METEORIC

Caldeira Project Scoping Study confirms potential for the world's lowest cost source of rare earths with outstanding financial metrics

Meteoric Resources NL (**ASX: MEI**) (**Meteoric** or the **Company**) is pleased to announce its Scoping Study results on its 100%-owned Caldeira Rare Earth Ionic Clay Project (**Caldeira Project**), in the state of Minas Gerais, Brazil.

Meteoric engaged leading Australian Engineering Group (**Ausenco**) to establish metallurgical recoveries and assist with process flowsheet development. The Australian Nuclear Science & Technology Organisation (**ANSTO)** has improved on previous test work and produced the Caldeira Project's first saleable MREC product that is low in impurities and represents significantly improved metallurgical recoveries.

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Cautionary Statement

The Scoping Study referred to in this announcement has been undertaken to determine the viability of open pit mining and processing to a Mixed Rare Earth Carbonate (MREC). It is a preliminary technical and economic study of the potential viability of the Project. It is based on low level technical and economic assessments that are not sufficient to support estimation of ore reserves. Further evaluation work and appropriate studies are required before Meteoric will be able to estimate any ore reserves or to provide any assurance of an economic development case.

Approximately 79% of scheduled production tonnes over the current 20 year mine life and incorporated into the Ausenco Financial model are in the Measured and Indicated Resource categories. The inclusion of Inferred material should not be considered a limiting factor in the viability of the Caldeira Project. The Mineral Resource Estimates underpinning the production target have been prepared by a Competent Person in accordance with the requirements in the JORC Code (2012). A discussion on the assumptions in relation to the modifying factors in the JORC Code is set out in Section 4 of Table 1 in Appendix 1 of this release.

The Scoping Study is based on the material assumptions outlined below. These include the availability of funding. While Meteoric considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved. To achieve the range of outcomes indicated in this Scoping Study, funding in the order of US$400 million will likely be required. Investors should note that there is no certainty that Meteoric will be able to raise that amount of funding when needed. It is also possible funding may only be available on terms that may be dilutive to or otherwise affect the value of Meteoric shares. It is also possible that Meteoric could pursue other 'value realisation' strategies such as a sale, partial sale or operational joint venture of the Project. If it does, this could materially reduce Meteoric's proportionate ownership of the Project. Potential funding options may also include third parties through; right to mine JV, operational JV or a processing agreement. At this stage the Company has not yet secured any contracts and accordingly cannot make an assurance that it will have a processing contract available and, on the assumptions made, in this Scoping Study. The Company will update the market accordingly if any contracts are entered into. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

This announcement contains forward-looking statements. Meteoric has concluded that it has a reasonable basis for providing these forward-looking statements and believes it has a "reasonable basis" to expect it will be able to fund development of the Caldeira Project in Brazil. However, a number of factors could cause actual results or expectations to differ materially from the results expressed or implied in the forward-looking statements. Given the uncertainties involved, investors should not make any investment decisions based solely of the results of this study.

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HIGHLIGHTS

Simple mining and processing deliver a new benchmark in operating costs and capital intensity

- **Operating C1 Cash Cost LOM** (Opex)[1] of **US$7.00/kg** of recovered Total Rare Earth Oxides (TREO) in a Mixed Rare Earths Carbonate (MREC) over a 20 year mine life reflecting:
  - Average Opex of US$5.50/kg of TREO over the first five years
  - High Rare Earth Oxides (REO) grades, averaging 4,500ppm TREO in first five years and over 3,500ppm Life of Mine (LOM)
  - True ionic absorption, clay hosted mineralisation generating rapid and high metallurgical recoveries
  - Low mining strip ratio (0.12:1), free dig material with short haul distance
  - Simple and low-cost Ammonium Sulfate (AMSUL) processing wash
  - Low input costs including 100% renewable grid power, labour and access to infrastructure
- **NdPr opex** averages **US$17.60kg over the first five years** and **US$21.30/kg LOM**
- **5Mtpa** throughput over an initial 20-year project LOM commencing in 2027
- Initial **capital expenditure of US$297M**, excluding a modelled 35% contingency**.** Project capital costs have been assessed to a Class 5 Engineering Standard to a nominal +/- 40% accuracy
- **Annualised production of 11.0kt TREO** over first five years **with LOM average production of 9.1kt** TREO comprised 31% NdPr and 1% DyTb

***Table 1**: Recovered Oxide tonnes in MREC by year*

Recovered Oxide Tonnes by year	1	2	3	4	5	6 – 10	11 – 15	16 – 20
Nd	1,831	3,185	3,216	2,340	2,117	9,517	11,381	10,601
Pr	700	1,193	1,114	867	778	3,412	4,001	3,705
NdPr	***2,531***	***4,378***	***4,329***	***3,207***	***2,896***	***12,929***	***15,382***	***14,306***
Dy	57	96	98	81	70	319	350	333
Tb	12	21	21	17	15	69	75	71
DyTb	***69***	***117***	***119***	***98***	***86***	***388***	***426***	***404***

Compelling financial outcomes provide resilience to cyclicality in commodity pricing

- **Project economics** based on a 20 year mine life with Adamas pricing forecasts (discounted by 40%) highlight the **robust nature** of the Caldeira Project and deliver:
  - **Pre-tax $NPV_{8\%}$ of US$1,235M**
  - **Pre-tax IRR of 38%**
  - **Pre-tax payback of 2.2 years**

[1] Opex costs includes all mining, processing and general and administration costs.

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Opportunities to exceed the Scoping Study outcomes exist right across the Caldeira Project

- Scoping Study **mine plan includes only 16% of the Global Mineral Resources**
- Significant **upside potential** for the Project with 90% of licenses yet to be explored and assessed
- Potential to **extend the current 20-year mine life** or **expand future processing capacity and production** by capturing more Mineral Resources in the mine plan or further exploration success
- Bringing **additional high-grade feed** from outside the mine plan will **accelerate financial returns**
- Lower cost mining methods and process optimisation to be investigated in the next study phases

Industry leading Sustainability credentials

- **Dry stack tailings** backfill results in no wet tailings storage facility
- **Very low carbon footprint and unit intensity via access to 100% renewable grid power** from existing hydro, solar and wind power sources
- **Environmental Impact Statement Report submitted** and Cooperation Agreement signed with the State Economic Department (Invest Minas) and the State Government of Minas Gerais

Pre-Feasibility Study underway with completion scheduled for December 2024

Meteoric Chief Executive Officer, Nick Holthouse said,

"These outcomes demonstrate that the Caldeira Project is disruptive to the global rare earth mining industry in the true sense of the word.

This Scoping Study represents a fundamental shift away from conventional understanding of flowsheet complexities, capital intensity and, perhaps most importantly, operating cost and capital intensity perceptions in the rare earth industry.

While the Scoping Study base case is focused on a 5Mtpa throughput and truncated 20 year mine life, Caldeira's ability to grow beyond that mine life and product output is very much open ended due to its resource size and future exploration upside. This represents a truly unique opportunity in the rare earth sector.

Being at the lowest end of the operating cost curve gives us and our future downstream partners a tremendous advantage in the inevitable periods of low pricing cycles such as being experienced at present.

Impressive also are the sustainability metrics. Key to this is the ability to adopt a low intensity free dig mining process and simple low cost AMSUL flowsheet that focusses on significant reagent and water recycling powered by 100% renewable sources from the local grid.

My sincere thanks go to our hardworking Projects team and consultants who have bought this Tier 1 project study to market in less than two years from acquisition."

Executive Summary

The Caldeira Project Scoping Study (**Scoping Study** or **Study**) has been led by independent engineering consultants Ausenco and is based on the Caldeira Project Mineral Resource Estimate from 13 June 2024.

This Scoping Study has been based on development of an initial 5Mtpa processing facility and limited the mine life to 20 years based on the currently identified Mineral Resources delivered from six of the 69 licences which Meteoric holds within the Caldeira Project.

The Study confirms the Caldeira Project has potential to be one of the lowest cost producers of rare earths globally with the ability to deliver robust economic results through the cycle. Drivers of this low cost of production include:

- The world's highest grade ionic rare earth project of scale
- An ability to bring forward high-grade production with REO grades averaging 4,500ppm TREO in the first five years
- True ionic absorption REE mineralisation delivering high metallurgical recoveries from a simple and low cost AMSUL processing flowsheet
- Low input costs including 100% renewable grid power, labour and access to infrastructure
- Free dig material with short haul distance
- Low mining strip ratio (0.12:1)
- Dry stack tails not requiring wet tailings storage facility

Based on these factors, Caldeira has an estimated annual All In Sustaining Cost (AISC[2]) of US$7.00/kg of TREO in its first five years and US$9.00/kg over the 20 year LOM evaluation period. **Figure 1** shows the rare earth industry cost curve for MREC and where the Caldeira Project would be positioned based on 2024 estimates.

Further, capital expenditure for the construction of the initial processing facilities and mining fleet of US$297M (excluding contingency of 35%) delivers a low capital intensity which is highly supportive of the development of this project compared to alternative rare earth projects globally.

The Project boasts exceptional financial metrics, driven by its world-class operating cost efficiency and minimal capital expenditure. Key metrics have been based on the following assumptions:

- TREO pricing comparing:
  - i. independent forward looking prices as forecast by Adamas Intelligence Inc (**Adamas**) and discounted by 40%; and
  - ii. current spot price at 30 June 2024 over the life of the project
- An estimated Brazilian corporate tax rate of 34%, which excludes any potential Brazilian tax incentive reductions;
- An ungeared project financing solution; and
- A real discount rate of 8%.

[2] AISC includes C1 operating costs, sustaining capital, royalties & Govt. fees

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A summary of the key production metrics and comparison of the financial outcomes based on the two pricing scenarios is set out in **Table 2** below and shows the robust financial nature of the Caldeira Project driven by its world-class operating cost efficiency and low capital expenditure.

Based on independent market research from Project Blue Consulting the Caldeira project sits well within the first quartile of known projects on an operating cost per kg/TREO basis and at an AISC of US$9.00/kg TREO the Caldeira Project is currently the lowest known cost producer outside China. These positive metrics are further enhanced in the first five years of operations when operating costs are US$5.50/kg and AISC of US$7.00/kg due to preferential mining of higher grade ores.

See **Figure 1** below:

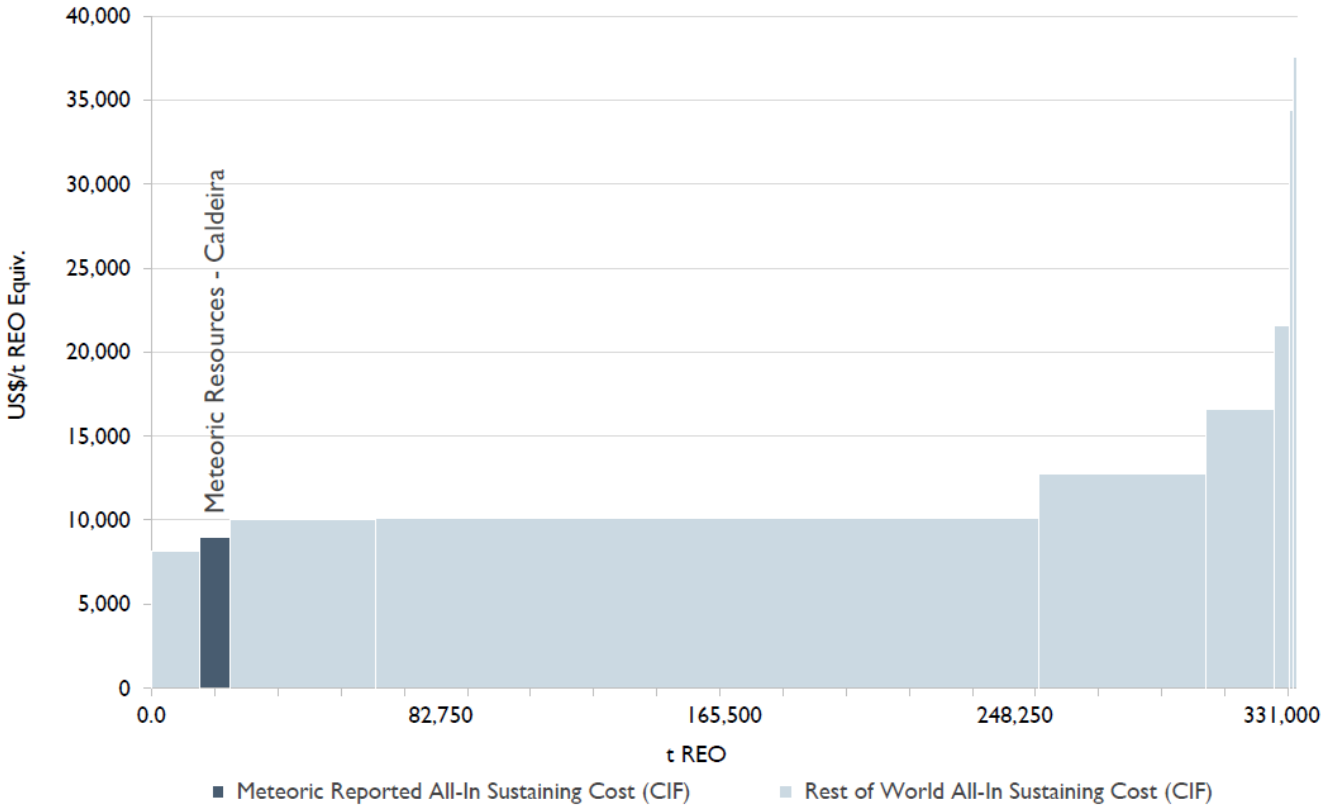

Figure 1: *Rare Earth industry MREC cost curve, 2024 (source: Project Blue Consulting)*

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***Table 2**: Key production and financial metrics of the Caldeira Project*

Production Metrics	Unit	Years 1-5		LOM	
Ore Mined	kt	23,945		97,155	
Strip ratio	waste:ore	0.12		0.12	
Average TREO Feed Grade	ppm	4,500		3,524	
MREO Recovery	%	54		54	
Average annual production (REO)	t	11,102		9,052	
Production (REO)	t	55,511		181,031	
NdPr % (TREO in concentrate)	%	31		31	
Cashflow & Earnings Metrics	**Unit**	**Years 1-5 Average**		**LOM Average**	
		Adamas	**Spot**	**Adamus**	**Spot**
Annual Revenue	US$M	272	158	284	137
Annual EBITDA	US$M	190	86	193	60
Operating Cashflow	US$M	126	61	123	40
Revenue	US$M	1,361	789	5,639	2,712
EBITDA	US$M	949	431	3,335	1,205
Cumulative post tax cashflow excluding construction cost	US$M	630	306	2,467	792
Cost Metrics	**Unit**	**Years 1-5 Average**		**LOM Average**	
Annual operating cost	US$M	61		64	
Annual operating cost	US$/kg TREO	5.50		7.04	
Annual AISC	US$/kg TREO	7.00		9.00	
Financial Outputs	**Unit**	**Years 1-5**		**LOM**	
				Adamus	**Spot**
Pre-tax NPV_8	US$M			1,235	148
Post-tax NPV_8	US$M			699	16
Pre-tax IRR	%			38	14
Post-tax IRR	%			27	9
Payback period	years			2.2	5.1
Basket price TREO	US$/kg			45	21
NdPr average pricing	US$/kg	87	51	111	51
Payability	%	70		70	
NdPr Operating cost equivalent	US$/kg NdPr	17.60		21.30	
Capex inclusive of 35% contingency	US$M			403	

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Location and Infrastructure

The site is located close to the city of Poços de Caldas (population ~175,000 in 2024), in the southwest region of the Minas Gerais State of Brazil (**Figure 2**). It is serviced by good quality roads and rail, with travel time by road to Sao Paulo ~3 hours (270km), Belo Horizonte ~6.5 hours (460km) and Rio de Janeiro ~7.5 hours (470km).

Economically, the Poços de Caldas area has a long and continuous history of clay mining for bricks and subsequently refractory clays along with a more recent history (from the 1950s) of mining activities focused on bauxite for aluminium and uranium by the Brazilian Nuclear Industry.

