

## LOW-TEMPERATURE PROCESS VALIDATED: VERY-HIGH 97% RARE EARTH RECOVERY AT 150°C

### Key Highlights

- **Very High Extraction Rates:** 97% for Total Rare Earth Oxides, 97% for Neodymium + Praseodymium, 83% for Dysprosium, 87% for Terbium and 97% for Uranium
- **Low-Temperature Flowsheet:** Peak extraction achieved at 150°C using a low-temperature, acid-cure process - removing the need for high temperature (>250°C) rotary kilns
- **Low-Cost Processing:** The low-temperature acid-cure process delivers high recoveries at materially lower energy intensity - supports potential for lower opex and capex flowsheet using conventional paddle mixers
- **Exceptional End-to-End System Yields:** When combined with recently announced ore sorting recovery of +95%, estimated total 'mineral-to-product' recovery of ~91% TREO and ~89% for Uranium
- **Further Optimisation Upsides:** Opportunities to shorten wash durations, optimise process acids and intensity, while maintaining or improving high extraction performance

Table 1: Blended composite extraction results (15 kg) & end-to-end system yields

Oxide	Head Grade (ppm)	Extraction (%)	End-to-End Yield (%)	Recovered Grade (ppm)
TREO (Total Rare Earth Oxides)	196,083	97	91	179,279
NdPr (Neodymium + Praseodymium)	31,050	97	92	28,543
Tb (Terbium)	246	87	82	203
Dy (Dysprosium)	1,383	83	78	1,081
Y (Yttrium)	6,361	84	79	5,019
U (Uranium)	2,627	97	89	2,347

*Note: End-to-end yield is calculated as the product of extraction rates achieved in the 15 kg blended composite metallurgical test, an ore-sorting recovery of 95%, and recoveries from additional downstream metallurgical steps previously evaluated by ANSTO to produce a Mixed Rare Earth Carbonate. Recovered grade is calculated as the product of head grade and end-to-end yield.*

## **BRE Managing Director and CEO, Bernardo da Veiga, commented:**

"Our metallurgy program validated a low-temperature, acid-cure process which delivers industry-leading recoveries for both rare earth and uranium products.

Importantly, the results support the potential for leading total system yields - from mineral to product - a key driver for efficiency and cost performance. When combined with Monte Alto's ore sorting yield of +95%, the total system product recovery is 92% for NdPr, up to 82% for the heavy rare earths DyTb and Y, and 89% for uranium.

These results are key to unlocking value from the high-grade mineralisation across our Rocha da Rocha province. This acid-cure process eliminates the need for energy-intensive thermal cracking and supports the engineering simplicity required for scalable deployment at our centralised Camaçari rare earth processing hub.

We are now focused on applying this proven flowsheet to our broader resource base that will allow us to integrate multiple high-grade feedstocks into a flexible 'hub-and-spoke' production platform."

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**Brazilian Rare Earths Limited (ASX: BRE) (OTCQX: BRELY / BRETf)** is pleased to report the results of a metallurgical optimisation program conducted at CDTN, a Brazilian federal research institute with specialist capabilities in metallurgical process development.

The program independently validated low-temperature sulfuric acid curing at 150°C using standard equipment. Importantly, a 15 kg blended composite scale-up test replicated the very high extractions achieved at laboratory-scale, providing increased confidence in scalability.

### **CDTN program overview**

This comprehensive CDTN metallurgical optimisation program builds directly on earlier metallurgical studies undertaken with ANSTO, which validated direct hydrometallurgical processing of ultra-high grade Monte Alto feedstock, including impurity removal, uranium recovery and production of high-purity Mixed Rare Earth Carbonate.

The CDTN program defined a low-temperature curing step upstream of the aqueous hydrometallurgical route, effectively conditioning the material prior to solution processing. The optimisation program:

