

Exceptional Rare Earth Recoveries Confirmed from ANSTO Continuous Piloting

Meteoric Resources NL (**ASX: MEI**) (**Meteoric** or the **Company**) is pleased to provide an update from the continuous piloting test work programs undertaken by the Australian Nuclear Science and Technology Organisation (**ANSTO**) on its 100%-owned Caldeira Rare Earth Ionic Clay Project (**Caldeira Project** or the **Project**) in the state of Minas Gerais, Brazil.

Highlights

- **Four separate, five-day** campaigns at ANSTO totalling 480 hours confirmed excellent metallurgical rare earth recoveries, materials handling and water management of the Caldeira Project ionic clays
- **Magnet rare earth recoveries of 70%** consistently achieved
- **High quality Mixed Rare Earth Carbonate (MREC)** produced, with total recoveries of 60% Total Rare Earth Oxide (TREO) and less than 2% impurities
- **Test conducted using a 2.5 tonne master composite** from 154 drill holes at Capão Do Mel (CDM) deposit with an average head grade of 4,877ppm TREO
- **Bulk samples of MREC produced** for offtake evaluation by potential customers and strategic partners
- **Spent clay handling successfully demonstrated** to enable scale-up of commercial equipment and ensuring non-hazardous spent clays can be returned to the pit
- **De-risks flowsheet** using low cost, environmentally friendly Ammonium Sulfate (AMSUL) wash
- **Brazilian pilot plant** has commenced construction with commissioning in October utilises ANSTO test work and results
- **Rare earth oxide separation** to be piloted in Brazil including through the Metallium Limited (ASX: MTM) and Ucore Rare Metals Inc (TSXV: UCU) Technology Collaboration Agreement

Meteoric has engaged Australia's leading laboratory, ANSTO, to undertake multiple test programs to support and optimise the development of its Caldeira Rare Earth Element (**REE**) Project. This has culminated in completion of Meteoric's fourth continuous piloting program which has successfully validated the flowsheet and provided further confidence around key processing parameters including MREC quality and recoveries, together with waste handling properties.

Managing Director, Stuart Gale, said *"Our Metallurgy team, in collaboration with ANSTO, have continued to deliver excellent results in these important test programs to further de-risk the Caldeira Project's development.*

Seeing the individual components of the process flowsheet run successfully together for an extended period to produce a high quality, saleable MREC product provides greater confidence in the design of the Brazilian pilot plant and ultimately the Project facility. Importantly, spent clay material handling has also been proven to be competent, which will allow for the efficient and sustainable backfilling of pits.

The availability of MREC for qualification testwork by our current partners and other potential offtake partners allows us to continue to progress towards binding term sheets. We are also excited to see both our partners, MTM and Ucore, enter into a Technology Collaboration Agreement which will be supported by our Pilot and in the longer term the Caldeira Project."

ANSTO Pilot Plant Trials

Test work was conducted using mineralised clays from a 2.5 tonne master composite from the CDM deposit. It included material from 154 drill holes with an average head assay of 4,877ppm TREO. This master composite is representative of the first six years (~30Mt) of ore feed for the proposed high-grade mining strategy for the CDM Starter pits.

The bulk sample underwent 480 hours of continuous piloting at ANSTO across four separate, five-day campaigns (24-hours per day). This final test work program successfully integrated all the individual process parameters that have been tested by ANSTO over the past 12 months.

The process flowsheet, shown below in Figure 1, is designed to replicate the proposed commercial plant in terms of unit operations, reagent consumptions, material handling properties and recoveries.

The pilot campaign used an AMSUL lixiviant at pH 4.5 – 5.0, ambient temperature and pressure, generating a high quality MREC with magnet rare earth oxides (Nd, Pr, Dy, Tb) recoveries of 70% consistently achieved.

The homepage of the Meteoric website features a time-lapse video of ANSTO Pilot Campaign 3.

