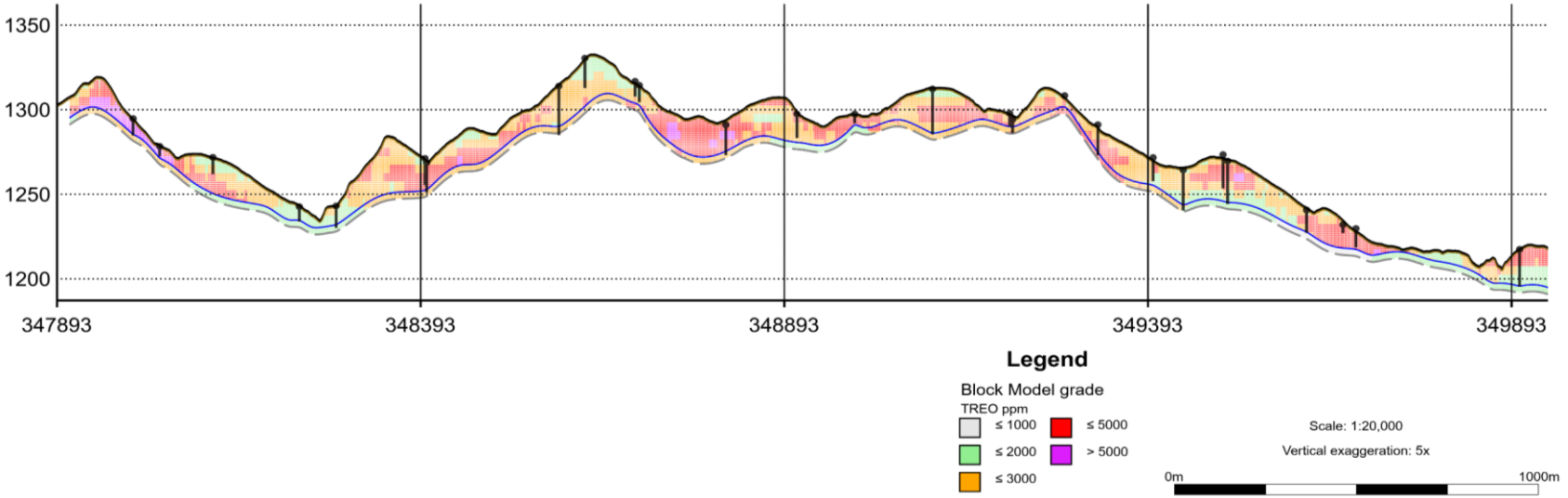
- CVSDD001 - **149.5m @ 8,912 ppm TREO**
- PIADD001 – **143m @ 6,406ppm TREO**
- CVSDD0004 – **200m @ 3,387ppm TREO**
- CVSDD0005 – **201m @ 3,451ppm TREO**
- CERDD0004 – **67m @ 2,026ppm TREO**
- COQDD0002 – **24m @ 4,127ppm TREO**
- CVSDD0002 – **71m @ 2,514ppm TREO**
- AGODD0002 - **37m @ 3,143ppm TREO**
- BDPDD0002 **- 31m @ 5,727ppm TREO**
- BDPDD0003 **- 25m @ 5,391ppm TREO**