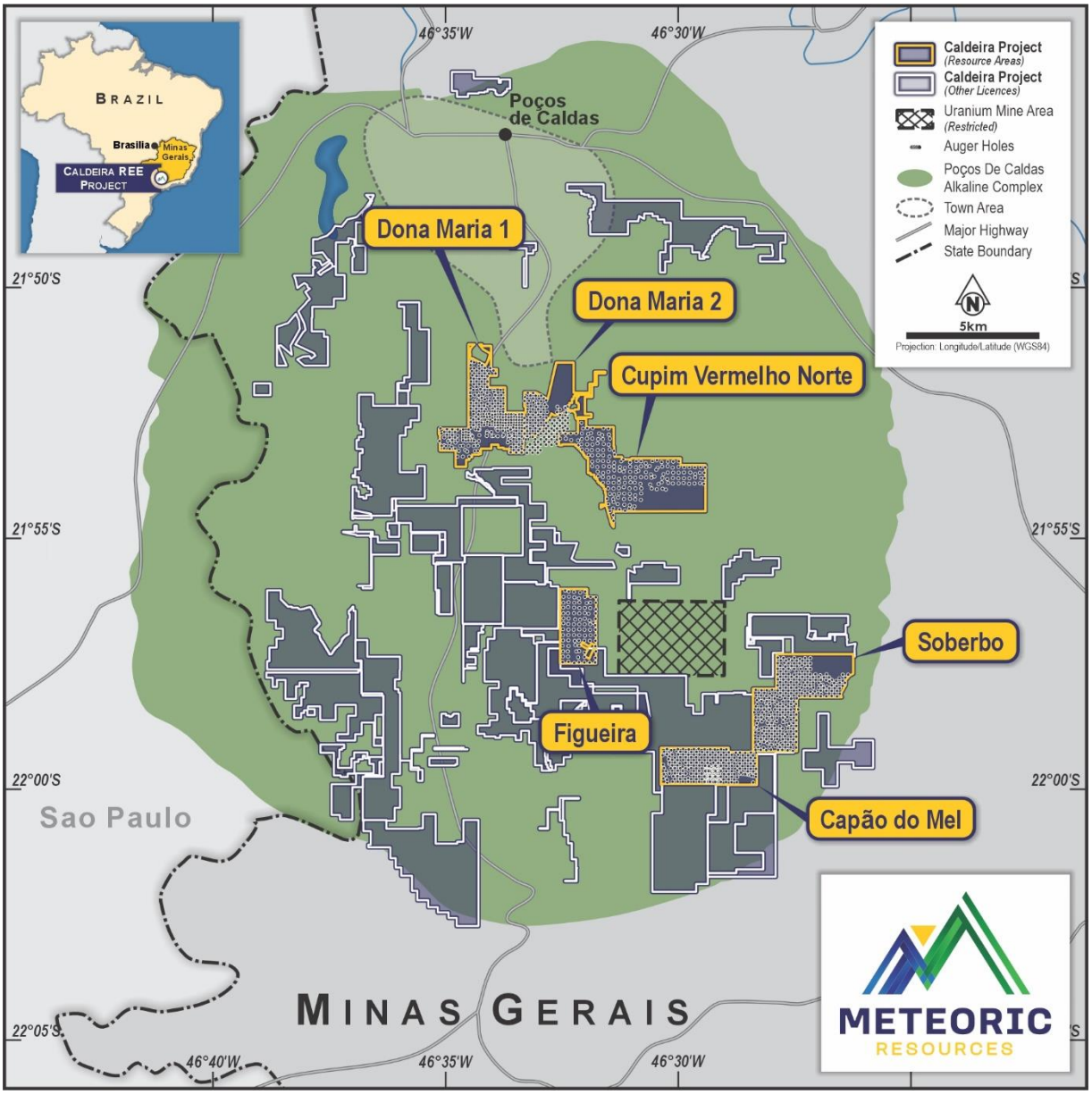

Figure 2: *Caldeira Project Location map*

Adjacent to Meteoric's planned southern production hub is Brazil's historic uranium-mine and concentration plant, currently on care and maintenance. Alumina companies such as Alcoa and

Companhia Brasileira de Alumínio (CBA) have been operating locally for the past 70 years employing several generations of local workers for their mining, processing and smelting operations within the Caldeira complex, along with a wider community network of supporting service industries.

The project area has access to low-cost, clean energy from an electricity grid that is entirely powered by renewable hydro, solar and wind sources from the Energy Company of Minas Gerais (Companhia Energetica de Minas Gerais S.S CEMIG). The Project will be required to construct a short overhead line connection and substation (less than 3km) to access the existing 138kv grid-connection.

Road access is similar with a short 2.5km connection required to be built by the project to access the wider road network.

Water will be sourced from several nearby storage facilities with short pipelines required to supply the process plant-site.

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Geology

The key geological feature of the study area is the Mesozoic Poços de Caldas Alkaline Complex (PCAC) which was intruded into the metamorphosed Paleoproterozoic rocks of the Brazilian shield. The intrusion of the PCAC and the associated volcanic equivalents were emplaced approximately 80 million years ago and the event is related to the final stages of the breakup of the Gondwana Continent and the formation of the Atlantic ocean during the late Cretaceous. Initial volcanism is followed by caldera collapse, leading to the formation of a major geomorphologic feature comprising a large semicircular volcanic/intrusive edifice of over 800km^2 that rises approximately 600-800m above the metamorphic basement.

The main rock types found are intrusive subvolcanic and volcanic alkaline comprising nepheline and syenite phonolites. High rainfalls and the unique potassium enriched chemistry of the intrusives that lack any primary quartz has led to the formation of a deep regolith profile. Within the regolith profile clays and weathered saprock has been identified up to 200m below the current land surface within the caldera. The geological interpretation of Meteoric's exploration drilling subdivides the regolith into three main zones:

- Soil layer 2m thick;
- Clay zone 5m – 70m thick comprising illite, montmorillonite, halloysite and gibbsite as the main clay species; and
- Transition zone 5m – 120m thick of visible weathered rock fragments that gradually increase with proximity to fresh rock.

Primary uranium + REE deposits have been known within the area since the 1950's and are characterised by late stage sulphidic breccias containing uranium oxides and bastnaesite with accessory monazite and xenotime as the major REE ore minerals. However, away from the higher-grade primary U-REE deposits the dominant REE mineral in the source rock intrusive (syenite) beneath the clay zone is bastnaesite, a major source of REEs worldwide. Bastnaesite is the primary REE mineral at well-known deposits such as Mountain Pass (USA) and Bayan Obo (Asia). Bastnaesite is a REE carbonate-fluoride mineral and has very low levels of uranium and thorium in its mineralogical structure.

The target REE mineralisation for Meteoric occurs below the soil layer within the clay zone where REE grades and leaching recoveries are highest due to the ionic adsorption nature of the bonds between the rare earth elements and the clay minerals.

Concentration of REE within ion adsorption deposits has been proposed to be a dominantly supergene process, where easily degradable REE-minerals (e.g. Bastnaesite) break down and release REE that are then adsorbed onto clay mineral surfaces. **Figure 3** below provides a high-level illustration of the weathering formation of the Caldeira ionic clay deposit.

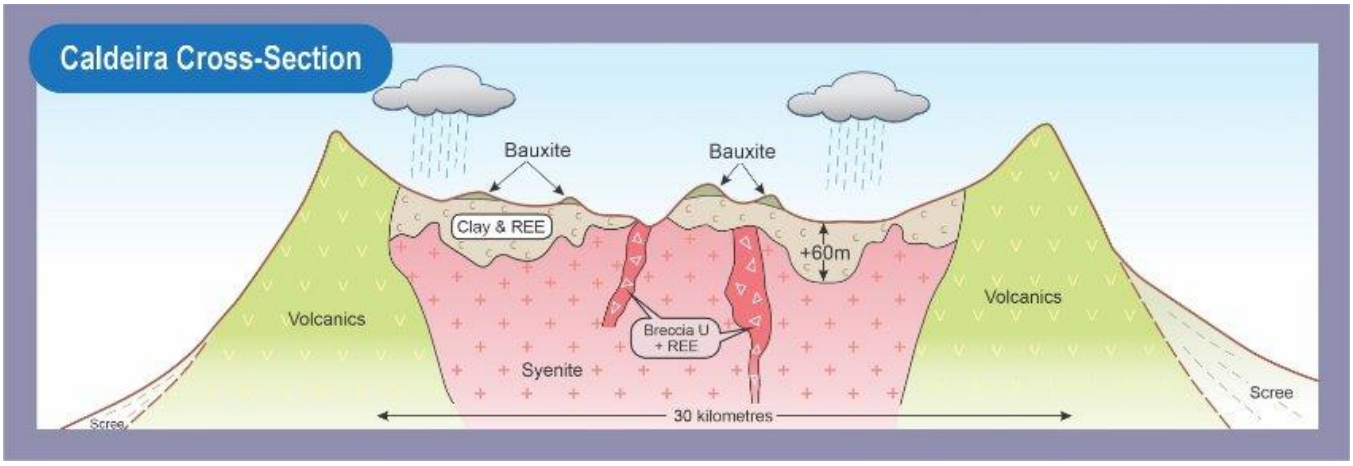

***Figure 3**: Illustration of the weathering formation of the Caldeira ionic clay deposit*

Mineral Resource Development

The most recent resource update for all six licences with classified resources at the Caldeira Project is shown below in **Table 3**. At a 1,000ppm TREO Cut-off grade the Measured, Indicated and Inferred Resource is comprised of 619Mt @ 2,538ppm TREO and a Magnetic Rare Earth Oxide (MREO) component of 600ppm.

The Scoping Study mine plan includes ore feed from only the Capão do Mel and Soberbo licence areas only. Volumes and grades from these areas alone were deemed suitable to supply both the required tonnages and high grades for the targeted 20 year mine life with Figuera resource update yet to be finalised and not yet available for the Study. The planned addition of the Figueira resource for subsequent studies will only extend the elevated feed grade strategy for the Project.

Measured and Indicated Mineral Resources comprising of 11Mt Measured @ 3,888ppm TREO and 160Mt @ 2,812ppm TREO respectively are accessible from surface and adjacent to the proposed plant site. A further 200Mt @ 2,309ppm TREO sits in the Inferred category within these licence areas and represents future upside in near mining areas to support potential expansion or mine life extension.

The Scoping Study mine life is currently limited to 20 years and is not Resource constrained. The modelling reflects the fact that Measure and Indicated Resources have only been updated for two of the six Resource Licences currently available. There is clear and considerable scope to expand beyond this timeframe with the addition of more current resource areas and ongoing conversion of the yet untested 63 remaining licences.

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Table 3: JORC 2012 Mineral Resource Estimates for the Caldeira Project at a TREO 1,000PPM cut-off grade (refer MEI Announcements dated 1 May 2023, 14 May & 13 June 2024).

Licence	JORC Category	Material Type	Million Tonnes	TREO ppm	Pr_6O_{11} ppm	Nd_2O_3 ppm	Tb_4O_7 ppm	Dy_2O_3 ppm	MREO ppm	MREO /TREO
Capão do Mel	Measured	Clay	11	3,888	222	586	6	28	842	21.7%
TOTAL	**MEASURED**		**11**	**3,888**	**222**	**586**	**6**	**28**	**842**	**21.7%**
Capão do Mel	Indicated	Clay	74	2,908	163	449	5	23	640	22.0%
Soberbo	Indicated	Clay	86	2,730	165	476	5	23	669	24.5%
TOTAL	**INDICATED**		**160**	**2,812**	**164**	**463**	**5**	**23**	**656**	**23.4%**
TOTAL	**MEASURED + INDICATED**		**171**	**2,880**	**168**	**471**	**5**	**24**	**667**	**23.2%**
Capão do Mel	Inferred	Clay	32	1,791	79	207	2	13	302	16.9%
Capão do Mel	Inferred	Transition	25	1,752	86	239	3	14	341	19.5%
Soberbo	Inferred	Clay	89	2,713	167	478	5	24	675	24.9%
Soberbo	Inferred	Transition	54	2,207	138	395	4	20	558	25.3%
Cupim Vermelho Norte	Inferred	Clay	104	2,485	152	472	5	26	655	26.4%
Dona Maria 1 & 2	Inferred	Clay	94	2,320	135	404	5	25	569	24.5%
Figueira	Inferred	Clay	50	2,811	135	377	5	26	542	19.3%
TOTAL	**INFERRED**		**448**	**2,408**	**139**	**407**	**5**	**23**	**574**	**23.7%**
TOTAL	**MEASURED + INDICATED + INFERRED**		**619**	**2,538**	**147**	**425**	**5**	**23**	**600**	**23.6%**

Figure 4 below shows the location of Meteoric's recent resource infill drilling programs at Capão do Mel, Soberbo, and Figueira in the south of the Caldeira Project. A Mineral Resource update for the Figueira area is expected in the coming weeks based on the infill drill program.

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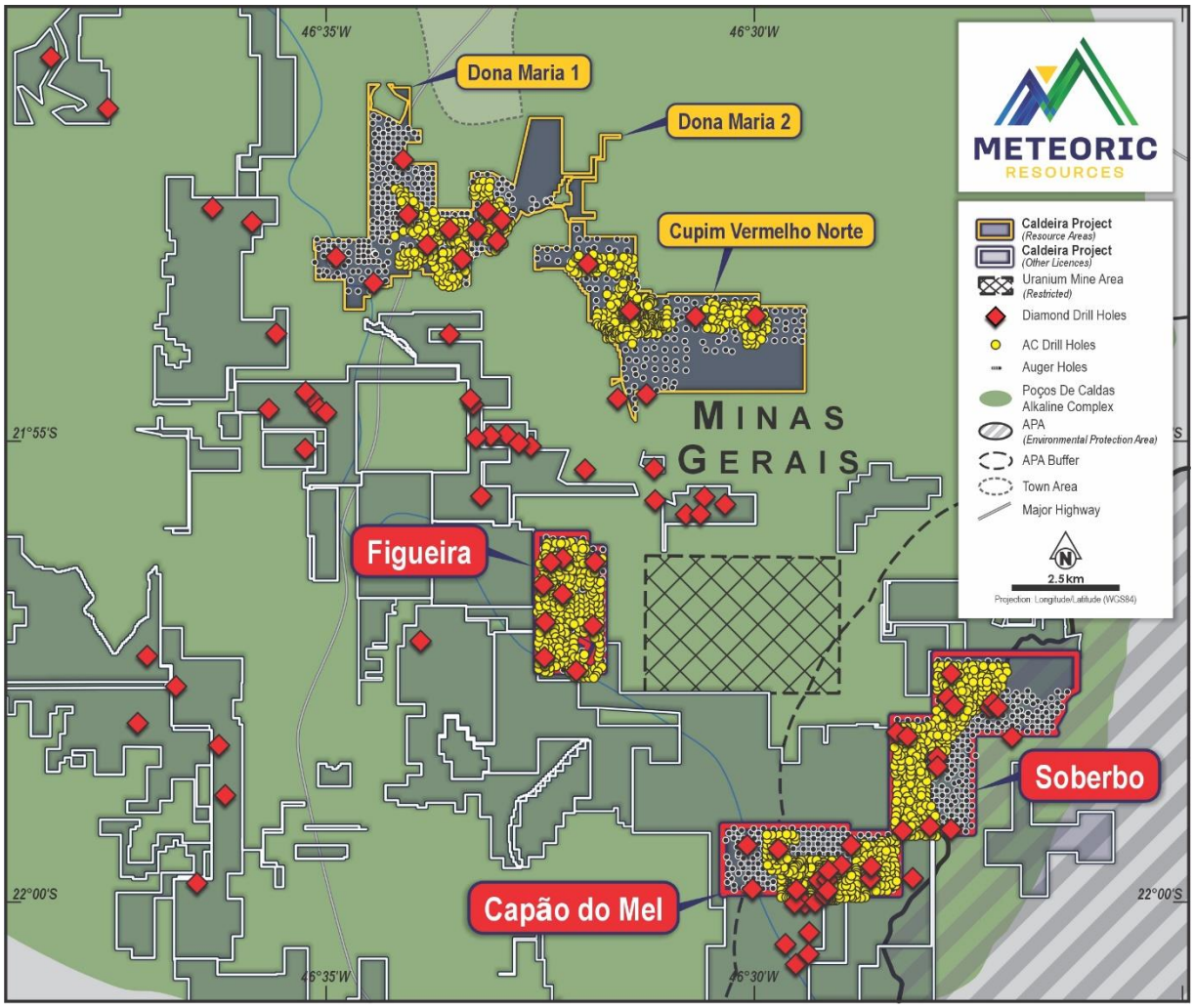

***Figure 4**: Location map of updated resources for the priority development targets at Capão do Mel and Soberbo completed, and Figueira resource update due late July 2024.*

Mining

Ore from the Capão do Mel and Soberbo licences are considered in this Study as sources of feed grade for the current 20 year LOM.