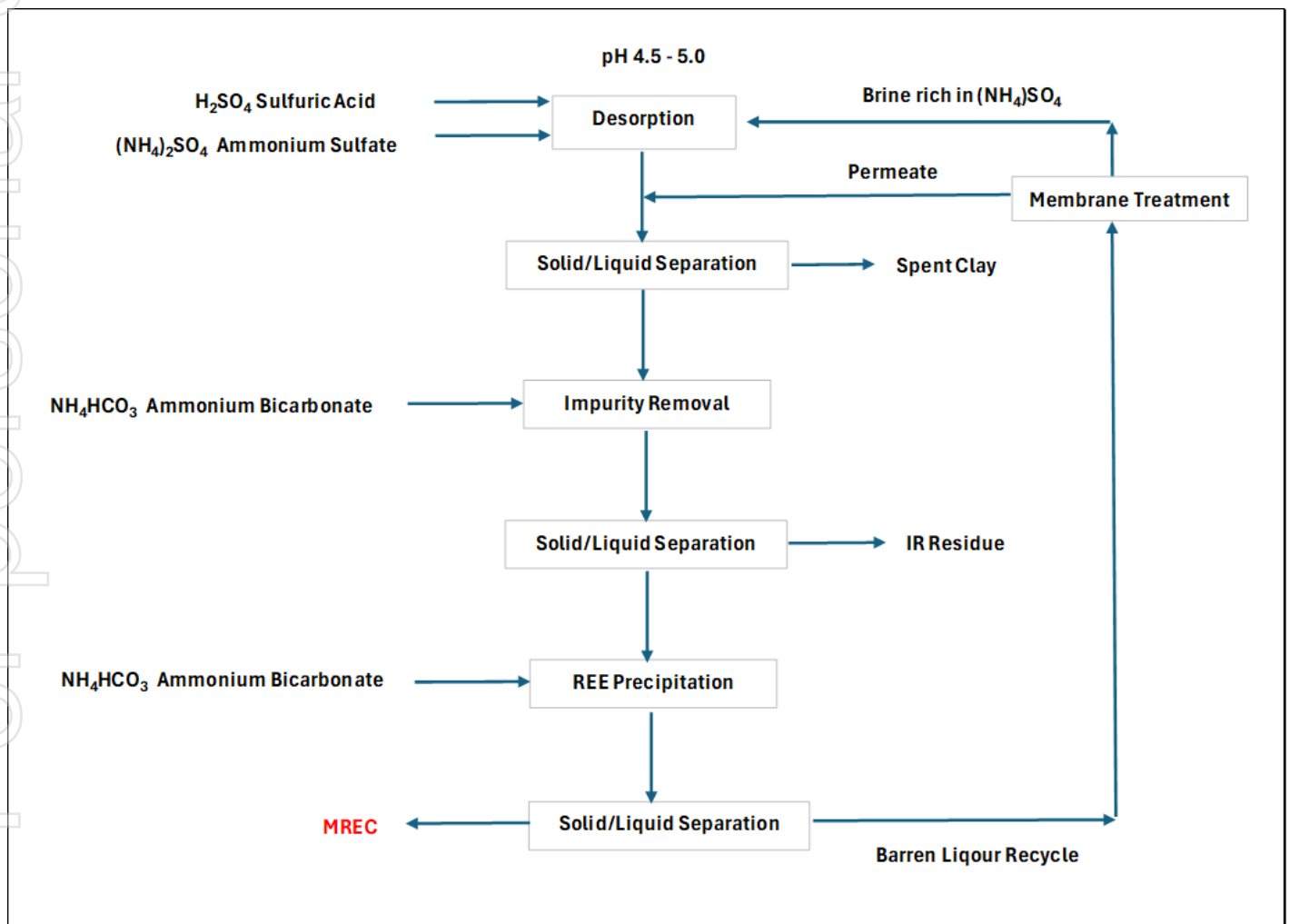


Figure 1: Process Flowsheet piloted at ANSTO to produce MREC

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During the four campaigns the following objectives were achieved or exceeded:

- The flowsheet developed during pre-pilot bench-scale testing has now been successfully validated at a larger, continuous scale, with all previously tested stages operated together as an integrated process.
- Separation of solids and liquids was successfully demonstrated across various technologies, with multiple equipment suppliers involved in characterising process streams to enable scale-up of commercial equipment.
- The material handling properties of the ore and spent clay were assessed, enabling integration into the Definitive Feasibility Study (DFS) engineering design process.
- The MREC produced during the pre-pilot test work was of exceptionally high quality, containing less than 2% impurities.



Figure 2: Counter Current Decantation (CCD) Wash circuit

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Materials Handling

During the continuous piloting campaign the spent clay material was dewatered using a number of dewatering technologies including pressure filtration, centrifugation, vacuum filtration and other technologies. Figure 4 below shows filter cakes produced were discharged from the plate pack without issue. Other dewatering equipment options are also being evaluated to make a direct comparison of dewatering performance to determine the optimal operating and capital economics.