Soberbo Long Section N30E Classification



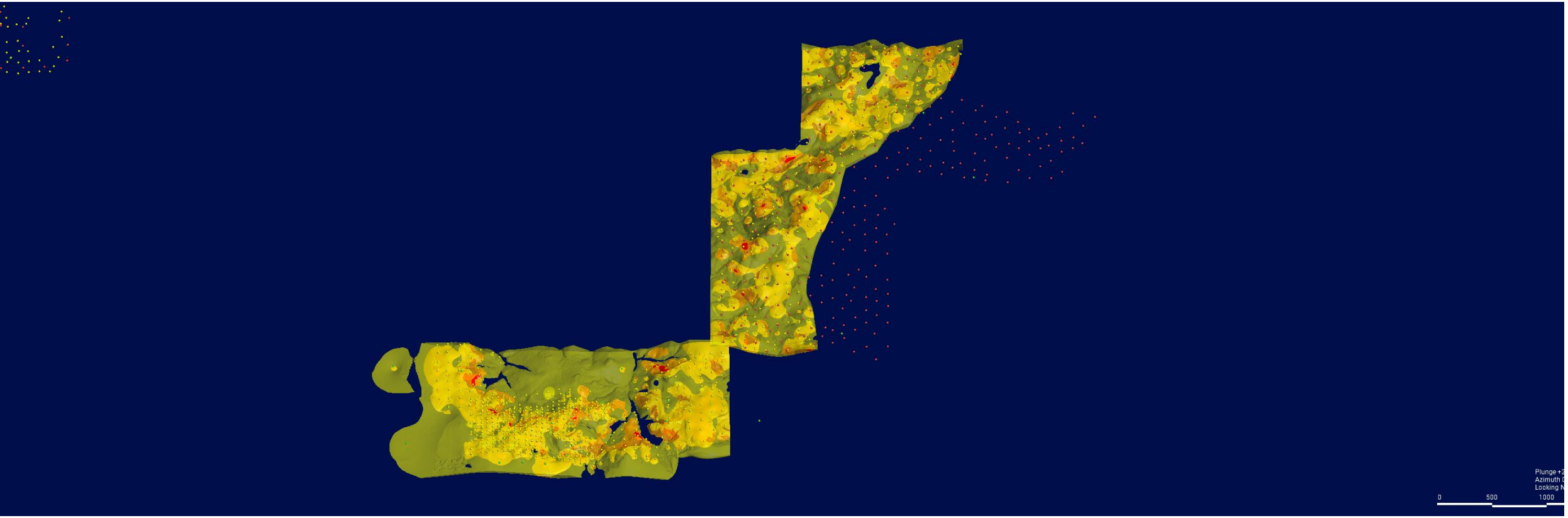
Soberbo Long Section N30E Grade



METEORIC RESOURCES

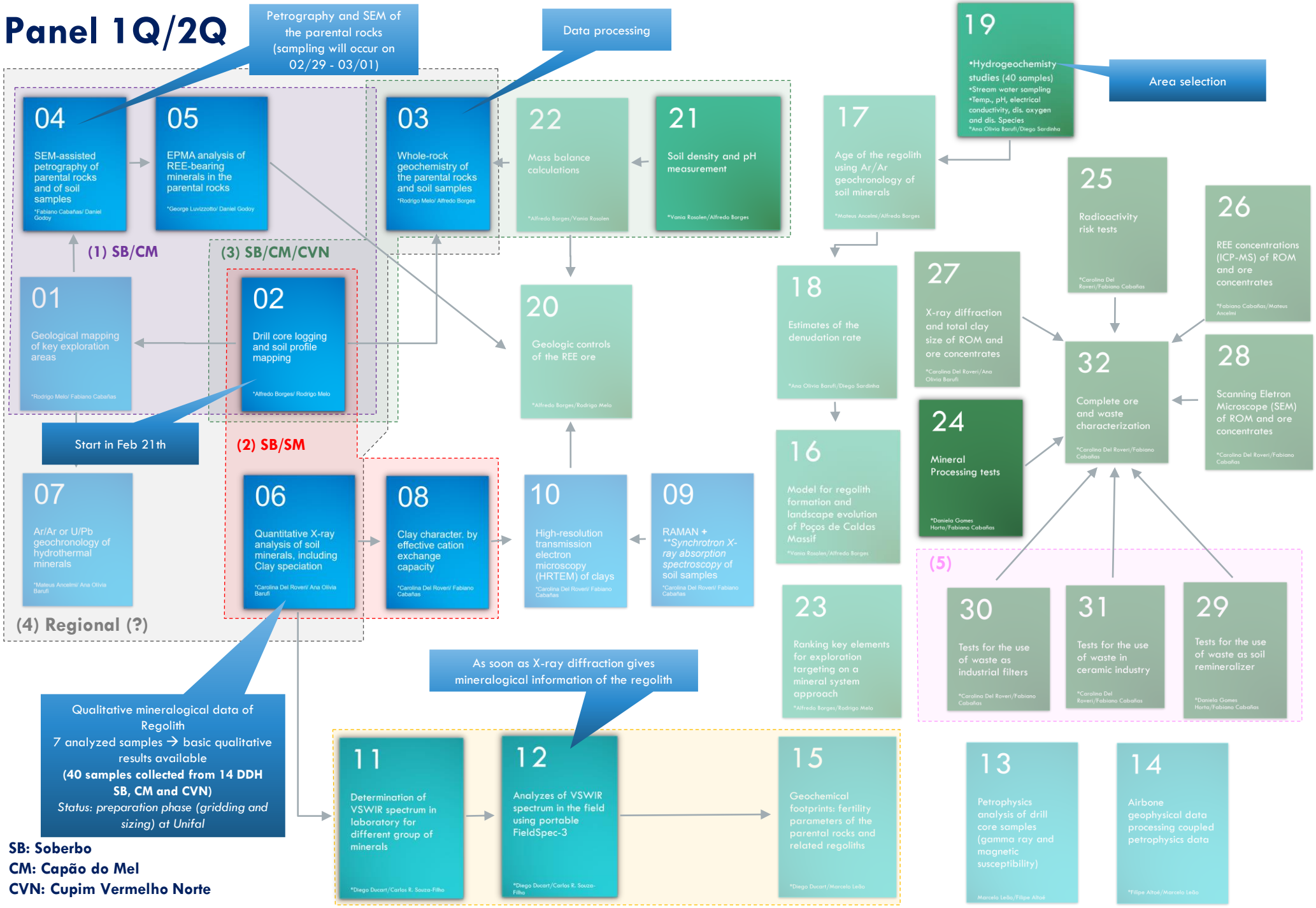
GeoMet modelling – case study

Numeric model - parameters



METEORIC RESOURCES

Panel 1Q/2Q



SB: Soberbo
CM: Capão do Mel
CVN: Cupim Vermelho Norte

Associated academic works in development

(1) Undergrad Thesis – Unesp – Victor Hugo
Mineralogy and petrographic characterization of alkaline rocks associated with supergene