The base case for the Study assumes that mining will be owner operated and undertaken by conventional truck and shovel arrangement, much like what is seen in other clay hosted lateritic deposits. Mining costs for Caldeira were developed by the mining consultant BNA and based on a combination of first principles estimation and from their extensive industry cost database. The developed mining costs for an owner-operated mining fleet are US$2.02/t.

Optimised and designed pits are shallow in nature, extending no more than 25 to 30 metres below the natural surface and in most case daylighting out to natural surface due to undulations in the topography. The ability for pit floors to daylight out the natural surface is important for ease of drainage.

The mining process will be as follows:

- Topsoil will be removed and stockpiled.
- Clay ore will be excavated in a conventional truck and shovel arrangement on a free dig basis.
- Clay ore transported to the process plant facility in open tray trucks and stockpiled in the ROM area to be fed into the process plant.
- Rinsed and dewatered ore post processing will be loaded back into trucks as a backloaded product to mined out areas for dry stacking, compaction and reshaping.
- Stockpiled topsoil replaced back over completed backfill areas.

Mining rates are anticipated to be 5Mtpa with an associated average strip ratio of around 0.12:1 waste to ore ratio.

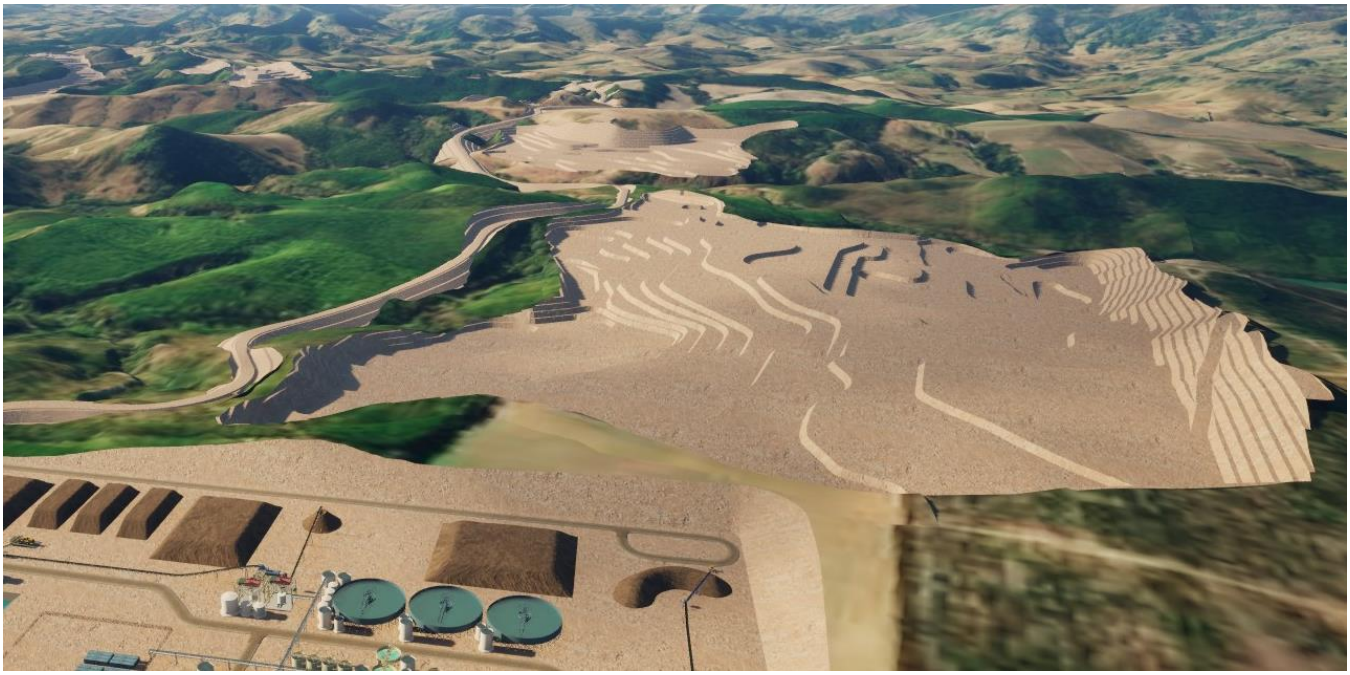

Figure 5: *Looking East across Capão do Mel high grade starter pit area with plant site in foreground*

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Mining physicals are summarised below in Table 4.

Table 4: *Mining Physicals*

Parameter	Unit	Value
Life of Mine	years	20
Plant Nameplate Capacity ROM	Mtpa	5
Ramp up from 3 to 5 Mtpa	years	1
Total Quantity Mined (Dry Tonnes)	Mt	97
TREO Feed Grade	ppm	3,524
Stripping ratio	waste: ore	0.12
Total Production (REO)	t	181,031
Annual Production (REO)	t	9,129
LOM average TREO Recovery	%	54

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Mine Design

The basis of design for the development of pit designs, schedules and owner operator costs was undertaken by Beck Nader and associates in Brazil.

Two of the six possible licences with a JORC resource estimate where utilised, these being Soberbo and Capão do Mel.

The work programme included:

- Optimisations
- Pit designs
- Preliminary schedules
- Ancillary designs for haul roads stockpiles, temporary dry stack facilities and dry stacked spent ore back in mined out areas
- Final mine schedules

The proximity of the processing facility to the mining areas is highlighted in **Figure 6** and **Figure 7** below which show the gradual development of the pits over the life of mine.

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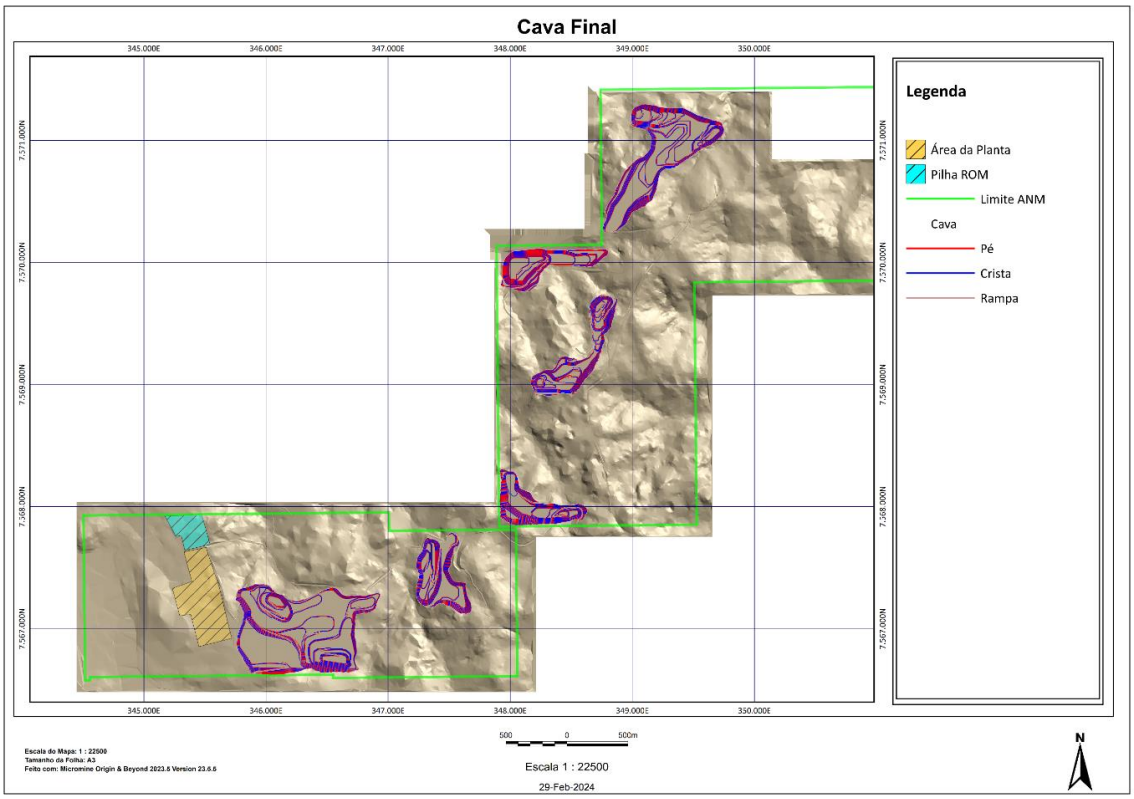

***Figure 6**: Pit Designs Capão do Mel and Soberbo with plant site in yellow*

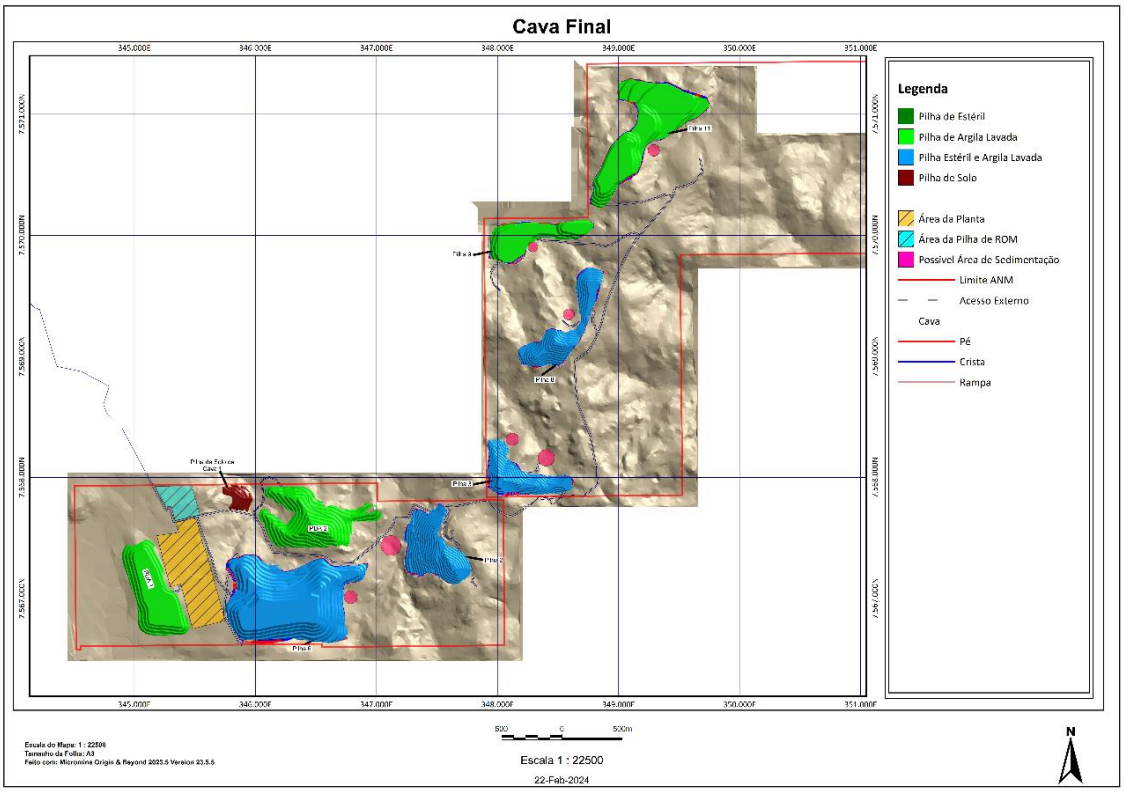

***Figure 7**: Final Pits showing dry stacked and backfilled pit areas in Blue and Green. Plant site area in yellow.*

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Mine Scheduling

For the mine sequencing, a production rate of 5Mtpa was adopted, with production of 3Mtpa in year 1 during ramp up.

Mining is focused in the Starter pit area directly adjacent to the processing facility very high TREO grades being delivered to the processing plant in the first 5 years. With the expected inclusion of additional tonnes from Figuera in subsequent schedules, the tenor of the initial high-grade phase is expected to extend which has potential to improve the Scoping Study financial outcomes.

The tenor of the initial schedule is limited to 20 years over which time around 181kt of REO are produced.

Of the 97Mt of Mineral Resource processed over the 20 year mine life approximately 20.5Mt (21%) is Measured, 70.6Mt (73%) are Indicated and the remaining 6.1Mt (6%) are Inferred.

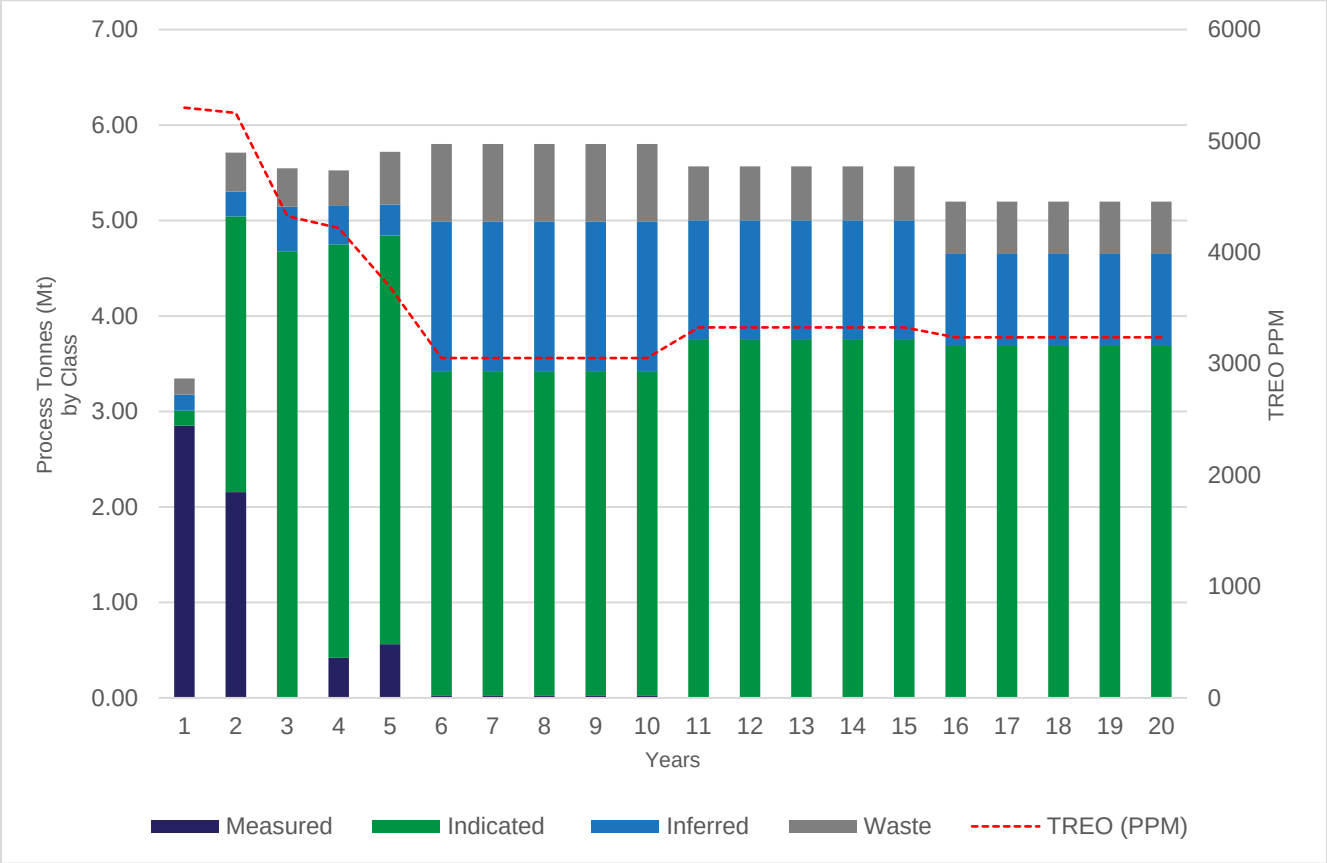

***Figure 8**: Mined tonnes and grade by classification*

Processing

The Caldeira Processing Plant will be located in the southwestern end of the Capão do Mel (CDM) licence adjacent to the CDM high grade starter pit area.