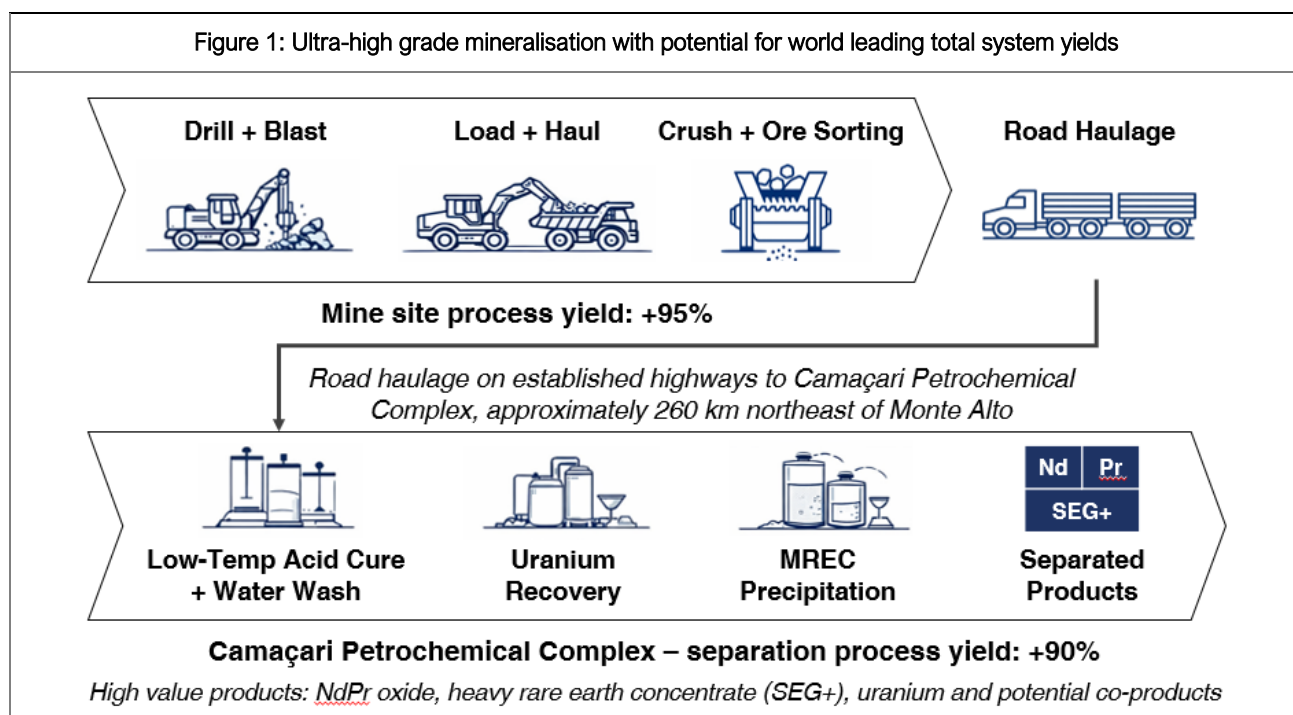
- Evaluated curing temperature, acid addition and solids density
- Confirmed 150°C as optimal for extraction performance
- Observed that higher temperatures, 200–250°C, provided no recovery benefit
- Confirmed scalability through a 15 kg blended composite verification test replicating laboratory performance

### **Integrated mine-to-product value chain with high system yields**

BRE's proposed mine-to-product route utilises a sequence of proven technologies to ensure maximum mineral and metal extraction. This integrated route combines ultra-high grade mineralisation with a simplified mining, logistics and processing chain - to deliver superior end-to-end metal recoveries.

The integrated value chain begins with a high-yield ore-sorting stage at Monte Alto, followed by low-cost logistics and low-temperature hydrometallurgical processing at the Camaçari refinery hub. This optimised

sequence is designed to deliver high-payability recoveries across the full product suite, including NdPr, SEG+, and a uranium yellowcake.



## Process summary

The four-stage metallurgical process flowsheet tested at CDTN was:

- Acidic mix: Monte Alto mineral feedstock is ground + mixed with sulfuric acid
- Thermal curing: The exothermic reaction, with controlled heating, cures the paste material at 150°C to complete sulfation of rare earth-bearing phases
- Aqueous wash: The cured paste transferred to a water wash tank, where controlled mixing promotes dissolution of soluble metal sulfates into solution
- Filtration: Slurry filtered to separate a rare earth rich pregnant leach solution from the solid residue

## Cost advantage: Low-temperature curing vs. conventional routes

A cornerstone of the CDTN program is the validation of low-temperature curing over traditional high-temperature cracking.

Conventional hard-rock rare earth processing routes (often treating refractory monazite) commonly rely on energy-intensive rotary kilns operating at temperatures >250°C to activate mineral phases. These systems can require high energy input, specialised corrosion-resistant materials and complex off-gas scrubbing systems.

By validating very high extraction rates at 150°C, the CDTN results support a simplified low-intensity flowsheet that minimises chemical and thermal stress on the plant. This shift underpins significant potential for lower capex, enhanced reliability, improved efficiency and lower operating costs.

Table 2: Potential processing implications

Feature	Monte Alto (BRE)	Conventional hard rock processing	Indicative observation
Primary mineral	Chevkinite	Monazite	Favourable mineralogy
Process route	Low-temp cure	High-temp acid bake	Simplified flowsheet
Operating temperature	150 °C	>250 °C	Lower energy and capex
Heating method	Indirect	Rotary kiln	Reduced energy intensity
TREO extraction	97%	90% to 95%	High extractions demonstrated
Uranium recovery	97%	Variable	Maximised co-product potential