deposits of Rare Earth Elements (ETR) Capão do Mel and Soberbo - Alkaline Massif of Poços de Caldas, MG

(2) Undergrad Thesis – Unesp – Flavia Ribeiro
Mineralogical characterization of the clays present in the regolith profile of the supergene deposits of ETR Soberbo and Capão do Mel (Caldeira System)

(3) Master's Thesis – Unicamp – Ana Beatriz
To be defined

(4) Master's Thesis – Unesp – Rodrigo Rocha
To be defined

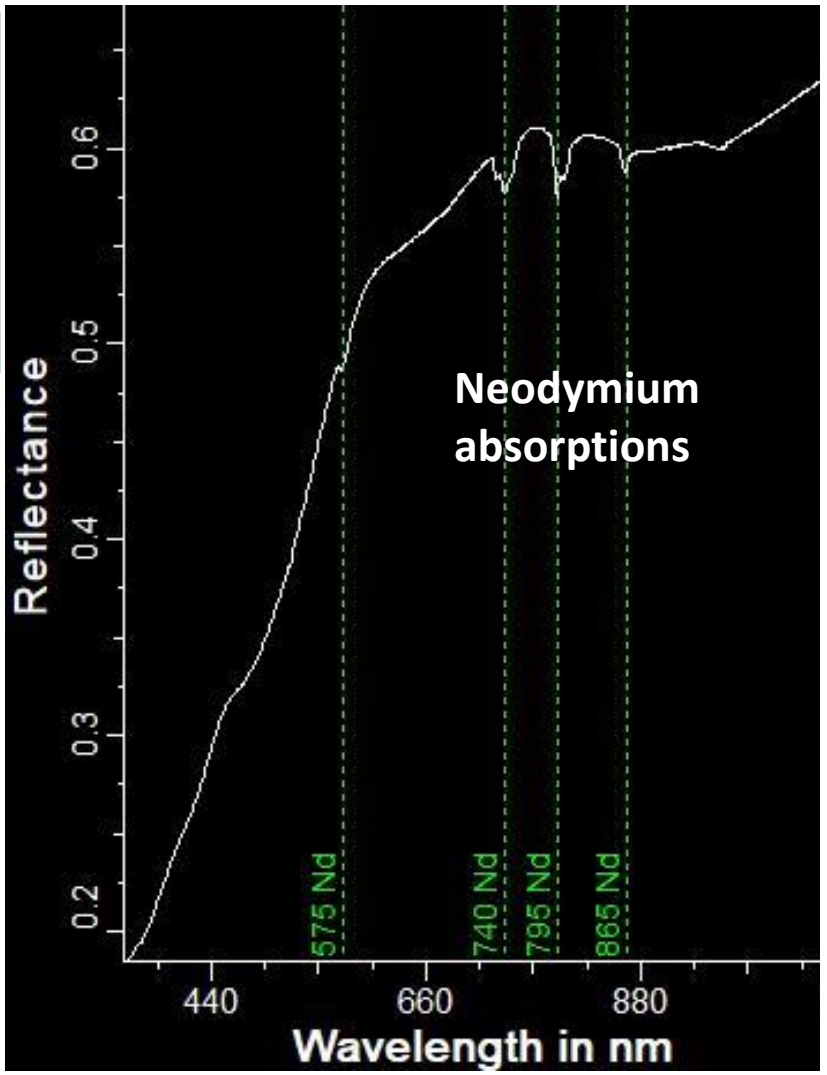
(4) Master's Thesis – Unicamp – ?
To be defined