The Caldeira Process Plant will produce a mixed REO Carbonate (MREC). The Caldeira processing plant will process 5Mtpa of dry ore (16.2% moisture assumed), operating for 8,000 hours per annum or 92% availability.

Following mining and haulage to the process plant, ore will be stockpiled before being processed in the Feed Preparation area where barren oversize material will be removed. Ore will be slurried with treated and intermediate recycle solutions and then delivered to an agitated Leaching Circuit. The leach circuit uses Ammonia Sulphate (AMSUL) as the lixiviant at pH 4 under ambient temperature and pressure with a leach time of less than 30 minutes. The resultant slurry is washed in CCD thickeners before being filtered to produce a Filter Cake (which will be stacked for final disposal) and a pregnant REE leach solution (PLS).

The PLS will feed an Impurity Precipitation circuit where a pH modifier will be added to increase the pH to remove any deleterious elements such (e.g. Al and Fe). The resultant slurry is clarified in dynamic bed clarifiers (DBC) and the impurity precipitate is comingled with the filter cake from the preceding CCD circuit and dry stacked before rehandling and placement back into the open pit.

The PLS from the DBC will be advanced to the REE final product precipitation circuit, followed by clarification in DBC and dewatering in a Product Filter Press to produce a wet MREC solid product. The MREC product will be fed into a drying stage, obtaining the final dried MREC product that will be packed for delivery to a port.

Spent solutions will be treated using membrane technology in a Water Recovery System (WRS) for water reutilisation and lixiviant recycle. The process flowsheet is shown in **Figure 9** and a render of the processing facility is shown in **Figure 10**.

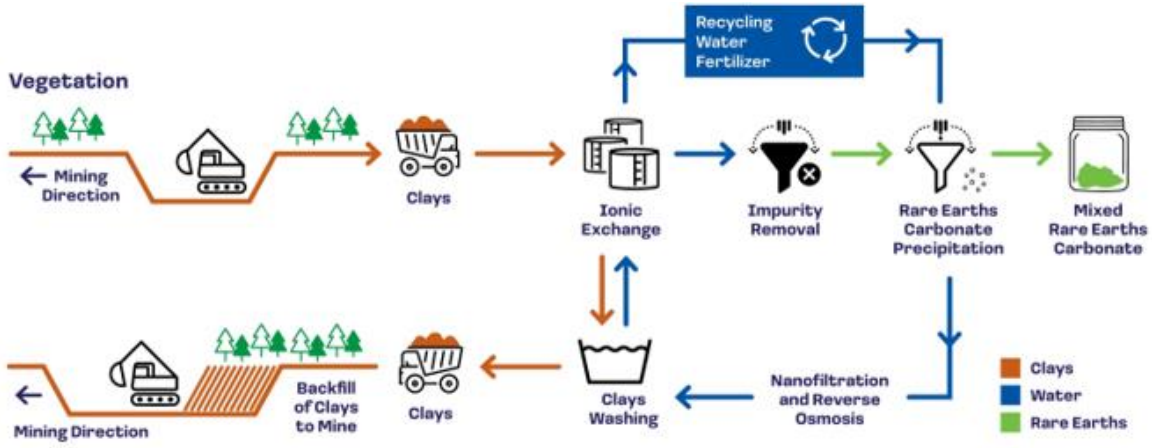

***Figure 9**: Simple process flowsheet*

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***Figure 10**: Caldeira Processing Facility Looking North East*

The individual global rare earth recoveries to MREC achieved at ANSTO on a CDM master composite and used in the scoping study production calculations are listed below (refer to ASX announcement dated 29 February 2024). In addition, the TREO achieved in the MREC from the same composite is also shown in **Table 5** below.

***Table 5**: Rare earth recoveries and rare earth distribution to MREC*

Rare Earth Oxide	% Recovery to MREC	%TREO in MREC
La_2O_3	76	57.63
CeO_2	0.3	1.38
Pr_6O_{11}	**74**	**8.56**
Nd_2O_3	**73**	**22.0**
Sm_2O_3	65	2.36
Eu_2O_3	61	0.58
Gd_2O_3	64	1.50
Tb_4O_7	**53**	**0.17**
Dy_2O_3	**50**	**0.79**
Ho_2O_3	43	0.13
Er_2O_3	37	0.26
Tm_2O_3	33	0.02
Yb_2O_3	25	0.12
Lu_2O_3	24	0.02
Y_2O_3	50	4.49
Total	**54**	**100**
MREO[3]	**73**	**31.5**

[3] MREO is made up of Nd Pr Dy and Tb

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Dry stacked tailings

No tailings dams are being contemplated for the Caldeira Project. The spent ore post leaching will be rinsed several times until sulphate levels are below required limits to backfill. The ammonium sulphate and water will be recycled, and the residual spent ore filter pressed to a moisture content similar to that when mined.

The spent ore is backloaded to temporary storage facilities in the interim period (around 1 year) until sufficient space is available in the mining sequence to commence backfill of previously mined out areas.

Production

Total Production over the current 20 year mine life will be 181kt of Rare Earth Oxides contained within 317kt of MREC.

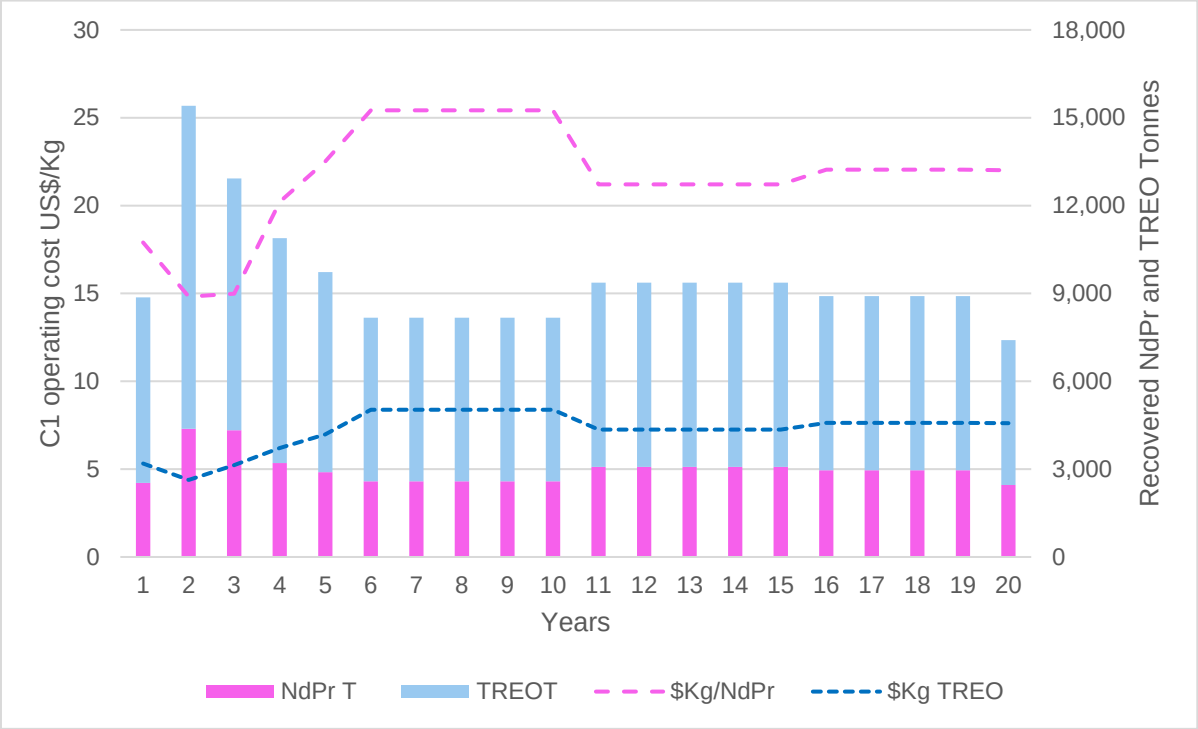

***Figure 11**: C1 operating cost per kilogram of TREO and NdPr*

Figure 11 above illustrates Meteoric's operating cost per kilogram of NdPr produced calculated by dividing total operating costs by kilograms of NdPr produced.

The figure does not take into account the revenues which will be generated from sales of DyTb and other REOs and shows that, in all scenarios presented over the first 20 years of operations, based on current mine scheduling, the Caldeira Project is expected to generate robust operating profits.

Figure 12 below illustrates Meteoric's operating cost per kilogram of NdPr produced calculated by dividing total operating costs by kilograms of NdPr produced compared to current spot pricing and Adamas forecast pricing.

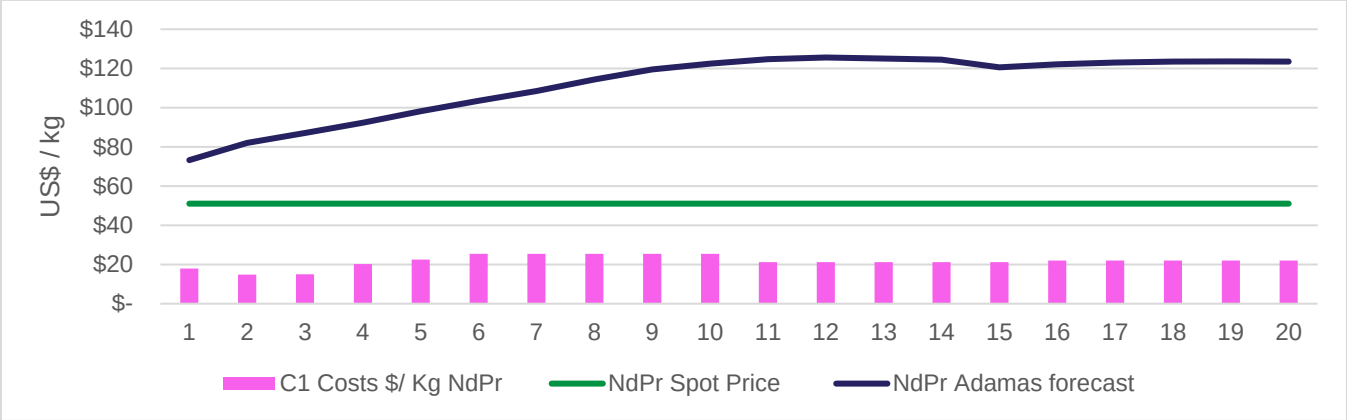

***Figure 12**: C1 operating cost per kilogram of NdPr against Spot and Adamas prices*

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Environmental Licencing, Community and Government

Environment Licencing

Meteoric has completed the necessary fieldwork and studies for the lodgement of Environmental Impact Statement EIS report. (refer to ASX announcement 23 May 2024).

The studies to support the development of the EIS were coordinated by Alger Consultoria Ambiental (Alger), who have recently supported Sigma Lithium and Latin Resources through the same process to establish their operations. The EIS was completed in nine months (against an initial estimate of 12 months) and involved around 7,500 hours of effort by a team of 60 people including Meteoric management, social and environmental consultants and professionals.

Of significant note was the Social Mapping component of the Study which outlines a community acceptance level of 89% confirming strong community support for the project.

The lodged report contains the baseline studies for:

- Flora and Fauna surveys;
- Inland surface and groundwater quality and impacts;
- Air quality assessments;
- Noise and vibration studies;
- Social and community surveys; and
- Subterranean investigations (caves).

Described also in the report are the construction, operating and closure phases of the Caldeira Project which include:

- Mine pits, waste pile landforms, dry stacked backfilling of mined voids with spent ore and ore processing; and
- Site non-process infrastructure such as workshops, laydown areas, communications, fuel storage, wastewater treatment.

The submission of the application for a Preliminary License (LP) is the first stage in a three-step Environmental Licensing Process consisting of:

- Preliminary License (LP) - issued by the Minas Gerais State Secretariat for the SEMAD after EIS review and approval.
- Construction License (LI) - issued by the Minas Gerais State Secretariat for the SEMAD after PCA (Environmental Control Plan) review and approval.
- Operation License - issued by the Minas Gerais State Secretariat for the SEMAD after the review of design against constructed facilities.

The Permitting process remains on track for completion by Q4 2025 with significant milestones shown below in **Table 6**.

Table 6: Permitting Schedule

Key Permitting Milestones	Commencement Date	Completion Date
Commence EIS process	*September 2023*	*May 2024* ***(Complete)***
Submit EIS Report	*May 2023*	*May 2024* ***(Complete)***
EIS assessment for Preliminary License (LP)	May 2024	March 2025 **(Underway)**
Environmental Control Plan (PCA) submission		June 2025
Construction License Issued (LI)		December 2025
Operation License		December 2026

Environmental Protection Area

There are two Environmental areas within the municipality of Caldas which encroach upon the current resources at Soberbo and Capão do Mel deposits, being:

- Environmental Protection Area (APA) Ecological Sanctuary of Serra da Pedra Branca (established by Municipal Law of Caldas/MG nº 1.973/2006); and
- A 3km strip surrounding the APA (Buffer Zone).

Part of the Soberbo resource is within the APA whilst the remaining (larger) part of Soberbo resource and the entire Capão do Mel resource are within the Buffer Zone.

Article 51 of Law of Caldas/MG nº 1.973/2006 stipulates that mining activity is currently not permitted within the APA (other than for existing activity with operating licences). Importantly, for Meteoric's current program no infill drilling has been performed inside the APA, nor are there current plans to conduct any exploration activities inside the APA. Additionally, the 'Base Case' development scenario contemplated in Meteoric's current Scoping Study and Preliminary Environmental Permit (LP) application do not propose any activity inside the APA area.

Mining activity within the Buffer Zone is permitted and may be undertaken upon completion of an Environmental Impact Assessment, a proposal of measures necessary to mitigate any possible impact on ecosystems and seeking authorisation from the municipality of Caldas and the APA Management Council.

Meteoric has conducted extensive research and consultation from mid-2023 with the object of seeking and obtaining permission to conduct activities in the Buffer Zone and is confident of obtaining favourable consideration from the relevant authorities.

That confidence is based upon: Environmental Impact Statement (EIS) and relevant flora and fauna and ethnographic studies completed over the area, ongoing dialogue and consultation with multiple stakeholders including favourable feedback from a Social Diagnosis and Stakeholder Survey of the Caldeira REE Project conducted by EcoDue Ambiental in December 2023, and specifically by reason of the terms of a written Protocol of Intent entered into between the Government of Minas Gerais and Meteoric Brazil (refer to ASX Announcement 11 August 2023).