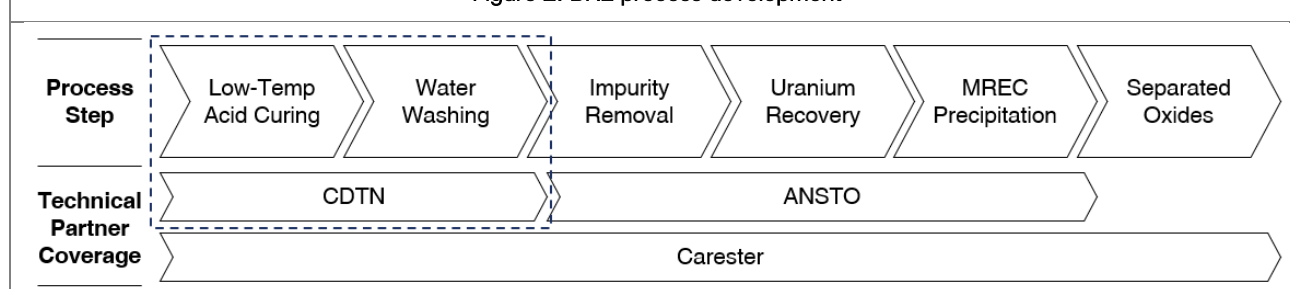
*Note: This table is intended to provide high-level technical context only. Comparative references are indicative and based on commonly reported processing routes in the public domain. Monte Alto outcomes reflect results from CDTN metallurgical test work and are subject to further optimisation and verification as part of ongoing development studies.*

### Flowsheet optimisation and technical de-risking: Carester + CDTN + ANSTO

To accelerate the path to production, BRE is leveraging the technical expertise of CDTN and ANSTO to validate and optimise its process flowsheet. A dual-track approach provides independent benchmarking of alternative process pathways to ensure the most efficient flowsheet is selected for commercial scale-up.

The partnership with Carester further optimises the full value chain by aligning high-grade mineral feedstocks to process outputs that meet stringent market specifications for high-purity products. A key milestone of this technical and commercial cooperation is the enhancement of the SENAI CIMATEC pilot plant; the facility is being upgraded to include separation capabilities, establishing a leading rare earth processing hub in Brazil to rebuild domestic capacity.

Figure 2: BRE process development



### Advancing a flexible processing platform

The next multi-stage work program is designed to confirm feed flexibility, validate at larger scale, and complete end-to-end product production.

Planned programs include:

- Feedstock flexibility test work across beneficiated monazite concentrates and high-grade regolith

- Optimisation opportunities and validation
- End-to-end product verification

This announcement has been authorised for release by the CEO and Managing Director.

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### Forward-Looking Statements and Information

This Announcement may contain “forward-looking statements” and “forward-looking information”, including statements and forecasts which include (without limitation) expectations regarding industry growth and other trend projections, forward-looking statements about the Rocha da Rocha Project and the Amargosa Project, future strategies, results and outlook of BRE and the opportunities available to BRE. Often, but not always, forward-looking information can be identified by the use of words such as “plans”, “expects”, “is expected”, “is expecting”, “budget”, “outlook”, “scheduled”, “target”, “estimates”, “forecasts”, “intends”, “anticipates”, or “believes”, or variations (including negative variations) of such words and phrases, or state that certain actions, events or results “may”, “could”, “would”, “might”, or “will” be taken, occur or be achieved. Such information is based on assumptions and judgments of BRE regarding future events and results. Readers are cautioned that forward-looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, targets, performance or achievements of BRE to be materially different from any future results, targets, performance or achievements expressed or implied by the forward-looking information.

Forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company, the Directors and management of the Company. These and other factors could cause actual results to differ materially from those expressed in any forward-looking statements.

Forward-looking information and statements are (further to the above) based on the reasonable assumptions, estimates, analysis and opinions of BRE made in light of its perception of trends, current conditions and expected developments, as well as other factors that BRE believes to be relevant and reasonable in the circumstances at the date such statements are made, but which may prove to be incorrect. Although BRE believes that the assumptions and expectations reflected in such forward-looking statements and information (including as described in this Announcement) are reasonable, readers are cautioned that this is not exhaustive of all factors which may impact on the forward-looking information.