(1) Master's Thesis – Unifal – ?
To be defined

VNIR-SWIR spectral analyses using reflectance and imaging spectroscopy

Spectral Evolution SR-6500A-HighRes spectrometer provides the highest resolution for better identification of REEs

- ✓ 1,500 spectra measured on drill cores in May fieldwork.
- ✓ Planned: 4,000 spectra and hyperspectral images
- ✓ Analyses with pXRF on the same measurement spots



Main Objectives:

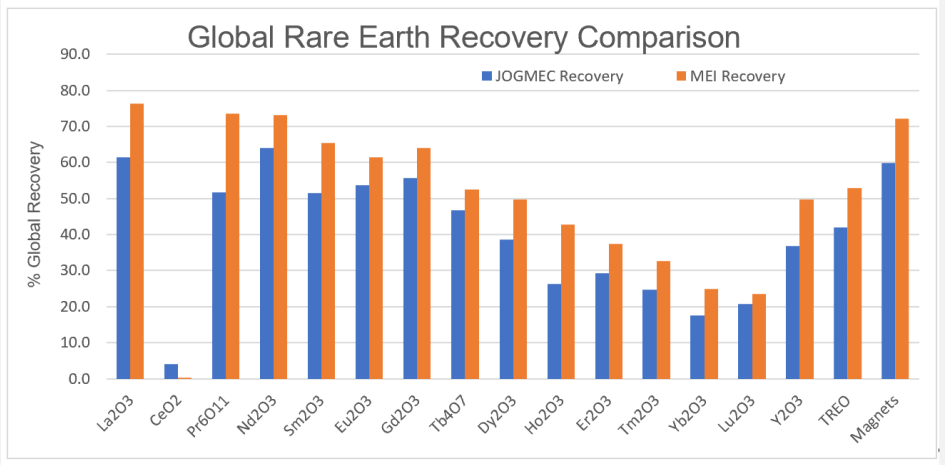
- Determining REEs in spectra.
- Characterizing the clay minerals associated with REEs.
- Mapping detailed spatial relationships of REEs and clays using hyperspectral images.
- Creating a REEs spectral library for the Poços de Caldas complex.

METALLURGICAL TESTWORK

The current test work program has proven the project's IAC characteristics across all licenses

Figure 1: *MREC precipitation tank and setup at ANSTO.*

Figure 2*: WET MREC filter cake product.*



Rare earth distribution in the MREC

Rare Earth Oxide	% Distribution
La_2O_3	57.6
CeO_2	1.4
Pr_6O_{11}	8.6
$Nd2_2O_3$	22.0
Sm_2O_3	2.4
Eu_2O_3	0.6
Gd_2O_3	1.5
Tb_4O_7	0.2
Dy_2O_3	0.8
Ho_2O_3	0.1
Er_2O_3	0.3
Tm_2O_3	0.01
Yb_2O_3	0.1
Lu_2O_3	0.01
Y_2O_3	4.5
Total	**100.0**

Weight % of impurities in MREC expressed as oxides

Impurity	Wt %
Calcium (Ca)	0.55
Aluminium (Al)	0.36
Nickel (Ni)	0.29
Zinc (Zn)	0.19
Silica (Si)	0.14
Iron (Fe)	0.11
Uranium(U)	0.0057
Thorium (Th)	0.00004
Others	0.4
TOTAL	**2.0%**