Figure 3: MREC final product thickener



Figure 4: Competent spent clay filter cake product

Next Steps

- **Brazilian Pilot Facility** – Environmental approvals have been received and construction of the pilot facility in Brazil is underway. The facility will produce approximately 2 kilograms of MREC per day to validate and optimise the entire process flowsheet.
- **Engineering** – The data generated from the pilot campaigns will be incorporated into the DFS currently being undertaken by Ausenco. This will allow:
 - Further definition on equipment selection and sizing and the mechanical equipment list to better define CAPEX and reduce contingency; and
 - Further refinement of OPEX with respect to power consumption and reagents.
- **Offtakes** – The provision of bulk MREC samples to current and prospective offtake partners for ongoing product qualification.
- **Separation testwork** – The pilot facility in Brazil also provides an opportunity to pilot the separation of rare earths by solvent extraction (SX) and other technologies such as Flash Joule Heating (FJH).

This announcement as been authorised for release by the Board. For further information, please contact:

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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.

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

The information in this announcement that relates to the metallurgical results were compiled by Tony Hadley who is an employee of Meteoric resources and is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr. Hadley has sufficient experience that is relevant to the metallurgical testwork which was undertaken to qualify as a Competent Person as defined in the 2012 JORC Code. Mr. Hadley consents to the inclusion in this announcement of the matters based on the information in the form and context in which it appears.

APPENDIX 1 - JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	<ul style="list-style-type: none"> The pilot plant master composite was sampled using an Aircore drill machine. Two (2) metre composite samples are collected from the cyclone of the rig in plastic buckets. The material from the plastic buckets is passed through a single tier, riffle splitter which generates a 50/50 split. One half is bagged and numbered for submission to the laboratory, and the other half bagged and given the same number, then stored as a duplicate at the core facility in Pocos de Caldas.
Drilling techniques	<ul style="list-style-type: none"> Drilling was completed using a HANJIN 8D Multipurpose Track Mounted Drill Rig, configured to drill 3-inch Aircore holes. The rig is supported by an Atlas Copco XRHS800 compressor which supplies sufficient air to keep the sample dry down to the current deepest depth of 73m. All holes are drilled vertical. Most drill sites require minimal to no site preparation. On particularly steep sites, the area is levelled with a backhoe loader. Drilling is stopped at 'blade refusal' when the rotating bit is unable to cut the ground any further. This generally occurs in the transition zones (below clay zone and above fresh rock). On occasions a face sampling hammer is used once 'blade refusal' is reached to penetrate through the remaining transition zone and into the fresh rock.
Drill sample recovery	<ul style="list-style-type: none"> Every 2m composite sample is collected in plastic buckets and weighed. Each sample averages approximately 12kg. This is considered acceptable given the hole diameter and specific density of the material.
Logging	<ul style="list-style-type: none"> The material is logged at the drill rig by a geologist. Logging focused on soil (humic) horizon, saprolite/clay zones and transition boundaries. Other parameters recorded includes: grainsize, texture and colour, which can help to identify the parent rock before weathering. Logging is done on 2m intervals due to the nature of the drilling with 2m composite samples collected in a bucket and presented for sampling and logging. The chip trays of all drilled holes have a digital photographic record and are retained at a Core facility in Pocos de Caldas.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> Metallurgical samples consist of 2m composite samples. The samples were generally composited into 2m composites, however on occasions the composites were reduced based on geologic boundaries (clay zone v transition v fresh rock). Composites ranged from 1.0m – 2.0m. 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 air dried and then wet screened at 1mm. All of the +1mm material was set aside and not used in the pilot campaign. The weight and TREO distribution in the +1mm and -1mm fractions were recorded. All of the -1mm material was filtered through a plate and frame filter press and the resultant filter cakes were then homogenised to make the bulk pilot plant master composite. The MREC samples were dried at 60 degrees C and rolled prior to assay submission.
Quality of assay data and laboratory tests	<p><u>Pilot Plant Samples</u></p> <ul style="list-style-type: none"> An internal standard solution was added to each sample. The instrument was calibrated using standard solutions and verified using multiple QA/QC multielement reference materials prior to running samples, which included continuous calibration verification (CCV) samples (blank, 10 ppb - 100 ppb) throughout the run. Verified QA/QC reference materials and CCV results must have met an accuracy of a minimum of $\pm 15\%$ of the verified value before reporting of a result.