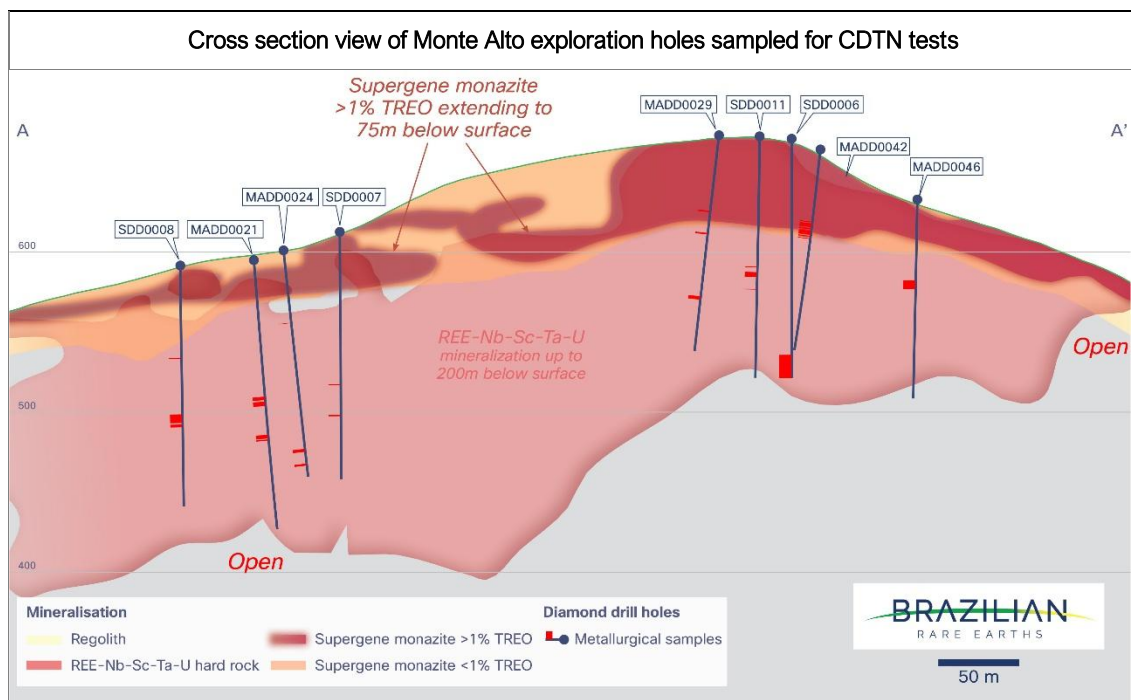
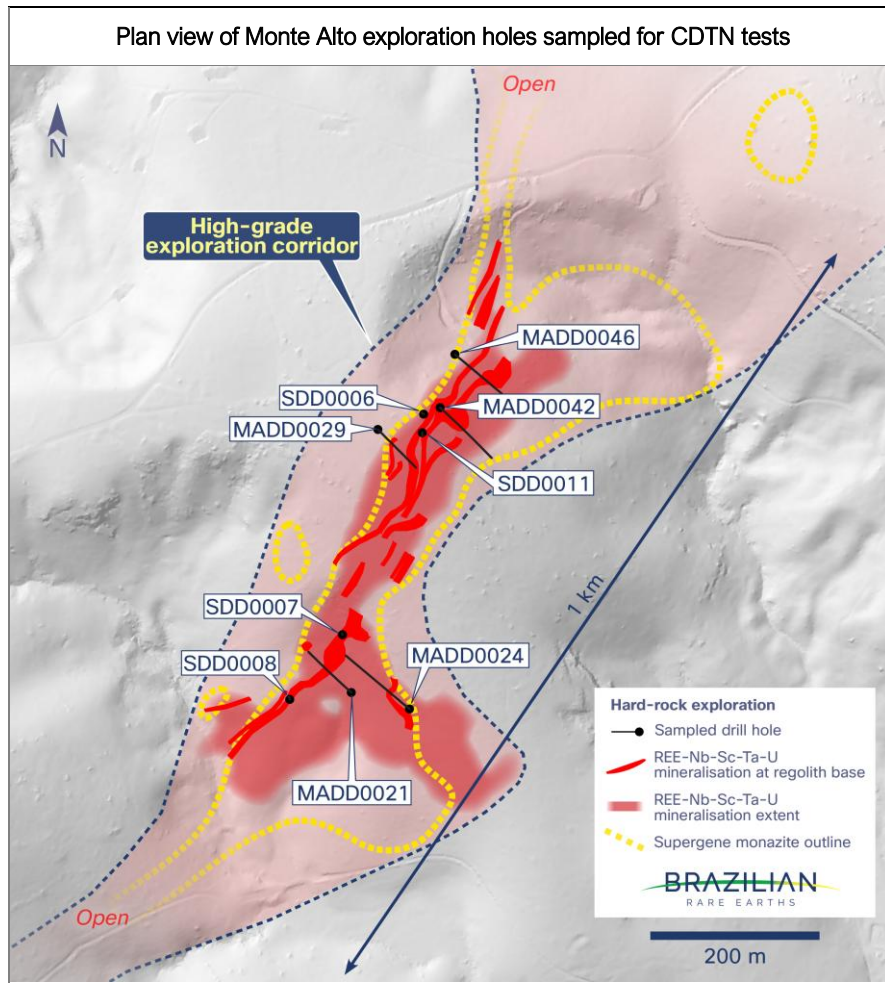
The Company cannot and does not give assurances that the results, performance or achievements expressed or implied in the forward-looking information or statements detailed in this Announcement will actually occur and prospective investors are cautioned not to place undue reliance on these forward-looking information or statements.

### Competent Persons Statement

The information in this release that relates to Metallurgical Testwork, is based on information compiled and/or reviewed by Dr Kurt Forrester who is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM). Dr Forrester is Chief Metallurgist and Head of Metallurgical Processing for Brazilian Rare Earths Limited (“BRE”) with sufficient experience relevant to the activity which he is undertaking to be recognised as competent to compile and report such information to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Forrester is entitled to participate in BRE’s Employee Incentive Plan and holds securities in BRE via a related party.