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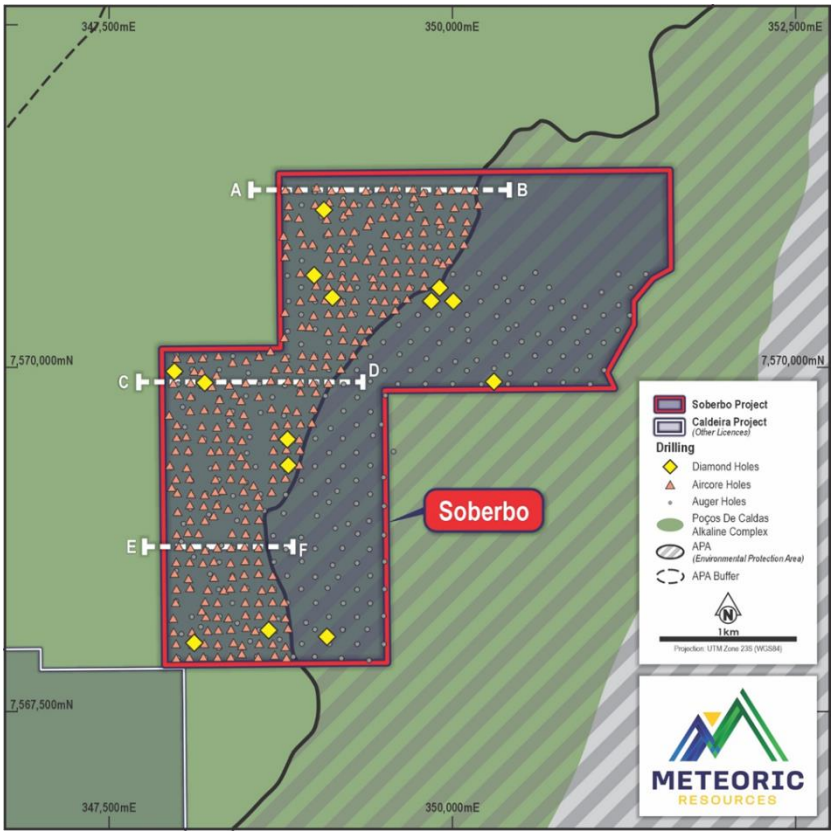

***Figure 13**: Soberbo showing APA Protection Area*

Community and Sustainability

Meteoric has embarked on a Sustainability programme and acknowledges the importance of implementing responsible and sustainable practices across all aspects of the business. This involves developing industry leading practices in environmental and community engagement and management developing systems to provide lasting benefits to both.

Meteoric plans to undertake the follow actions to ensure best possible compliance:

- The implementation of a workplan to deliver a maiden Sustainability Report by mid-2025;
- The preservation where possible of remnant vegetation when considering disturbance footprints for the project processing and mining activities;
- The use of dry stacked tailings and backfilling of pits instead of a conventional wet tailings approach;
- The consideration of current project base case scope emissions and developing targets and strategies to lower through subsequent design phases; and
- Local community engagement for social work programmes, employment education and training.

Government

A Material Terms of Cooperation has been signed between the State Government of Minas Gerais (via Invest Minas) and Meteoric Resources on the 11th of August 2023. The MoU outlines areas of support for the project from the State Government with particular emphasis of support around permitting process and other support services.

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Economic Analysis

The economic analysis and financial modelling of the Project is based on annual estimates which take into account the physical production, estimated annual pricing, cost position and capital outflows over the 20 years of the initial mine life. Key assumptions which have been used in this assessment are discussed further below.

Physicals

The Caldeira Project average estimated annual production is 9,129t of TREO generating 181,031t over the initial 20 year mine life.

The Scoping Study was completed to a Class 5 AACE estimate with an overall ±40% accuracy using the key parameters and assumptions set out in **Table 7** below.

***Table 7**: Key Physical Assumptions for the Caldeira Project.*

Metric	Unit	Mining and Production
Life of Mine	years	20
Plant Nameplate Capacity ROM	Mtpa	5
LOM Average TREO Head Grade	ppm	3,524
Total Quantity Mined (Dry Tonnes)	Mt	97
Stripping ratio	waste:ore	0.12
Total Production (REO)	t	181,031
Annual Production (REO)	t	9,129
LOM average Nd recovery	%	73
LOM average Pr recovery	%	74
LOM average Dy recovery	%	50
LOM average Tb recovery	%	53
LOM average MREO recovery	%	73
LOM average TREO Recovery	%	54

Product Pricing

The Project has been assessed using product pricing from on two sources:

1. **Adamas** - based on the midpoint of the Adamus ex works (inclusive 13% VAT) China price forecast and discounted by 40%; and
2. **Spot** – based on the Asian Metals Exchange Reference Price Ex works (inclusive 13% VAT) China as noted on 30 June 2024 and applied without indexation over the LOM.

Individual forecast prices for elements are applied to the mined tonnes and TREO grade on an annual basis for both Adamas and Spot pricing scenarios.

Figure 14 below provides a graphical representation of the Adamas pricing, with a 40% discount, for Praseodymium and Neodymium as proxy for the basket pricing used in financial modelling of the Project.

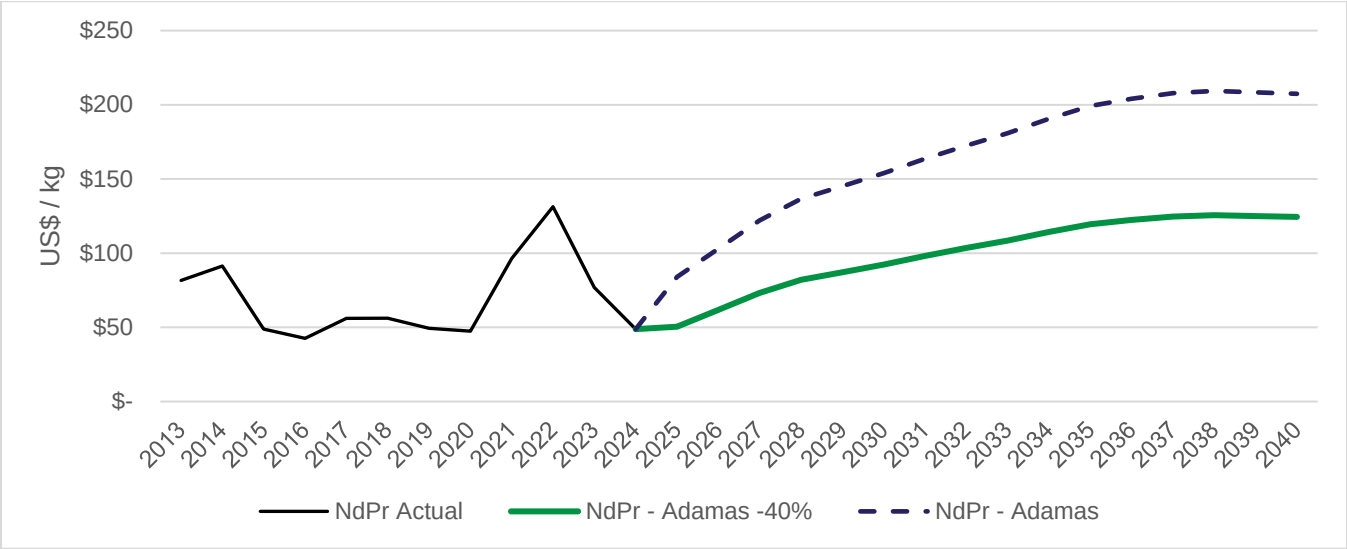

***Figure 14**: Price trends from Adamas for Praseodymium, Neodymium*

Average basket prices for the LOM using Adamas 40% discounted pricing together with Spot pricing is set out in Figure 15 below.

Meteoric has adopted a 40% discount to the Adamas pricing assumptions to reflect a conservative approach in the study's modelling over a longer period which are capped near the recent peak price which occurred in 2022.

Based on the physical production and both Adamas (40% discounted) and constant Spot pricing scenarios, revenue generation on an annual and cumulative basis over the LOM are set out in **Figure 15** below.

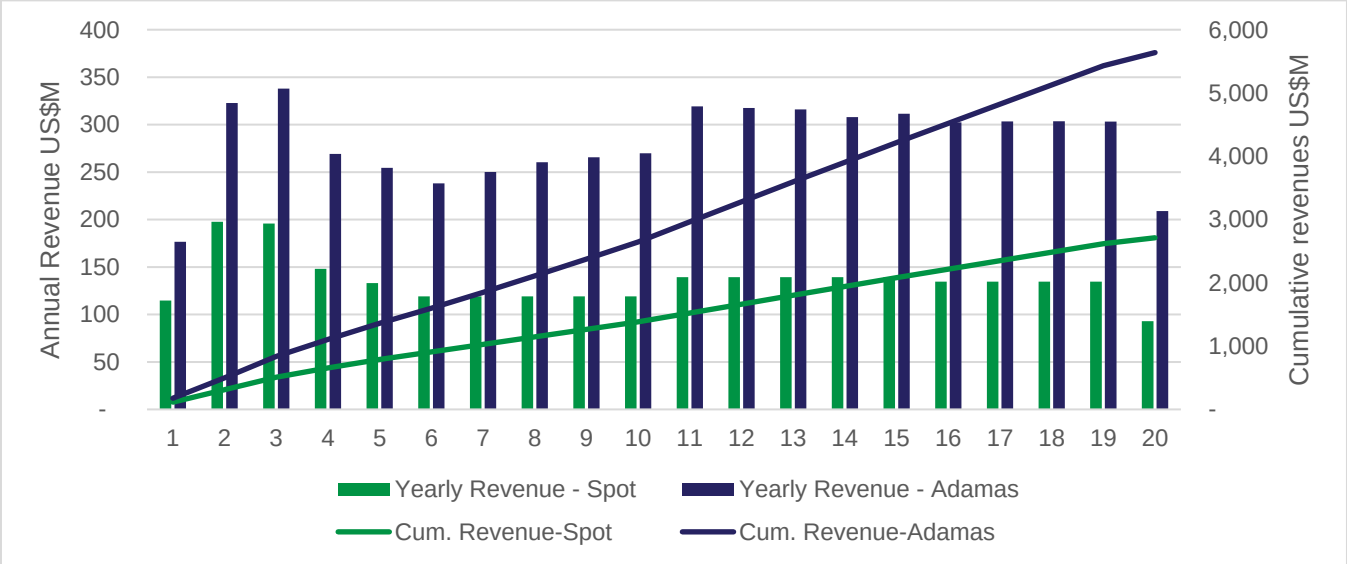

***Figure 15**: Revenue generation on an annual and cumulative basis under both Adamas (40% discounted) and constant Spot pricing scenarios*

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Operating Costs, Royalties, Sustaining Capital and Taxes

Figure 16 below provides a breakdown of annual costs for the Caldeira Project. Operating costs are based on mining, transportation, processing, maintenance and engineering. Operating costs have been developed by general area, using a bottom-up, first principles methodology. The estimated costs are reflective of the effort required to process a nominal 5Mtpa of ore and nominal production of 17,700tpa of MREC. **Table 8** below provides a further breakdown of average annual operating costs.

***Table 8**: Average operating costs*

Operating Costs (Real LOM)	Annual Cost (US$M)	Unit Cost (US$/dry t)
Mining	11.31	2.26
Processing	47.61	9.52
Maintenance and engineering	6.37	1.27
Total operating costs	65.31	**13.06**

Total operating costs per kilogram of TREO varies, based on the grade of ore being mined. Over the first five years the cost per kg of TREO is US$5.50/kg based on an average ore grade of 4,500ppm and is US$7.04/kg based on average ore grades of 3,524ppm LOM.

Fees and royalties included in **Figure 16** are based on the Adamas forecast prices discounted by 40% (see **Figure 12**) and include royalties paid to the Togni Family (4.75%), State Royalties (2%) and royalties to landholders (1%). Royalties are calculated based on the value of products extracted or sold and will vary depending on the market prices.

Sustaining capital is estimated to be US$6M per year from the commencement of the project. These amounts are to ensure the ongoing performance of the mining and processing facilities and will likely be treated as capital expenditure for accounting purposes.

The corporate tax rate applied is 34%. This amount does not take into account any tax incentives or tax reduction initiatives which are available for the development of industry in certain regions in Brazil. Meteoric will work with the various government and taxation bodies to access potential incentives as it progresses towards development of the Project.

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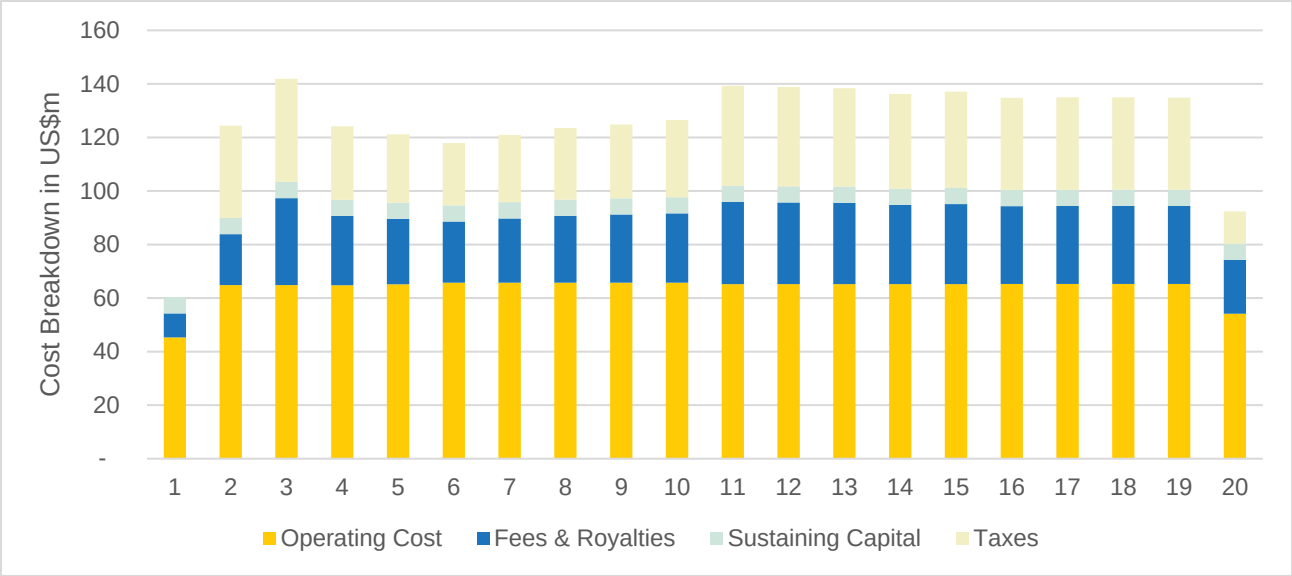

***Figure 16**: Cost breakdown per operational year*

Cashflows

The Caldeira Project cumulative cashflow generation based on a Adamas forecast price discounted by 40% and current spot price scenario are set out in **Figure 17** below. The Project repays its initial capital costs under Adamas pricing assumptions within 2.2 years and under a constant spot pricing assumptions within 5.1 years.

Total cashflows operating cashflows generated from the project are US$2,467M using Adamas pricing and US$792M using constant spot pricing.

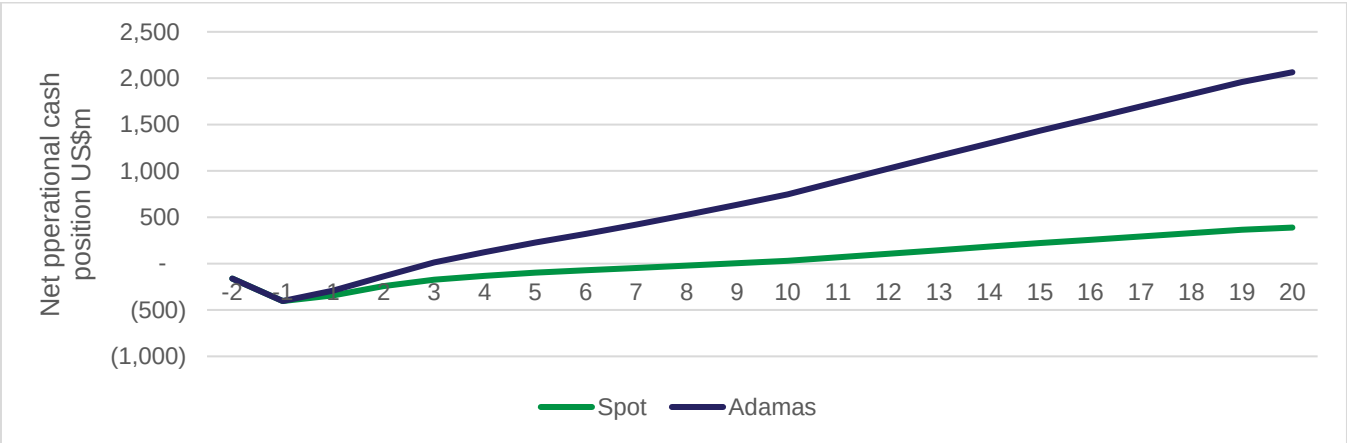

***Figure 17**: Cumulative operational cash profile comparing Adamas forecast prices discounted by 40% to the current spot price*

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Capital Expenditure

The estimated capital cost was derived by factoring from a priced mechanical equipment list to generate a AACE Class 5 estimate (nominal accuracy +/- 40%).