Improved Recoveries to MREC

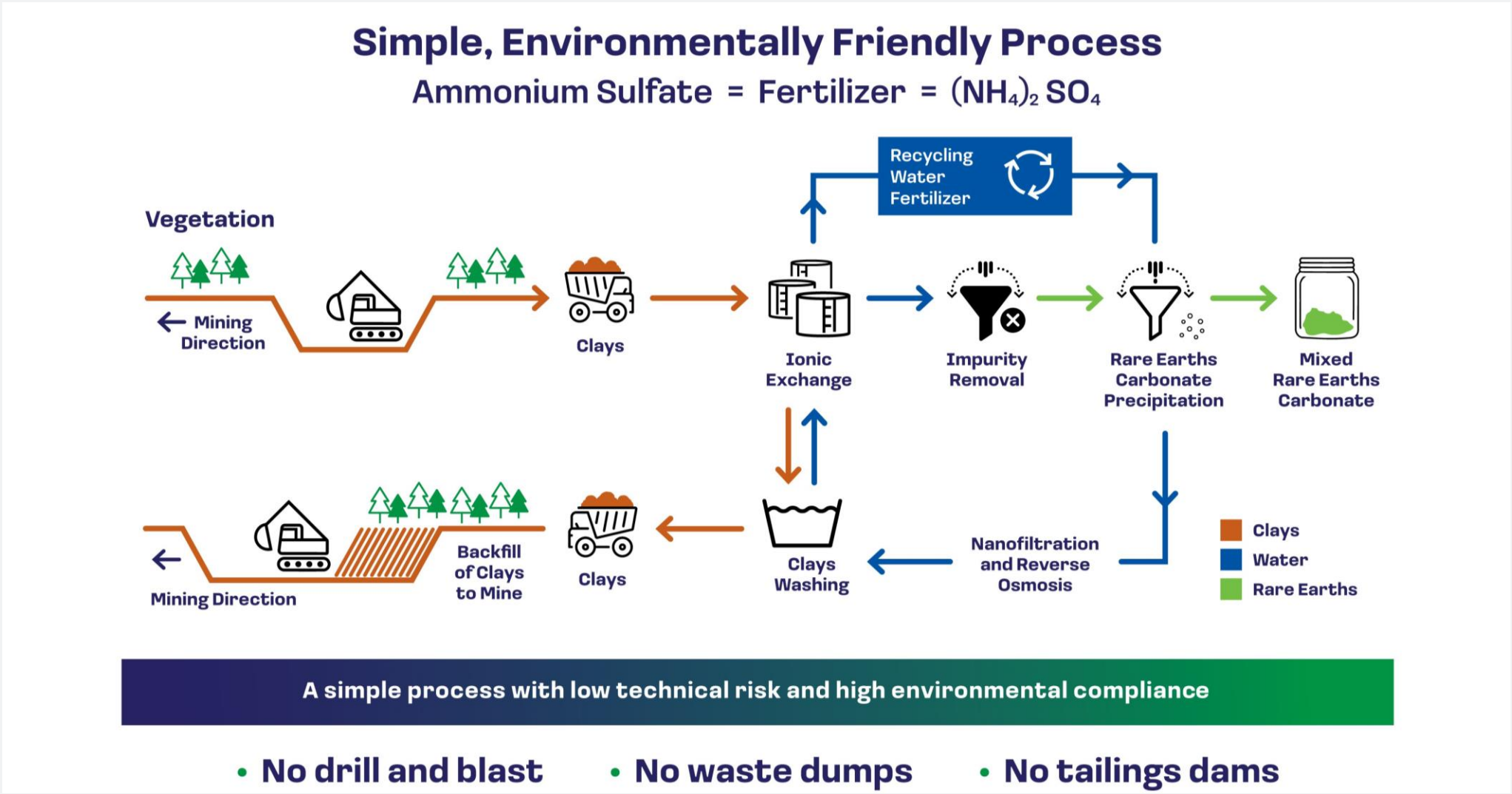
- **42% increase to Praseodymium (Pr) recoveries upgraded to 74%.**
- **14% increase to Neodymium (Nd) recoveries upgraded to 73%.**
- **29% increase to Dysprosium (Dy) recoveries upgraded to 50%.**
- **12% increase to Terbium (Tb) recoveries upgraded to 53%.**

To Follow in 2024

- Materials handle and size fraction analysis – *Q2 2024*
- Continuous Piloting – *Q3 2024*
- All leading into the development of an optimised flowsheet and additional Met test work programmes - *Q3 2024 onwards*

A Green Mine for Green Metals

Ionic adsorption clay project flow sheet - powered by 100% Hydro electricity.



METEORIC RESOURCES

A PRÓXIMA E MAIS SUSTENTÁVEL MINA DE ETR DO MUNDO

Engineering

- Ausenco Scoping Study completed – awaiting M and I resource update to announce financial metrics
- Feasibility studies are underway - BFS or similar will be required by Lenders
- Recruitment of GM Projects completed.