Dr Forrester consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## Appendix A: Location of Monte Alto Drill Holes used for CDTN Acid-Curing Test Program



## Appendix B: Sample Chemical Characterisation (Blended composite)

Analyte	Oxide	Concentration [ppm]
Sc	Sc <sub>2</sub> O <sub>3</sub>	226
Y	Y <sub>2</sub> O <sub>3</sub>	6,360
Nb	Nb <sub>2</sub> O <sub>5</sub>	6,135
La	La <sub>2</sub> O <sub>3</sub>	53,359
Ce	CeO <sub>2</sub>	97,350
Pr	Pr <sub>6</sub> O <sub>11</sub>	8,138
Nd	Nd <sub>2</sub> O <sub>3</sub>	22,913
Sm	Sm <sub>2</sub> O <sub>3</sub>	2,893
Eu	Eu <sub>2</sub> O <sub>3</sub>	38
Gd	Gd <sub>2</sub> O <sub>3</sub>	1,890
Tb	Tb <sub>4</sub> O <sub>7</sub>	245
Dy	Dy <sub>2</sub> O <sub>3</sub>	1,383
Ho	Ho <sub>2</sub> O <sub>3</sub>	226
Er	Er <sub>2</sub> O <sub>3</sub>	643
Tm	Tm <sub>2</sub> O <sub>3</sub>	79
Yb	Yb <sub>2</sub> O <sub>3</sub>	502
Lu	Lu <sub>2</sub> O <sub>3</sub>	68
Ta	Ta <sub>2</sub> O <sub>5</sub>	358
U	U <sub>3</sub> O <sub>8</sub>	2,628
<b>TREO</b>		<b>196,313</b>



## Appendix C: JORC Table

### Section 1: Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg. 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<p>The reported CDTN acid-curing test samples are obtained from diamond core drilling. Diamond drill holes were drilled with 3m run lengths in fresh rock. Drill core was collected directly from the core barrel and placed in pre-labelled core trays and transported to the BRE's secure exploration facility where it was measured for recovery, geologically logged, photographed.</p> <p>All drilling provided a continuous sample of mineralised zone. Mineralisation that is material to this report has been directly determined through quantitative laboratory analytical techniques that are detailed in the sections below.</p>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<p>Core drilling was conducted by BRE using a Royal Eijkelpkamp CompactRotoSonic XL170 MAX DUO rig to drill vertical holes with an operational depth limit of 200m and an average depth of 112m; and using an I-800 DKVIII-12 rig to drill angled holes with an operational depth limit of 500m and an average depth of 160m.</p> <p>Drill core was recovered from surface to the target depth. All diamond drill holes utilised a 3.05m long HQ single wall barrel. Water is used as a drilling fluid as necessary and to aid in extruding material from the core barrel. Core is not orientated.</p>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<p>Diamond core was transported from the drill site to the logging facility in covered boxes with the utmost care. Once at the logging facility, broken core was re-aligned to its original position as closely as possible. The recovered drill core was measured, and the length was divided by the interval drilled and expressed as a percentage. This recovery data was recorded in the database.</p> <p>Recoveries for all core drilling included in the ore sorter samples detailed in this report are consistently good (averaging 100%). There does not appear to be a relationship between</p>



Criteria	JORC Code explanation	Commentary
		sample recovery and grade or sample bias due to preferential loss or gain of fine or coarse material with the drilling and sampling methods used.
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<p>All drill core used for the metallurgy test work are geologically logged to a detail level that supports the studies presented in this report.</p> <p>Drill core was logged at BRE's exploration facility by a logging geologist. Core was photographed wet and dry in core boxes before sampling.</p> <p>Logging included qualitative determinations of primary and secondary lithology units, weathering profile unit (mottled zone, lateritic zone, saprock, saprolite, etc.) as well as colour and textural characteristics of the rock. Quantitative measurements of geophysical features were also measured.</p> <p>GPS coordinates as well as geological logging data for all drillholes were captured in a Microsoft Excel spreadsheet and uploaded to the project database in MXDeposit.</p> <p>All drill holes reported in this news release were logged entirely.</p>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<p>For the CDTN acid-curing test, sample interval selection was designed to ensure geological and mineralogical representativity. Sampling respected lithological boundaries such that individual samples were taken to, but not across, major geological contacts, and further considered variations in the intensity of chevkinite and apatite-britholite mineralisation. All samples described in this report are considered representative of fresh, in-situ REE–Nb–Sc–Ta–U mineralisation at Monte Alto and elsewhere on the Property.</p> <p>The CDTN acid-curing test sample was derived from a blended coarse-crush composite prepared from two independent sub-samples, as outlined below.</p> <ul style="list-style-type: none"> <li>Sample 1 was obtained from quarter NQ core fragments collected from mineralised intervals with a cumulative downhole length of 34.8 m and a total mass of 50.2 kg. The material was sourced from six drill holes distributed across the Monte Alto deposit.</li> </ul> <p>Sample 1 intervals were shipped from the Project site in Brazil to SGS Geosol Laboratories in Vespasiano, Brazil, in June 2024. At SGS, the samples were combined and stage-crushed and ground to generate size fractions of P<sub>80</sub> passing 74 µm, and P<sub>80</sub> passing 44 µm. The passing 44 µm fraction was subsequently shipped to CDTN for further metallurgical test work.</p> <ul style="list-style-type: none"> <li>Sample 2 was obtained from coarse reject material generated during routine exploration sample preparation, following jaw crushing to 75% passing 3 mm.</li> </ul>