The estimated capital cost for the 5Mtpa base case processing plant and mine was US$403M inclusive of a 35% contingency on all costs excluding mining, and an initial mining cost of US$5.76M plus mining scope contingency of 25% on the mining equipment portion. All direct and indirect costs and taxes are included as well as an allowance for owner's costs.

The total capital cost breakdown is summarised in the table below. The total estimated cost for the 5Mtpa base case is US$397M, including direct, indirect and a 35% contingency cost. The total estimated Mine Costs is US$6M including mine contingency cost as shown below in **Table 9**.

***Table 9**: Summary of capital expenditure*

Description	Cost (US$M)
Equipment	103
Structural and Materials	36
Construction	80
Indirect	72
Mining	6
Contingency	106
Total	**403**

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Project Funding

The Caldeira Project's technical and economic fundamentals provide a strong platform for Meteoric to source traditional financing through debt and equity markets. This belief is strengthened by support already shown from Export Credit Agencies including the United States Export-Import Bank which has already provided a US$250M letter of support. In addition, Meteoric also has the potential to access public funding through grant schemes which support the development of critical minerals initiatives and strategies.

There is, however, no certainty that Meteoric will be able to source funding as and when required.

To achieve the range of outcomes indicated in the Scoping Study, pre-production funding of approximately US$400M may be required. Typical project development financing would involve a combination of debt and equity. Meteoric has formed the view that there is a reasonable basis to believe that requisite future funding for development of the Caldeira Project will be available when required.

There are grounds on which this reasonable basis is established including:

- The Caldeira Project is world-class by the nature of its simple mining and processing, high grades, low operating costs and capital intensity. Release of the study results provides a platform for Meteoric to discuss the outcomes with potential financiers.
- Global debt and equity finance availability for rare earths projects remains positive. Recent examples of significant funding being made available for rare earths exploration and development projects includes Arafura Rare Earths, Brazilian Rare Earths and Australian Strategic Materials.
- Meteoric has also commenced early stage discussions with a number of potential strategic partners who have interest in supporting the development of the Caldeira Project through off-take prepayments, equity investments or a combination thereof.
- Meteoric has a current market capitalisation of approximately A$350M and no debt. The Company has an uncomplicated, clean corporate and capital structure. Meteoric also owns 100% of the Caldeira Project. These are all factors expected to be highly attractive to potential financiers.
- The Meteoric Board and management team has extensive experience in financing resources industry projects and ASX-listed resources companies.

Sensitivity

Sensitivity analysis has been performed to assess how different factors could influence the economic performance of the Project under Adamas forecast pricing discounted by 40% and the current Spot price.

Results of this sensitivity analysis across key financial measures, under both pricing scenarios, are presented in the tables below and show the robust nature of the Caldeira Project even using the current low pricing environment.

Sensitivities – based on Adamas Forecast Pricing (40% discounted)

Pre-Tax NPV Sensitivity To Discount Rate

Discount Rate \ Basket Price (US$/kg REO)	(20.0%)	(10.0%)	--	10.0%	20.0%
4.0%	$1,338	$1,663	$1,988	$2,313	$2,637
6.0%	$1,030	$1,295	$1,560	$1,825	$2,090
8.0%	$796	$1,016	$1,235	$1,455	$1,675
10.0%	$617	$801	$986	$1,170	$1,354
12.0%	$478	$634	$791	$948	$1,104

Pre-Tax IRR Sensitivity To Discount Rate

Discount Rate \ Basket Price (US$/kg REO)	(20.0%)	(10.0%)	--	10.0%	20.0%
4.0%	28.7%	33.4%	37.9%	42.3%	46.5%
6.0%	28.7%	33.4%	37.9%	42.3%	46.5%
8.0%	28.7%	33.4%	37.9%	42.3%	46.5%
10.0%	28.7%	33.4%	37.9%	42.3%	46.5%
12.0%	28.7%	33.4%	37.9%	42.3%	46.5%

Pre-Tax NPV Sensitivity To Opex

Opex \ Basket Price (US$/kg REO)	(20.0%)	(10.0%)	--	10.0%	20.0%
(20.0%)	$907	$1,126	$1,346	$1,565	$1,785
(10.0%)	$851	$1,071	$1,291	$1,510	$1,730
--	$796	$1,016	$1,235	$1,455	$1,675
10.0%	$741	$961	$1,180	$1,400	$1,619
20.0%	$686	$905	$1,125	$1,344	$1,564

Pre-Tax IRR Sensitivity To Opex

Opex \ Basket Price (US$/kg REO)	(20.0%)	(10.0%)	--	10.0%	20.0%
(20.0%)	31.1%	35.7%	40.1%	44.4%	48.5%
(10.0%)	29.9%	34.6%	39.0%	43.3%	47.5%
--	28.7%	33.4%	37.9%	42.3%	46.5%
10.0%	27.5%	32.3%	36.8%	41.2%	45.4%
20.0%	26.2%	31.1%	35.7%	40.1%	44.4%

Pre-Tax NPV Sensitivity To Capex

Initial Capex \ Basket Price (US$/kg REO)	(20.0%)	(10.0%)	--	10.0%	20.0%
(20.0%)	$881	$1,101	$1,320	$1,540	$1,759
(10.0%)	$839	$1,058	$1,278	$1,497	$1,717
--	$796	$1,016	$1,235	$1,455	$1,675
10.0%	$754	$973	$1,193	$1,413	$1,632
20.0%	$712	$931	$1,151	$1,370	$1,590

Pre-Tax IRR Sensitivity To Capex

Initial Capex \ Basket Price (US$/kg REO)	(20.0%)	(10.0%)	--	10.0%	20.0%
(20.0%)	35.3%	40.9%	46.2%	51.2%	56.1%
(10.0%)	31.7%	36.8%	41.7%	46.3%	50.8%
--	28.7%	33.4%	37.9%	42.3%	46.5%
10.0%	26.2%	30.6%	34.8%	38.9%	42.8%
20.0%	24.0%	28.2%	32.1%	36.0%	39.6%

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Sensitivities – based on Asian Metals Spot Pricing

Pre-Tax NPV Sensitivity To Discount Rate

Discount Rate \ Basket Price (US$/kg REO)	(20.0%)	(10.0%)	--	10.0%	20.0%
4.0%	$20	$180	$340	$500	$660
6.0%	($33)	$99	$231	$364	$496
8.0%	($73)	$37	$148	$259	$370
10.0%	($104)	($10)	$84	$178	$273
12.0%	($128)	($47)	$34	$115	$196

Pre-Tax IRR Sensitivity To Discount Rate

Discount Rate \ Basket Price (US$/kg REO)	(20.0%)	(10.0%)	--	10.0%	20.0%
4.0%	4.7%	9.5%	13.7%	17.5%	21.0%
6.0%	4.7%	9.5%	13.7%	17.5%	21.0%
8.0%	4.7%	9.5%	13.7%	17.5%	21.0%
10.0%	4.7%	9.5%	13.7%	17.5%	21.0%
12.0%	4.7%	9.5%	13.7%	17.5%	21.0%

Pre-Tax NPV Sensitivity To Opex

Opex \ Basket Price (US$/kg REO)	(20.0%)	(10.0%)	--	10.0%	20.0%
(20.0%)	$37	$148	$259	$370	$480
(10.0%)	($18)	$93	$204	$314	$425
--	($73)	$37	$148	$259	$370
10.0%	($129)	($18)	$93	$204	$315
20.0%	($184)	($73)	$38	$149	$260

Pre-Tax IRR Sensitivity To Opex

Opex \ Basket Price (US$/kg REO)	(20.0%)	(10.0%)	--	10.0%	20.0%
(20.0%)	9.5%	13.6%	17.3%	20.7%	24.1%
(10.0%)	7.2%	11.6%	15.5%	19.1%	22.5%
--	4.7%	9.5%	13.7%	17.5%	21.0%
10.0%	1.7%	7.2%	11.7%	15.7%	19.3%
20.0%	0.0%	4.6%	9.6%	13.8%	17.6%

Pre-Tax NPV Sensitivity To Capex

Initial Capex \ Basket Price (US$/kg REO)	(20.0%)	(10.0%)	--	10.0%	20.0%
(20.0%)	$11	$122	$233	$344	$455
(10.0%)	($31)	$80	$191	$302	$412
--	($73)	$37	$148	$259	$370
10.0%	($116)	($5)	$106	$217	$328
20.0%	($158)	($47)	$64	$174	$285

Pre-Tax IRR Sensitivity To Capex

Initial Capex \ Basket Price (US$/kg REO)	(20.0%)	(10.0%)	--	10.0%	20.0%
(20.0%)	8.6%	14.0%	18.8%	23.2%	27.3%
(10.0%)	6.5%	11.6%	16.0%	20.0%	23.8%
--	4.7%	9.5%	13.7%	17.5%	21.0%
10.0%	3.2%	7.8%	11.8%	15.3%	18.6%
20.0%	1.8%	6.3%	10.1%	13.5%	16.6%

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Project Opportunities

- **Resource Growth** - The current resource base of 619Mt at 2,538ppm TREO is based on 6 of the 69 licences held leaving 63 remaining essentially unexplored at this point of the project life. A regional soil sampling programme has generated multiple targets for follow up with drilling. The Company now owns 2 drill rigs which are self-resourced and capable of undertaking diamond, RC and aircore drilling. These rigs will continue to explore opportunities for enhanced TREO grades and more importantly zones of high concentrations of DyTb.

  Along with regional exploration growth, infill and resource extension drilling will continue with a focus on targeting zones with high Magnet Rare Earth Oxide ratios.

- **Scheduling** – The mining schedule will continue to be enhanced with addition of Indicated and Measured resources from the infill drilling programme currently being finalised on the Figueira license. The current schedule sees plant feed grades above 4,000ppm TREO for first 4 years of operation, the addition of Figuera into the schedule should see this high-grade feed extended.

- **Mining Methods** – the base case assumption for mining assumes the use of diesel-powered excavators for mining and truck haulage. The Pre-Feasibility Study will explore options to utilise lower cost bulk mining options to further reduce costs in this area.

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- **Processing** – there are several areas of focus within the processing scope including:
  - Engineering and metallurgy programmes to improve upon the existing process flowsheet metrics to reduce capital and operating costs.
  - Debottlenecking - The plant layout has been designed to accommodate potential expansion beyond the current 5Mtpa throughput. Options to expand capacity beyond the average TREO output of 9.1ktpa post successful commissioning are being reviewed.
  - Additional processing capacity is being separately considered for the Northern licenses. Logistical requirements may make the construction of a new separate facility to service more palatable than ore from the North transported to an expanded Southern facility. This expansion strategy would potentially double TREO output to circa 20ktpa.
- **Offtakes** – the company has signed one non-binding offtake to Neo Performance Materials for the supply of a 3ktpa of REO, other opportunities and approaches for offtake are being reviewed for the remaining balance of MREC with separators and Original Equipment Manufacturers (OEMs).
- **Project Financing** – a non-binding letter of support was signed by the US EXIM Bank in early 2024. Critical mineral projects such as Caldeira are garnering significant government support and debt and grant financing for the project is being pursued with several state Banks and Export Credit Agencies.
- **Downstream** – The MREC carbonate supply to market is the first of several steps in an ultimate mine to magnet strategy for Meteoric. By mid-2025 the demonstration facility and laboratory will be in place on site to progress the following:
  - Generation of TREO bulk samples to progress offtake discussions with separators and OEMs.
  - Assist in flowsheet optimisation and allow bulk sample test work to occur in newly defined licenses.
  - Assist with IP and technical skills with Meteoric staff in the scale up to operations.
  - Commence bench scale separation testwork programme.

NEXT STEPS

- **Pre-Feasibility Study** – The Study has already progressed into the Pre-Feasibility Study phase with the results for that work due to be completed and presented to market in December 2024. A decision to progress to a Bankable Feasibility Study will be made in Q4 2024.
- **Permitting** – Alger Consulteria remain on track for completion of environmental studies and community engagements and the Installation Licence (LI) remains on track for completion by Q4 2025. The EIS report was lodged in May 2024 and at this stage no indications of delays.
- **Project development schedule** – Showing key development milestones coalescing around the granting of the Construction Licence (LI) and a Final Investment Decision.
- **Offtakes** – The Neo Performance Materials offtake MOU accounts for around 30% of currently planned REO production. Meteoric continues to receive and advance discussions with OEMs and Separators for the remaining REO output.

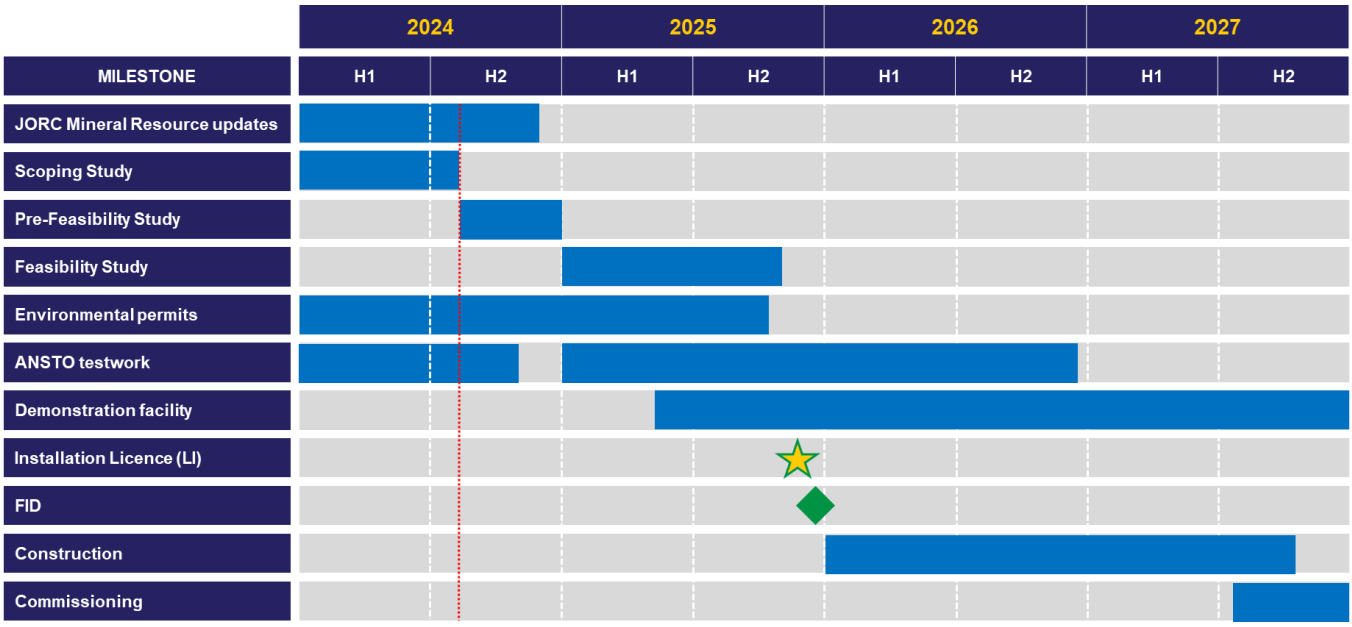

Figure 18: *Caldeira Project Schedule*

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This release has been approved by the Board of Meteoric Resources NL.

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The information in this release that relates to Mineral Resource Estimates at the Cupim Vermelho Norte, Dona Maria 1 & 2 and Figueira prospects was prepared by BNA Mining Solutions and released on the ASX platform on 1 May 2023. In addition, the information in this release that relates to Mineral Resource Estimates at the Soberbo and Capão del Mel deposits was prepared by BNA Mining Solutions and released on the ASX platform on 14 May and 13 June 2024 respectively. The Company confirms that it is not aware of any new information or data that materially affects the Mineral Resources in this publication. The Company confirms that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. The Company confirms that the form and context in which the BNA Mining Solutions findings are presented have not been materially modified.

