First Caldeira Mixed Rare Earth Carbonate

Meteoric Resources NL (**ASX: MEI**) (**Meteoric** or the **Company**) is pleased to advise that it has produced its first batch of Mixed Rare Earth Carbonate (**MREC**) from its recently constructed Pilot Plant for the Caldeira Rare Earth Project (**Caldeira Project** or **Project**) in Minas Gerais, Brazil.

Highlights

- First MREC production from Meteoric's recently completed Pilot Plant located in Poços de Caldas
- Caldeira Pilot Plant now treating clay ore from Capão Do Mel
- Unit Processes individually tested and successfully commissioned
- Water treatment circuit recovering 100% of process water for recycling
- Material handling successfully proven throughout entirety of the circuit
- Spent clay filtration has delivered material suitable for transportation and backfilling
- Process water and Ammonium Sulfate (**AMSUL**) recovery and recycling successfully achieved

Managing Director, Stuart Gale, said: *"It's great to deliver our first batch of MREC from the Caldeira Project. The team have done an excellent job in the development of the Pilot Plant – from acquisition of key equipment, recruitment of operators, construction and commissioning. This now places Meteoric in a small group of global companies with the ability to independently and consistently produce MREC product.*

The Pilot Plant design was based on extensive test work conducted at ANSTO, including four continuous pilot runs of five days each. This foundation allows the Pilot Plant to expand upon the results achieved at ANSTO and simultaneously facilitate the training of plant operators. The Pilot Plant enables ongoing refinement of key Project parameters and process optimisation, strengthening our understanding of the Caldeira Project. Combined with our expanding geological intellectual property, this Pilot Plant establishes a strong foundation for enhancing long-term Project value.

Once fully optimised, MREC product from the Pilot Plant will be provided to our existing and potential future offtake partners and used to assess further downstream processing options to separate rare earth elements."

Process Commissioning

Process commissioning began with the introduction of low-grade clay ore into the pilot plant together with the sequential introduction of reagents. This occurred over a two-week period, focussing on key input and output streams around the scrubbing and spent clay filtration before moving onto the other unit processes.

The following unit processes have successfully undergone commissioning over the last two weeks using material from low grade drill samples:

- Ore preparation for inclusion into the circuit, including scrubbing and screening of the clays
- Leaching with AMSUL
- Counter Current Decantation to separate the Rare Earth Element (**REE**) enriched leach liquor from spent clay solids
- Filtration of the spent clay solids to produce a dry stackable cake
- MREC precipitation and dewatering
- Water treatment circuit recovering 100% of process water for recycling into a clean water stream for spent

clay washing and an AMSUL rich brine for reuse in clay leaching

- Reagent mixing, handling and distribution

The Pilot Plant further validates and optimises the flowsheet and tests different ore types from the Caldeira Project. Data generated from the pilot campaigns will be incorporated into the Caldeira Project Definitive Feasibility Study (**DFS**) currently being undertaken by Ausenco.

With all unit processes now successfully commissioned on low grade ore, the Pilot Plant will begin to transition to typical ore grades of around 4,000 ppm TREO. Optimisation of unit processes will continue in the coming weeks including reagent dosing, product purity and rare earth recoveries.

The Pilot Plant also provides an opportunity to pilot the separation of rare earths by solvent extraction and other technologies such as Flash Joule Heating (**FJH**). During the commissioning and early operation several opportunities have already been realised which will be reflected in the Definitive Feasibility Study which is currently in progress.

Figure 1: *First batch of MREC produced from the Caldeira Project Pilot Plant in Poços de Caldas*

In May 2025 an operational readiness plan was implemented outlining all the resources, systems, chemicals and equipment required for safe and efficient construction and operation of the Pilot Plant. Recruiting staff for plant operations also commenced in this period.

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

For further information, please contact:

Stuart Gale
Managing Director
Meteoric Resources NL
E sgale@meteoric.com.au
T +61 8 6166 9112

Michael Vaughan
Investor and Media Relations
Fivemark
E michael.vaughan@fivemark.com.au
T +61 422 602 720

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