Criteria	JORC Code explanation	Commentary																																																
		<p>The coarse reject material was derived from quarter HQ core fragments collected from mineralised intervals with a cumulative length of 31.85 m and a total mass of 60 kg, sourced from three drill holes distributed across the Monte Alto deposit.</p> <p>Sample 2 intervals were shipped from the Project site in Brazil to Metso Laboratories in Sorocaba, Brazil, in February 2024. At Metso, the material underwent comminution characterisation, with the crushed material subsequently shipped to CDTN for further test work.</p> <p>At CDTN, the Sample 1 and Sample 2 crushed materials were combined and homogenised to produce a single composite sample. From this composite, a 15 kg sub-sample was extracted and used for the metallurgical test work described in this report.</p>																																																
Quality of assay data and laboratory tests	<ul style="list-style-type: none"><li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li><li><i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li><li><i>Nature of quality control procedures adopted (eg. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></li></ul>	<p>Residues and solutions generated by the CDTN acid-curing test were assayed by SGS Geosol in Vespasiano, Minas Gerais, Brazil.</p> <p>The assay technique used for REE was ICP-MS, with Lithium Borate Fusion used for solid residues (SGS Geosol code IMS95A). This is a total analysis of the REE. Elements analysed at ppm levels were as follows:</p> <table><tr><td>Ce</td><td>Co</td><td>Cs</td><td>Cu</td><td>Dy</td><td>Er</td><td>Eu</td><td>Ga</td></tr><tr><td>Gd</td><td>Hf</td><td>Ho</td><td>La</td><td>Lu</td><td>Mo</td><td>Nb</td><td>Nd</td></tr><tr><td>Ni</td><td>Pr</td><td>Rb</td><td>Sm</td><td>Sn</td><td>Ta</td><td>Tb</td><td>Th</td></tr><tr><td>Tl</td><td>Tm</td><td>U</td><td>W</td><td>Y</td><td>Yb</td><td></td><td></td></tr></table> <p>Overlimit samples were analysed at percentage levels using SGS Geosol analysis code IMS95RS</p> <p>The assay technique used for major oxides and components was ICP-OES with lithium borate fusion used for solids (SGS Geosol code ICP95A). This is a total analysis for the elements analysed % and ppm (Ba, V, Sr, Zn, Zr) levels as listed below:</p> <table><tr><td>Al<sub>2</sub>O<sub>3</sub></td><td>Ba</td><td>CaO</td><td>Cr<sub>2</sub>O<sub>3</sub></td></tr><tr><td>Fe<sub>2</sub>O<sub>3</sub></td><td>K<sub>2</sub>O</td><td>MgO</td><td>MnO</td></tr><tr><td>Na<sub>2</sub>O</td><td>P<sub>2</sub>O<sub>5</sub></td><td>SiO<sub>2</sub></td><td>Sr</td></tr><tr><td>TiO<sub>2</sub></td><td>V</td><td>Zn</td><td>Zr</td></tr></table> <p>Analysis for Scandium (Sc) was made by 4-Acid ICP-AES Analysis (SGS Geosol code ICM40B-FR).</p>	Ce	Co	Cs	Cu	Dy	Er	Eu	Ga	Gd	Hf	Ho	La	Lu	Mo	Nb	Nd	Ni	Pr	Rb	Sm	Sn	Ta	Tb	Th	Tl	Tm	U	W	Y	Yb			Al <sub>2</sub> O <sub>3</sub>	Ba	CaO	Cr <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	MnO	Na <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SiO <sub>2</sub>	Sr	TiO <sub>2</sub>	V	Zn	Zr
Ce	Co	Cs	Cu	Dy	Er	Eu	Ga																																											
Gd	Hf	Ho	La	Lu	Mo	Nb	Nd																																											
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		<p>Accuracy was monitored through SGS laboratories internal QA/QC procedures that include submission of certified reference materials (CRMs) in each batch of solid samples (i.e. head feed, non-filtered, and precipitate samples) at a frequency of 1:5 samples and conducting of at least one duplicate analyses in each batch.</p> <p>The adopted QA/QC protocols are acceptable for the small set of analyses conducted as part of this CDTN acid-curing test programme. Examination of the QA/QC sample data indicates satisfactory performance of field sampling protocols and assay laboratory procedures. Levels of precision and accuracy are sufficient to allow disclosure of analysis results.</p>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<p>No independent verification of significant intersections was undertaken.</p> <p>All assay results are checked by the company's Principal Geologist. Logging for drillholes was directly uploaded to the project database housed in the MXDeposit system. Assay data and certificates in digital format from the laboratory are directly uploaded to the project database.</p> <p>Mineralised intersections have been verified against the downhole geology and the Company's previously reported geochemical analysis.</p> <p>Rare earth oxide is the industry-accepted form for reporting rare earth elements. The following calculations are used for compiling REO into their reporting and evaluation groups:</p> <p>Note that Y<sub>2</sub>O<sub>3</sub> is included in the TREO, HREO and MREO calculations.</p> <p>TREO (Total Rare Earth Oxide) = La<sub>2</sub>O<sub>3</sub> + CeO<sub>2</sub> + Pr<sub>6</sub>O<sub>11</sub> + Nd<sub>2</sub>O<sub>3</sub> + Sm<sub>2</sub>O<sub>3</sub> + Eu<sub>2</sub>O<sub>3</sub> + Gd<sub>2</sub>O<sub>3</sub> + Tb<sub>4</sub>O<sub>7</sub> + Dy<sub>2</sub>O<sub>3</sub> + Ho<sub>2</sub>O<sub>3</sub> + Er<sub>2</sub>O<sub>3</sub> + Tm<sub>2</sub>O<sub>3</sub> + Yb<sub>2</sub>O<sub>3</sub> + Y<sub>2</sub>O<sub>3</sub> + Lu<sub>2</sub>O<sub>3</sub>.</p> <p>HREO (Heavy Rare Earth Oxide) = Sm<sub>2</sub>O<sub>3</sub> + Eu<sub>2</sub>O<sub>3</sub> + Gd<sub>2</sub>O<sub>3</sub> + Tb<sub>4</sub>O<sub>7</sub> + Dy<sub>2</sub>O<sub>3</sub> + Ho<sub>2</sub>O<sub>3</sub> + Er<sub>2</sub>O<sub>3</sub> + Tm<sub>2</sub>O<sub>3</sub> + Yb<sub>2</sub>O<sub>3</sub> + Y<sub>2</sub>O<sub>3</sub> + Lu<sub>2</sub>O<sub>3</sub> .</p> <p>MREO (Magnet Rare Earth Oxide) = Nd<sub>2</sub>O<sub>3</sub> + Pr<sub>6</sub>O<sub>11</sub> + Tb<sub>4</sub>O<sub>7</sub> + Dy<sub>2</sub>O<sub>3</sub> + Gd<sub>2</sub>O<sub>3</sub> + Ho<sub>2</sub>O<sub>3</sub> + Sm<sub>2</sub>O<sub>3</sub> + Y<sub>2</sub>O<sub>3</sub> .</p> <p>LREO (Light Rare Earth Oxide) = La<sub>2</sub>O<sub>3</sub> + CeO<sub>2</sub> + Pr<sub>6</sub>O<sub>11</sub> + Nd<sub>2</sub>O<sub>3</sub> .</p> <p>NdPr = Nd<sub>2</sub>O<sub>3</sub> + Pr<sub>6</sub>O<sub>11</sub> .</p> <p>NdPr% of TREO = Nd<sub>2</sub>O<sub>3</sub> + Pr<sub>6</sub>O<sub>11</sub>/TREO x 100.</p> <p>HREO% of TREO = HREO/TREO x 100.</p>