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	<ul style="list-style-type: none"> Head and Leach Residue (REE extractions) were determined by a mixture of ALS ME-MS81 and ANSTO XRF 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 All liquor samples were assayed at ANSTO using ICP-MS analysis for La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Th, U and Sc and ICP-OES analysis for the gangue elements Other solids were analysed by ANSTO XRF and Digest Methods followed by ICP-OES and MS analysis as above. <p><u>MREC Samples</u></p> <ul style="list-style-type: none"> The concentrations of the rare earth elements (REE) and impurity elements were determined using fusion digestion (Li tetra:metaborate 12:22; Pt crucible) followed by inductively coupled plasma mass spectrometry (ICPMS) or ICP optical emission spectrometry (ICPOES), as appropriate, according to ANSTO controlled document G-5913 Analytical Methods Manual. Loss on ignition was determined on the sample by, firstly, drying overnight at 60°C followed by slow heating to 1000°C with a hold time at temperature of two hours. 																																																			
Verification of sampling and assaying	<ul style="list-style-type: none"> 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: <table border="1" data-bbox="694 1115 1209 1859"> <thead> <tr> <th>Symbol</th> <th>Conversion Factor</th> <th>Oxide Species</th> </tr> </thead> <tbody> <tr><td>La</td><td>1.1728</td><td>La₂O₃</td></tr> <tr><td>Ce</td><td>1.2284</td><td>CeO₂</td></tr> <tr><td>Pr</td><td>1.2082</td><td>Pr₆O₁₁</td></tr> <tr><td>Nd</td><td>1.1664</td><td>Nd₂O₃</td></tr> <tr><td>Sm</td><td>1.1596</td><td>Sm₂O₃</td></tr> <tr><td>Eu</td><td>1.1579</td><td>Eu₂O₃</td></tr> <tr><td>Gd</td><td>1.1526</td><td>Gd₂O₃</td></tr> <tr><td>Tb</td><td>1.1762</td><td>Tb₄O₇</td></tr> <tr><td>Dy</td><td>1.1477</td><td>Dy₂O₃</td></tr> <tr><td>Ho</td><td>1.1455</td><td>Ho₂O₃</td></tr> <tr><td>Er</td><td>1.1435</td><td>Er₂O₃</td></tr> <tr><td>Tm</td><td>1.1421</td><td>Tm₂O₃</td></tr> <tr><td>Yb</td><td>1.1387</td><td>Yb₂O₃</td></tr> <tr><td>Lu</td><td>1.1372</td><td>Lu₂O₃</td></tr> <tr><td>Y</td><td>1.2699</td><td>Y₂O₃</td></tr> <tr><td>Sc</td><td>1.5338</td><td>Sc₂O₃</td></tr> </tbody> </table>	Symbol	Conversion Factor	Oxide Species	La	1.1728	La ₂ O ₃	Ce	1.2284	CeO ₂	Pr	1.2082	Pr ₆ O ₁₁	Nd	1.1664	Nd ₂ O ₃	Sm	1.1596	Sm ₂ O ₃	Eu	1.1579	Eu ₂ O ₃	Gd	1.1526	Gd ₂ O ₃	Tb	1.1762	Tb ₄ O ₇	Dy	1.1477	Dy ₂ O ₃	Ho	1.1455	Ho ₂ O ₃	Er	1.1435	Er ₂ O ₃	Tm	1.1421	Tm ₂ O ₃	Yb	1.1387	Yb ₂ O ₃	Lu	1.1372	Lu ₂ O ₃	Y	1.2699	Y ₂ O ₃	Sc	1.5338	Sc ₂ O ₃
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Location of data points	<ul style="list-style-type: none"> 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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Criteria	Commentary
	<ul style="list-style-type: none"> 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 ±1mm, and vertical 15mm ±1mm. 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	<ul style="list-style-type: none"> Collar plan is displayed in Appendix 1 of ASX release dated 17 June 2025. No new resources are reported.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> 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.
Sample security	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> No change since previously reported on 15 April 2025 (Refer Appendix 2). 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	<ul style="list-style-type: none"> 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.

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Geology	<ul style="list-style-type: none">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	<ul style="list-style-type: none">Reported in Appendix 1 of ASX released dated 17 June 2025.
Data aggregation methods	<ul style="list-style-type: none">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	<ul style="list-style-type: none">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	<ul style="list-style-type: none">Reported in the body of the text.
Balanced reporting	<ul style="list-style-type: none">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	<ul style="list-style-type: none">A maiden Inferred resource was published to the ASX on May 1st 2023 estimated from 1,379 drill holes for 13,309m to a maximum depth of 20m.Subsequent updated resources were published to the ASX for Soberbo, Capão do Mel and Figueira deposits on 13 May 2024, 12 June 2024, and 04 August 2024 respectively. Updated resources were published to the ASX for Dona Maria 1 & 2 and Cupim Vermelho Norte deposits on 12 March 2025. A maiden resource estimate at Barra do Pacu was published on ASX on 15 April 2025.
Further work	<ul style="list-style-type: none">Proposed work is discussed in the body of the text.

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