This release includes exploration results and estimates of Mineral Resources. The Company has previously reported these results and estimates in ASX announcements dated 16 December 2022, 1 May 2023, 27 June 2023, 24 July 2023, 31 August 2023, 27 September 2023, 8 December 2023, 14 December 2023, 30 January 2024, 29 February 2024, 14 May 2024 and 13 June 2024. The Company confirms that it is not aware of any new information or data that materially affects the information included in previous announcements (as may be cross referenced in the body of this announcement) and that all material assumptions and technical parameters underpinning the exploration results and Mineral Resource estimates continue to apply and have not materially changed.

Some statements in this document may be forward-looking statements. Such statements include, but are not limited to, statements with regard to capacity, future production and grades, projections for sales growth, estimated revenues and reserves, targets for cost savings, the construction cost of new projects, projected capital expenditures, the timing of new projects, future cash flow and debt levels, the outlook for minerals prices, the outlook for economic recovery and trends in the trading environment and may be (but are not necessarily) identified by the use of phrases such as "will", "expect", "anticipate", "believe" and "envisage".

By their nature, forward-looking statements involve risk and uncertainty because they relate to events and depend on circumstances that will occur in the future and may be outside Meteoric's control. Actual results and developments may differ materially from those expressed or implied in such statements because of a number of factors, including levels of demand and market prices, the ability to produce and transport products profitably, the impact of foreign currency exchange rates on market prices and operating costs, operational problems, political uncertainty and economic conditions in relevant areas of the world, the actions of competitors, activities by governmental authorities such as changes in taxation or regulation.

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APPENDIX 1 - JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	▪ The drilling utilises a conventional wireline diamond drill rig (Mach 1200) with HQ diameter. ▪ The core is collected in core trays with depth markers at the end of each drill run (blocks). ▪ In the saprolite zone the core is halved with a metal spatula and bagged in plastic bags, the fresh rock was halved by a powered saw and bagged.
Drilling techniques	▪ The drilling uses a diamond drill rig (Mach 1200) with HQ diameter using the wireline technique. ▪ Each drill site was cleaned and levelled with a backhoe loader. ▪ All holes are drilled vertical. ▪ Drilling is stopped once intersection with unweathered basement intrusives is confirmed = +5m of fresh rock.
Drill sample recovery	▪ Core recoveries were measured after each drill run, comparing length of core recovered vs. drill depth. Overall Core recoveries are 92.5%, achieving 95% in the saprolite target horizon, 89% in the transitional rock (fresh fragments in clay), and 92.5% in fresh rock.
Logging	▪ The geology was described in a core facility by geologist - logging focused on the soil (humic) horizon, saprolite and fresh rock boundaries. Depth of geological boundaries are honoured and described with downhole depth – not meter by meter. ▪ Other important data parameters collected include: grainsize, texture and colour, which can help to identify the parent rock before weathering. ▪ All drilled holes have a digital photographic record. The log is stored in Microsoft Excel template with inbuilt validation tables and pick list to avoid data entry errors. ▪ All geological data are imported into a Microsoft Access database and validated.
Sub-sampling techniques and sample preparation	▪ Metallurgical samples consist of ¾ of the drill core, except for the CDMDD001 where the entire core was sampled due the drill core being NQ. ▪ The samples were generally composited into 3m composites, however on occasions the composites were reduced/extended based on geologic boundaries (clay zone v transition v fresh rock). Composites ranged from 2.0m – 4.6m. ▪ The top 2m of material was excluded from shipments to avoid problems importing organic material within the soils into Australia. Fresh rock was also excluded from the testwork as it is clearly not related to ionic clay mineralisation. ▪ The metallurgical samples were dried at 60 degrees Celsius and stage crushed to –1mm. A 25 kg sub sample from the 250 kg master composite was used in the bulk slurry leach at 35% solids, using 0.5M ammonium sulphate solution, ambient temperature and 30 minutes leaching time at pH 4.0. The % extractions are calculated using the head and the liqour assays.
Quality of assay data and laboratory tests	▪ A mixture of ANSTO and ALS methods were used for the solids. The liquors were measured by ALS Brisbane. ▪ The MREC product was measured by the three techniques detailed below but also by ANSTO acid digest. ▪ Bulk LeachHead and Leach solids by ALS ME-MS81and ANSTO XRF ▪ Liquors by ALS ME-MS02 for REEs (+Th, U, Sc) and ME-ICP02 for gangue

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- Bulk Impurity Removal Residue by XRF and lithium tetraborate fusion digest with ICPMS/ICPOES finish, both at ANSTO Liquors by ALS ME-ICP02 and ME-MS02
- Bulk MREC product – analysed at ALS by ME-MS81, ME-4ACD81 and ME-XRF30 and validated at ANSTO by acid digest with finish by ICPMS/ICPOES Liquors by ME-ICP02 and ME-MS02
- All samples were assayed by three ALS methods:
  - ME-MS81 – Lithium borate fusion digest with ICP-MS finish for Ba, Ce, Cr, Cs, Dy, Er, Eu, Ga, Gd, Hf, Ho, La, Lu, Nb, Nd, Pr, Rb, Sc, Sm, Sn, Sr, Ta, Tb, Th, Ti, Tm, U, V, W, Y, Yb, Zr
  - ME-4ACD81 – 4-Acid digestion with ICP-MS finish for Ag, Au, Cd, Co, Cu, Li, Mo, Ni, Pb, Sc, Tl, Zn
  - ME-XRF30 – X-Ray Fluorescence (XRF) for Al2O3, BaO, CaO, Cr2O3, Fe2O3, K2O, MgO, MnO, Na2O, P2O5, SiO2, SrO, TiO2, LOI (ME-GRA05).
- Laboratory inserted its own QA/QC controls, with standards, blanks and duplicates to assure the quality and standards of the lab.
- The QA/QC data includes a duplicate sample every 20 samples, and a blank and standard sample in each 30 samples.
- All liquor samples were sent to ALS in Brisbane for ICP-MS analysis (ME-MS02) for La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Th, U and for ICP-AES analysis (ME-ICP02) for Al, Ca, Fe, K, Mg, Mn, Na, S, Si and Zn.

Verification of sampling and assaying

- All data is in digital format and stored in a cloud server, also the company maintains a backup in a desktop computer to assure that the data could be restored if any problem occurs with the cloud or with the desktop server.
- Raw assays are received as Elemental data (ppm) from ALS laboratories. The Elemental data is converted to Element Oxide data using the following conversion factors:

Symbol	Conversion Factor	Oxide Species
La	1.1728	La_2O_3
Ce	1.2284	CeO_2
Pr	1.2082	Pr_6O_{11}
Nd	1.1664	Nd_2O_3
Sm	1.1596	Sm_2O_3
Eu	1.1579	Eu_2O_3
Gd	1.1526	Gd_2O_3
Tb	1.1762	Tb_4O_7
Dy	1.1477	Dy_2O_3
Ho	1.1455	Ho_2O_3
Er	1.1435	Er_2O_3
Tm	1.1421	Tm_2O_3
Yb	1.1387	Yb_2O_3
Lu	1.1372	Lu_2O_3
Y	1.2699	Y_2O_3
Sc	1.5338	Sc_2O_3

Location of data points

- All collars were surveyed in SIRGAS 2000, 23S spindle UTM grid system. The SIRGAS 2000 is a South American Datum which is very similar with the WGS 84.

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	▪ At present the survey of collars was made with a handheld GPS. Prior to inclusion in any resource estimation work the holes will be surveyed by a RTK GPS. ▪ The Topographic data was collected by Nortear Topografia e Projectos Ltda., planialtimetric topographic surveyors. The GPS South Galaxy G1 RTK GNSS was used, capable of carrying out data surveys and kinematic locations in real time (RTK-Real Time Kinematic), consisting of two GNSS receivers, a BASE and a ROVER. The horizontal accuracy, in RTK, is 8mm + 1ppm, and vertical 15mm + 1ppm. The coordinates were provided in the following formats: Sirgas 2000 datum, and UTM WGS 84 datum - georeferenced to spindle 23S. ▪ For the generation of planialtimetric maps (DEM), drones were used with control points in the field (mainly in a region with more dense vegetation), in addition to the auger drillholes.an employed company with drone imaging and RTK GPS on auger drill holes.
Data spacing and distribution	▪ Collar plan displayed in the body of the release. ▪ No new resources are reported.
Orientation of data in relation to geological structure	▪ The mineralisation is flat lying and occurs within the saprolite/clay zone of a deeply developed regolith (reflecting topography and weathering). Vertical sampling from the diamond holes is appropriate. ▪ Diamond drill core is acknowledged to deliver uncontaminated samples, as such no sampling bias is believed to be introduced.
Sample security	▪ Samples are removed from the field and transported back to a Core shed to be logged and sampled as reported before. ▪ Composited samples were given unique identifiers and placed in plastic bags, before being packed into plastic drums suitable for export via airfreight to ANSTO in Australia. ▪ Export drums were shipped via FedEx Airfreight. Samples were collected from Meteoric core shed in Pocos de Caldas and tracked online to their destination in Sydney, Australia (ANSTO).
Audits or reviews	▪ MEI conducted a review of assay results as part of its Due Diligence prior to acquiring the project. Approximately 5% of all stored coarse rejects from auger drilling were resampled and submitted to two (2) labs: SGS Geosol and ALS Laboratories. Results verified the existing assay results, returning values +/-10% of the original grades, well within margins of error for the grade of mineralisation reported (see ASX:MEI 13/03/23 for a more detailed discussion). ▪ No independent audit of sampling techniques and data has been completed.

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Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	▪ No change since previous report. ▪ Given the rich history of mining and current mining activity in the Poços de Caldas there appears to be no impediments to obtaining a License to operate in the area.
Exploration done by other parties	▪ Licenses under the TOGNI Agreement: significant previous exploration exists in the form of surface geochem across 30 granted mining concessions, plus: geologic mapping, topographic surveys, and powered auger (1,396 holes for 12,963 samples). ▪ MEI performed Due Diligence on historic exploration and are satisfied the data is accurate and correct (refer ASX Release 13 March 2023 for a discussion). ▪ Licenses under VAGINHA and RAJ Agreements: no previous exploration exists for REEs.
Geology	▪ The Alkaline Complex of Poços de Caldas represents in Brazil one of the most important geological terrain which hosts deposits of ETR, bauxite, clay, uranium, zirconium, rare earths and leucite. The different types of mineralization are products of a history of post-magmatic alteration and weathering, in the last stages of its evolution (Schorscher & Shea, 1992; Ulbrich et al., 2005), The REE mineralisation discussed in this release is of the Ionic Clay type as evidenced by development within the saprolite/clay zone of the weathering profile of the Alkaline syenite basement as well as enriched HREE composition.
Drill hole Information	▪ Reported in body of report and Appendix 1.
Data aggregation methods	▪ Mineralised Intercepts are reported with a minimum of 4m width, lower cut-off 1000ppm TREO, with a maximum of 2m internal dilution. ▪ High-Grade Intercepts reported as “including” are reported with a minimum of 2m width, lower cut-off 3000 ppm TREO, with a maximum of 1m internal dilution. ▪ Ultra High-Grade Intercepts reported as “with” are reported with a minimum of 2m width, lower cut-off 10,000 ppm TREO, with a maximum of 1m internal dilution.
Mineralisation widths and intercept lengths	▪ All holes are vertical and mineralisation is developed in a flat lying clay and transition zone within the regolith. As such, reported widths are considered to equal true widths.
Diagrams	▪ Reported in the body of the text.

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Balanced reporting	▪ All metallurgical recoveries for all samples are published in table 1 in body of report. ▪ Highlights of the Mineralised Intercepts are reported in the body of the text with available results from every drill hole drilled in the period reported in the Mineralised Intercept table for balanced reporting.
Other substantive exploration data	▪ A maiden Inferred resource was published to the ASX on 1 May 2023 estimated from 1,379 drill holes for 13,309m to a maximum depth of 20m. Previous initial leach extraction results released 27 September 2023.
Further work	▪ Proposed work is discussed in the body of the text.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	• All data was imported into Micromine Software. The database was validated using specific processes to verify the existence of the errors listed below: ○ The drill hole's name is present in the collar file but is missing from the analytical database; ○ The drill hole's name is present in the analytical database, but is absent in the collar file; ○ The drill hole's name appears repeated in the analytical database and in the collar file; ○ The drill hole's name does not appear in the collar file and in the analytical database; ○ One or more coordinate notes are absent from the collar file; ○ FROM or TO are not present in the analytical database; ○ FROM > TO in the analytical database; ○ Sampling intervals are not continuous in the analytical database (there are gaps between the logs); ○ Sampling intervals overlap in the analytical database; ○ The first sample does not correspond to 0 m in the analytical database; ○ The hole total depth is shallower than the depth of the last sample. • Random checks of the original data as received from SGS-Geosol and ALS laboratories was compared with the provided database and no errors were found.
Site visits	• A site visit was carried out by Volodymyr Myadzel from BNA Mining Solutions on 19-20 February 2024 to: inspect drilling and sampling procedures, verify survey methods, inspect the storage shed, verification of geological records, review of QAQC procedures and review of geologic model.
Geological interpretation	• The resource estimation is based on historical Auger data an additional 3,133m of infill Diamond and Aircore drilling. Confidence in the geological interpretation of the rare earth mineralization in clay and saprolite is very high as drilling activities used a regular and relatively close-spaced drill spacing. • Where there is no information from Diamond or Aircore drill holes (which drill to transition/fresh rock), and mineralisation was present at the end of Auger drill holes (in areas of known deep weathering), the mineralisation was assumed to extend 2m below the hole. This is prevalent in the APA area. • Factors affecting rare earth mineralisation in saprolite rocks include the degree of weathering of primary rocks and variations in mineralization. These were detailed in Diamond, Aircore, and Auger drilling from surface and into the fresh rock.
Dimensions	• The Mineral Resource is spread across 2,600m x 3,800m in NE-SW direction. • The top of the rare earth element mineralization is the topographic surface.
Estimation and modelling techniques	• The results are based on a block model interpolated by Ordinary Kriging (OK) method, using Micromine software. Ordinary Kriging was selected as the method for grade interpolation as the sample data has a log-normal distribution represented by a single generation. • All analyzed elements were interpolated to the empty block model using Ordinary Kriging (OK) and IDW3 (Inverse Distance Weighting with inverse power 3) methods. The IDW3 method was used for control and comparison. • The grade estimation was performed in four consecutive passes (rounds) using different sizes of search radius, criteria of number of composite samples, and number of holes.

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Criteria	Commentary

Search Ellipse parameters by Pass.

Pass	Search Ellipse (size factor)	Min. No. Composites	Max. No. Composites	Min. No. Drill Holes
01	0.667	4	3	2
02	1	2	3	2
03	2	2	3	1
04	100	1	3	1

- Column 'Min No. Composites' is the minimum number of composites required for each of the estimation passes. Column 'Max No. Composites' is the maximum number of samples allowed for each of the four sectors of the ellipsoid used for the elements' estimation process.
- The Block Model created in the process of discretization of the wireframes using the sub-blocking process. Initially, the model was filled with blocks measuring 25 (X) by 25 (Y) by 5 (Z) meters, which were divided into subunits of smaller size, with a factor for size subdivision of 10 by 10 by 5 in contact with the surrounding three-dimensional wireframes.
- The radii and the orientation of search ellipse were determined using standard variograms. The limitations presented by each sector of a search ellipse were: the maximum number of points in the sector and the minimum total number of points in the interpolation that varies depending on the size of the ellipse, from 3 to 1. Thus, the maximum total number of samples involved in the interpolation was 12 samples.

Radii of Search Ellipsoid by element.