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		<p>Conversion of elemental analysis (REE) to stoichiometric oxide (REO) was undertaken by spreadsheet using defined conversion factors.</p> <table border="1"> <thead> <tr> <th>Element</th><th>Factor</th><th>Oxide</th></tr> </thead> <tbody> <tr><td>La</td><td>1.1728</td><td>La<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Ce</td><td>1.2284</td><td>CeO<sub>2</sub></td></tr> <tr><td>Pr</td><td>1.2082</td><td>Pr<sub>6</sub>O<sub>11</sub></td></tr> <tr><td>Nd</td><td>1.1664</td><td>Nd<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Sm</td><td>1.1596</td><td>Sm<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Eu</td><td>1.1579</td><td>Eu<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Gd</td><td>1.1526</td><td>Gd<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Tb</td><td>1.1762</td><td>Tb<sub>4</sub>O<sub>7</sub></td></tr> <tr><td>Dy</td><td>1.1477</td><td>Dy<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Ho</td><td>1.1455</td><td>Ho<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Er</td><td>1.1435</td><td>Er<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Tm</td><td>1.1421</td><td>Tm<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Yb</td><td>1.1387</td><td>Yb<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Lu</td><td>1.1372</td><td>Lu<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Y</td><td>1.2699</td><td>Y<sub>2</sub>O<sub>3</sub></td></tr> </tbody> </table> <p>The process of converting elemental analysis of rare earth elements (REE) to stoichiometric oxide (REO) was carried out using predefined conversion factors on a spreadsheet. (Source: <a href="https://www.jcu.edu.au/advanced-analytical-centre/services-and-resources/resources-and-extras/element-to-stoichiometric-oxide-conversion-factors">https://www.jcu.edu.au/advanced-analytical-centre/services-and-resources/resources-and-extras/element-to-stoichiometric-oxide-conversion-factors</a>)</p>	Element	Factor	Oxide	La	1.1728	La <sub>2</sub> O <sub>3</sub>	Ce	1.2284	CeO <sub>2</sub>	Pr	1.2082	Pr <sub>6</sub> O <sub>11</sub>	Nd	1.1664	Nd <sub>2</sub> O <sub>3</sub>	Sm	1.1596	Sm <sub>2</sub> O <sub>3</sub>	Eu	1.1579	Eu <sub>2</sub> O <sub>3</sub>	Gd	1.1526	Gd <sub>2</sub> O <sub>3</sub>	Tb	1.1762	Tb <sub>4</sub> O <sub>7</sub>	Dy	1.1477	Dy <sub>2</sub> O <sub>3</sub>	Ho	1.1455	Ho <sub>2</sub> O <sub>3</sub>	Er	1.1435	Er <sub>2</sub> O <sub>3</sub>	Tm	1.1421	Tm <sub>2</sub> O <sub>3</sub>	Yb	1.1387	Yb <sub>2</sub> O <sub>3</sub>	Lu	1.1372	Lu <sub>2</sub> O <sub>3</sub>	Y	1.2699	Y <sub>2</sub> O <sub>3</sub>
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Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<p>Diamond drill collars are located by a surveyor using RTK-GPS with centimetre scale accuracy.</p> <p>Drill hole surveying was performed on each diamond hole using a REFLEX EZ-Trac multi-shot instrument. Readings were taken every 10m to 25m and recorded depth, azimuth, and inclination. Projected drill hole traces show little deviation from planned orientations.</p> <p>The accuracy of projected exploration data locations is sufficient for this stage of exploration and to support mineral resource estimation studies.</p> <p>The grid datum used is SIRGAS 2000 UTM 24S. Topographic control is provided by an airborne LiDAR and photogrammetry survey with highly accurate RTN-GPS ground control survey control. The LiDAR data was collected at a density of 4 points per m<sup>2</sup> and processed to provide 'bare earth' DTM models with an accuracy class of +/- 0.1m.</p>																																																