Environmental

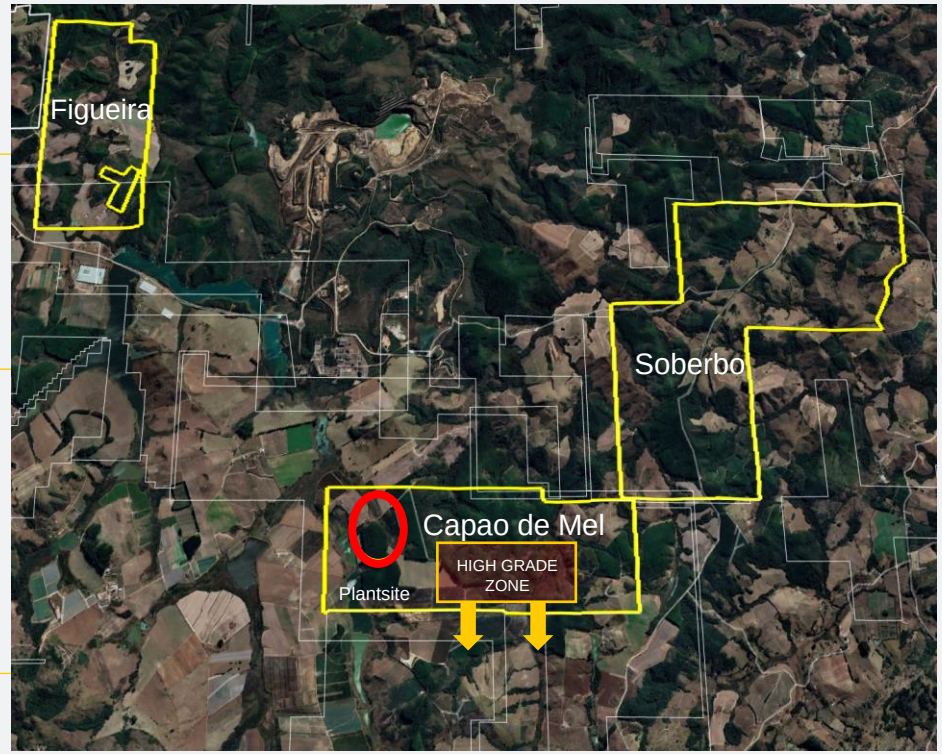
- Alger remain on target for a Q2 2024 EIS Submission date
- Q4 2025 Construction permit date holds

Metallurgy

- Completion of Package 1 works with ANSTO in mid 2024
- Develop onsite metallurgical capability with dedicated pilot plant, laboratory and local recruitment
- Develop work programmes for ongoing test work both onsite and with external consultants

Resource Infill Drilling

- On track for 200Mt Measured and Indicated drilling programme to complete by Q3 2024
- Sequential Resource updates for licenses commencing Q1 2024. Drilling for two of the 3 priority licenses are now complete
- Exploration



A PRÓXIMA E MAIS SUSTENTÁVEL MINA DE ETR DO MUNDO

Focus is on 2025 for the construction permit and beyond with all key development packages progressing

MILESTONE	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2	2024 Q3	2024 Q4	2025 Q1	2025 Q2	2025 Q3	2025 Q4
Caldeira Purchase Completion	DD Complete											
Diamond Drilling – Phase 1 & 2	Phase 1 – Res. Dev.		Phase 2 - Exploration									
Metallurgy			ANSTO Test work				Metallurgical Optimisation Programmes					
Resource Development	JORC Resource		Infill Resource Drilling- SB / CDM / FG and Resource updates				Maiden Reserve					
Exploration – Outside Resource Areas			Mapping, Soil Sampling, Auger, Drilling (2nd MEI Rig) →									
Engineering			Scoping Study		Feasibility Study – Hydrogeology, Geotech, Mining & FEED							
Environmental Preliminary License (LP)			EIS – Baseline Studies		EIS Review Period by EPA							
Environmental Control Plan (PCA)					PCA – Environmental Control Plan				PCA – Review Period by EPA			

Key: Underway | Completed | Planned Works

Permit to Construct

METEORIC RESOURCES

Our greatest asset is our people.

We are committed to building a solid team capable of making Meteoric a world leader in the sustainable production of Rare Earths.

METEORIC

Contact Information

Meteoric Resources

ABN 64 107 985 651

W www.meteoric.com.au

A Level 1, 35 Ventnor Avenue, West Perth WA 6005

Dr Marcelo Carvalho – Executive Director

T +55 61 986130930

E mdecarvalho@meteoric.com.au

Nick Holthouse – *CEO*

T +61 428 964 276

E nholthouse@meteoric.com.au

ASX:MEI