Element	Soberbo		
	X	Y	Z
La (ppm)	130	90	15
Ce (ppm)	130	90	15
Pr (ppm)	130	90	15
Nd (ppm)	130	90	15
Sm (ppm)	130	90	15
Eu (ppm)	130	90	15
Gd (ppm)	130	90	15
Tb (ppm)	130	90	15
Dy (ppm)	130	90	15
Ho (ppm)	130	90	15
Er (ppm)	130	90	15
Tm (ppm)	130	90	15
Yb (ppm)	130	90	15
Lu (ppm)	130	90	15
Y (ppm)	130	90	15
Th (ppm)	125	85	10
U (ppm)	125	85	10

Orientation of Azimuth of the search ellipsoid for every element (Dip = 0, Plunge = 0 for all elements in all Deposits).

Element (ppm)	Soberbo
La	42
Ce	42
Pr	42
Nd	42
Sm	42
Eu	42
Gd	42
Tb	42
Dy	42
Ho	42
Er	42
Tm	42
Yb	42
Lu	42
Y	42
Th	144
U	144

- The block model was validated in several ways: by running and Inverse Distance Weighted interpolation and comparing the results, and by comparing the means and standard deviations of the block grades to the composite data set.

Moisture	• All estimations are reported as a dry tonnage.
Cut-off parameters	• Cut-off grades for TREO were used to prepare the reported resource estimates. The selection of the cut-off was based on the experience of the Competent Person, plus a peer review of publicly available information from more advanced projects with comparable mineralisation styles (i.e clay and transition zone hosted rare earth mineralisation) and comparable conceptual processing methods.

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Criteria	Commentary
	• The chosen cut-off grade of 1,000 ppm TREO is consistent with this.
Mining factors or assumptions	• No specific mining method is assumed other than potentially the use of open pit mining methods.
Metallurgical factors or assumptions	• Auger historic metallurgy data has been completed and reported to ASX:MEI 20/12/2023. • Head grade of the composite sample for testwork collected from 44 holes, over 140 samples (200 kg) was 4,917ppm TREO including 25.5% Magnet REE. • Initial metallurgical testwork showed excellent recoveries by desorption of Rare Earth Elements (REE) by using ammonium sulphate solution [(NH4)2SO4)] in weakly acidic conditions [pH 4] • Average recovery of the low temperature magnet REE Pr + Nd was 58% • Average recovery of high temperature magnet REE, Tb +Dy was 43%. • The results show that excellent REE desorption was achieved using a standard ammonium sulphate solution at pH 4 and crucially confirms that the high-grade Caldeira Project is an Ionic (Adsorption) Clay REE deposit.
Environmental factors or assumptions	There are two Environmental areas within the municipality of Caldas which encroach upon the current resources at Soberbo and Capão do Mel deposits, being:- (i) Environmental Protection Area ("APA") Ecological Sanctuary of Serra da Pedra Branca (established by Municipal Law of Caldas/MG nº 1.973/2006) and (ii) a three (3) kilometre strip surrounding the APA ("Buffer Zone"). Part of the Soberbo resource is within the APA whilst the remaining (larger) part of Soberbo resource and the entire Capão do Mel resource are within the Buffer Zone. Article 51 of Law of Caldas/MG nº 1.973/2006 stipulates that mining activity is currently not permitted within the APA (other than for existing activity with operating licenses). Importantly, for Meteoric's current program no infill drilling has been performed inside the APA, nor are there current plans to conduct any exploration activities inside the APA. Additionally, the 'Base Case' development scenario contemplated in MEI's current Scoping Study and Preliminary Environmental Permit (LP) application do not propose any activity inside the APA area. Mining activity within the Buffer Zone is permitted and may be undertaken upon completion of an Environmental Impact Assessment, a proposal of measures necessary to mitigate any possible impact on ecosystems and seeking authorization from the municipality of Caldas and the APA Management Council. Meteoric has conducted extensive research and consultation from mid-2023 with the object of seeking and obtaining permission to conduct activities in the Buffer Zone and is confident of obtaining favourable consideration from the relevant authorities. That confidence is based upon: Environmental Impact Statement (EIS) and relevant flora and fauna and ethnographic studies completed over the area, ongoing dialogue and consultation with multiple stakeholders including favourable feedback from a Social Diagno is and Stakeholder Survey of the Caldeira REE Project conducted by EcoDue Ambiental in December 2023, and specifically by reason of the terms of a written Protocol of Intent entered into between the Government of Minas Gerais and Meteoric Brazil [See ASX Announcement "Cooperation Agreement Signed with Government of Minas Gerais and Invest Minas" - 11 August 2023]. As such we consider there are reasonable prospects for eventual economic extraction to justify the Mineral Classifications of Indicated (within the Buffer Zone) and Inferred (within the APA).
Bulk density	• Diamond drill samples were selected to get the specific gravity, these samples were not cut in the middle as a normal sample. The sample was sent to ALS lab and was submitted to an industrial specific gravity method (OA-GRA09a, bulk density paraphing coating).
Classification	• The Mineral Resources for the project have been classified as Measured, Indicated and Inferred. • The Competent Person is satisfied that the classification is appropriate based on: current drill hole spacing, geological continuity, variography, and bulk density data available for the project.
Audits or reviews	• As yet there have been no third-party audits or reviews of the mineral resource estimates.
Discussion of relative accuracy/ confidence	• The block model with interpolated grades was subject to visual and statistical verification. Histograms and probability graphs of the interpolated grades were built. Then, the interpolated grades of the block model were compared with the same histograms and probability graphs of the composite samples. The histograms and graphs of the interpolated grades and composite samples were similar, and the block model histograms were smoother than the composite histograms. The comparisons confirmed the validity and consistency of the built block model.

Criteria	Commentary
	• The mineral resource is a global resource estimate and locally resource estimates may vary in a negative or positive manner.

Section 4 Estimation and Reporting of Ore Reserves

NO RESERVE UPDATE

Criteria	Explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	▪ *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • ▪ *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	▪ The Mineral Resource estimates on which the scoping study is based was separately announced on 1 May 2023, 14 May & 13 June 2024. ▪ No Ore Reserve declared as part of this study.
Site Visits	▪ *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* ▪ *If no site visits have been undertaken indicate why this is the case.*	▪ Site visit information for Mineral Resource estimate is discussed in Mineral Resource estimate announcements on 14 May & 13 June 2024. ▪ Ausenco Study manager Nick Bennett visited site in April 2024.
Study Status	▪ *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* ▪ *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	▪ Meteoric has engages Ausenco to undertake a Scoping Study to a JORC standard for its Caldeira Rare Earth Project on Brazil. While resources used are to a JORC standard the study and is NOT the declaration of an Ore Reserve. ▪ No Ore Reserve has been declared. This study is to Scoping level only.
Cut-Off Parameters	▪ *The basis of the cut-off grade(s) or quality parameters applied.*	▪ Cut-off grades for TREO were used to prepare the reported resource estimates. The selection of the cut-off grade was based on the experience of the Competent Person, plus a peer review of publicly available information from more advanced projects with comparable mineralisation styles (i.e clay and transition zone hosted rare earth mineralisation) and comparable conceptual processing methods. The chosen cut-off grade of 1,000 ppm TREO is consistent with this.
Mining Factors or assumptions	▪ *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*	▪ Surface mining utilising a conventional truck and shot mining method has been selected as the appropriate method for This style of mineralisation. The pits are shallow in nature and freely diggable. No geotechnical data was available at the time of the study so assumptions were made by managements past experience

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	▪ *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* ▪ *The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc), grade control and pre-production drilling.* ▪ *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* ▪ *The mining dilution factors used.* ▪ *The mining recovery factors used.* ▪ *Any minimum mining widths used.* ▪ *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* ▪ *The infrastructure requirements of the selected mining methods.*	mining similar shallow lateritic style deposits. Cost for mining and processing have been developed by Ausenco and BNA from their own cost database and vendor enquiries. Recoveries are based on metallurgical test work results from ANSTO. ▪ Mine studies were undertaken in Micromine by BNA for optimisation, pit designs and scheduling tasks. Blocks models for this work were as supplied by BNA. The following mine design parameters were used in the pit design: -Height between catch benches 10 m -Bench Face Angle 35° -Berm Width 3m -Total Road Allowance 10m -Maximum Ramp Grade 10% -Minimum Operating Width 30m ▪ Mining models developed from Soberbo Resource model (ASX announcement 14th May 2024) and Capão do Mel Resource model (ASX announcement 13th June 2024) **Optimisation Parameters** **Parameters** **Value** **Unit** Throughput 3M Yr1 5M Yr2 on Process Cost $7.65 USD/t ROM G&A $1.74 USD/t ROM Mining Cost - Ore $1.96 USD/t Mining Cost - Waste $1.96 USD/t Mining Dilution 0.0 % Mining Recovery 95.0 % Pit Slopes 35 Deg. Minimum Berm Width 3 m Ramp Width 10 m Ramp Slope 10 % Discount Rate 8.0 % by yr. ▪ Mining dilution is 0% due to the bulk nature of the mineralisation. No discrete stockpiling or segregation of internal low grade or waste is envisaged. ▪ Mining recovery is 95% to account for ROM losses and spillage. ▪ No minimum mining width assumed in this study. ▪ Contained Inferred within schedule has been included. Inferred proportion of ore feed to plant is presently 21% of the total ore feed over LOM and predominantly to the rear of the mining schedule. ▪ No specific infrastructure aside from standard surface mining

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		support facilities are required for the proposed mining method aside from workshops, fuel and lubricant storage, offices and ablutions.
Metallurgical factors or assumptions	▪ *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* ▪ *Whether the metallurgical process is well-tested technology or novel in nature.* ▪ *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* ▪ *Any assumptions or allowances made for deleterious elements.* ▪ *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* ▪ *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?.*	▪ Mined ore will be processed onsite to produce a Mixed Rare Earth Carbonate (MREC) for transport offsite to customers for further processing through a rare earth separation plant. ▪ The process plant is designed for a throughput rate of 5Mtpa apart from the initial year where the plant will commence commissioning and ramp up over a 12-month period. ▪ The process plant will use mature equipment used to treat clay deposits, however the way the equipment will be configured will be novel. The unit processes are: - Sizing and screening - Trommelling - Counter current decantation - classification - Pressure filtration - Centrifugation - Thickening - Impurity removal - MREC filtration and drying - Water recovery and reutilisation using membrane technology ▪ The process flowsheet development testwork was undertaken by qualified personnel from ANSTO, SGS Geosol and Metchem consulting. ▪ Bench top metallurgical testing used diamond drill core to characterise the tenements in the resource. 323 Diagnostic Leach tests on 41 diamond drill holes have been completed to date on metallurgical composites (average 3m composites) down hole across all six deposits in the resource. The metallurgical variability of each of the deposits have been thoroughly tested both laterally, at depth and across different lithologies. The results have been reported in previous announcements on the 26th of September and the 8th of December 2024. ▪ A representative master composite from Capão de Mel was compiled from ten diamond drill holes that best reflects the average ore

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<td>grades and chemistry over the first six years of mining. This sample underwent extensive leaching, impurity removal and MREC precipitation optimisation work at ANSTO, as previously reported in ASX announcements on the 26 June 2023, 26 September 2023, 8 December 2023 and 29 February 2024.

▪ No pilot plant trials have been conducted to date. Pilot plant trials are planned from August to October of 2024 at ANSTO.

▪ Deleterious elements in the final product MREC are shown below and was reported to the ASX on 29 February 2024. Current impurity limits are acceptable to Off takers and pose no risk or special requirements for transport as general cargo.

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

▪ No Ore Reserve has been declared.</td>
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<td>Environmental</td>
<td>▪ The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</td>
<td>▪ Waste characterisation has been undertaken via a standard Brazilian test NBR 10004. Further tests will be undertaken in the ANSTO piloting phase and incorporated into further studies.</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>▪ The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</td>
<td>▪ The Caldeira is a brownfields mining area with bauxite operations (Alcoa, CBA) being present for around 70 years.
- A skilled technical and blue collar workforce resides locally.
- Mining and processing services industries are locally based.
- 100% renewable sourced grid power connection with 3km.
- Bitumen road access within 3km.</td>
</tr>
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		- 2 significant water sources available within 8km of project site.
Costs	▪ *The derivation of, or assumptions made, regarding projected capital costs in the study.* ▪ *The methodology used to estimate operating costs.* ▪ *Allowances made for the content of deleterious elements.* ▪ *The source of exchange rates used in the study.* ▪ *Derivation of transportation charges.* ▪ *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* ▪ *The allowances made for royalties payable, both Government and private*	▪ All costs have been developed by Ausenco and BNA database and supplier quotes. ▪ Deleterious elements are described above in the *Metallurgical factors or assumptions* section. ▪ All costs in USD and no exchange rates utilised. ▪ All Transport charges have been developed by Antrack. A transport consultancy working under the Ausenco Study. ▪ A non binding MOU exist with Neo Performance Materials for 25% of current planned MREC output. Umpire analysis both of MREC leaving site and again when received by Neo will be undertaken to asses REO ratios and impurities as outlined in the binding Offtake agreement when finalised. Discounts for failure to met offtake specifications will be outline in the Binding termsheet. ▪ Royalties: - 4.75% royalty payable to Togni group based on basket value. - 2% CFEM royalty payable to State Gov based on invoiced sales. - 1% Landowner royalty where applicable. Assumption is that 50% of land holdings will be owned and exempt.
Revenue Factors	▪ *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* ▪ *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products*	▪ An industry Standard payability of 70% for an MREC has been adopted for this study. ▪ Commodity pricing adopted for the study is shown below: -Adamus is taken from recent market forecast Q1 2024 and discounted by 40%. -Spot Pricing was taken from Asian Metal reference spot price for the 30th June 2024.

Metal Prices	Adamas 20 Year Average	SPOT 30 Jun 2024
Yttrium	7.03	5.91
Lanthanum	0.87	0.55
Cerium	0.90	1.00
Praseodymium	110.86	51.03
Neodymium	116.61	51.03
Samarium	2.59	2.06
Europium	23.88	26.82
Gadolinium	60.64	22.69

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		Terbium 1,103.68 739.28 Dysprosium 347.07 252.39 Holmium 139.93 67.39 Erbium 34.46 42.64 Thulium 0.01 0.01 Ytterbium 13.14 13.75 Lutetium 636.86 763.35
Market Assessment	▪ *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • ▪ *A customer and competitor analysis along with the identification of likely market windows for the product.* • ▪ *Price and volume forecasts and the basis for these forecasts.* • ▪ *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	▪ Long term Rare earth price assumptions used in the study are based on Q1 2024 Adamus price forecasting and then factored down by 40% to assume a more conservative price range that is more acceptable to Meteoric's assumptions on forward markets. ▪ Long term Adamus Forecast -40% is shown above as an average with pricing varied on a year-by-year case. ▪ Spot pricing assume spot price above and held static for the LOM.
Economic	▪ *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • ▪ *NPV ranges and sensitivity to variations in the significant assumptions and inputs*.	▪ This study assumes 100% project ownership. ▪ The Financial model assumes yearly price variations as shown in the Adamus forecast Q1 2024. Costs are as described above and are appropriate for the level of this study. NPVs are displayed in the study as both Pre and Post tax values. ▪ Sensitivities to major inputs are shown in the study document.
Social	▪ *The status of agreements with key stakeholders and matters leading to social licence to operate*	▪ A social acceptance survey was undertaken by Meteoric as part of the EIS submission programme. A project acceptance level of 89% was identified.
Other (Inc Legal and Government	▪ *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* ▪ *Any identified material naturally occurring risks.* ▪ *The status of material legal agreements and marketing arrangements.* ▪ *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	▪ No ore reserve declared. ▪ No material naturally occurring risks have been identified at this level of study.
Classification	▪ *The basis for the classification of the Ore Reserves into varying confidence categories.* ▪ *Whether the result appropriately reflects the Competent Person's view of the deposit.*	▪ No ore reserve declared. ▪ No ore reserve declared.

	▪ *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	▪ No ore reserve declared.
Audits or reviews	▪ *The results of any audits or reviews of Ore Reserve estimates.*	▪ No ore reserve declared.
Discussions of relative accuracy/confidence	▪ *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. •* ▪ *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. •* ▪ *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* ▪ *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available*	▪ No ore reserve declared. ▪ No ore reserve declared. ▪ No ore reserve declared. ▪ No ore reserve declared.

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