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<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li><i>Whether sample compositing has been applied.</i></li> </ul>	<p>For selected areas at Monte Alto that host fresh rock REE-Nb-Sc-U mineralisation, the drill spacing is generally 25m to 50m along strike and down dip. This spacing is sufficient to establish geology and grade continuity in accordance with Inferred and Indicated classification criteria.</p> <p>CDTN test samples were collected from drill holes intersecting the main mineralisation bodies over a significant depth extent at the centre and south of the Monte Alto deposit. The sample characterises a large volume of the fresh, high-grade, REE-Nb-Sc-Ta-U mineralisation that makes up the majority of Monte Alto hard rock deposit</p>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul>	<p>The distribution of mineralisation in fresh rock at Monte Alto is controlled by steeply dipping to sub vertical mega-enclaves of REE-Nb-Sc-Ta-U Mineralisation that strike northwest. The angled drill holes were designed to intersect these bodies as perpendicular as possible. Vertical SSD series holes tend to intersect steeply dipping mineralisation at a highly oblique angle resulting in a relative bias toward mineralisation with this orientation. Neither drilling type is systematically biased towards any other geological characteristic such as mineralisation grade.</p> <p>The CDTN samples were designed to target fresh rock REE-Nb-Sc-Ta-U mineralisation. They are not considered to be biased towards any other geological characteristics.</p> <p>The extent of sampled material and its representativeness of the fresh hard rock REE-Nb-Sc-Ta mineralisation is considered appropriate for CDTN acid-curing test at the scoping stage of study described in this report.</p>
<i>Sample security</i>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<p>Following collection in the field, drill core samples were transported in their core boxes to the Company's secure warehouse. Drill core intervals selected for Sample 1 CDTN metallurgical test work were then packaged into five 10 kg polypropylene bags and transported by road freight to SGS Geosol Laboratories in Vespasiano, Brazil, for initial sample preparation and processing.</p> <p>Coarse reject material comprising Sample 2 was taken from storage and packaged into seven 8 kg polypropylene bags and transported by road freight to Metso Laboratories, Brazil, for initial processing.</p> <p>Following preparation at the respective laboratories, the selected size fractions used for metallurgical test work were transported to CDTN under secure inter-laboratory chain-of-custody and shipping procedures.</p> <p>All samples were transported from site to independent preparation and analysis laboratories by reputable transport companies. An electronic copy of all waybills related to the sample forwarding was obtained and forwarded to the receiving laboratory. Once the</p>

Criteria	JORC Code explanation	Commentary
		samples arrived at the laboratory, the Company was notified by the laboratory manager and any non-compliance is reported. The laboratory did not report any issues related to the samples received.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	No audits were undertaken however the Brazilian Rare Earths technical experts were involved in all stages of the metallurgical sampling and tests. In-house reviews were also completed on the sampling techniques and testwork results.

## Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li><i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></li> <li><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></li> </ul>	<p>As at 31 March 2024, the Rocha da Rocha Project comprised 261 granted exploration permits registered with Brazil's National Mining Agency and covering an area of approximately 434,835 hectares. All exploration permits are located in Bahia, Brazil and are held by the BRE's Brazilian subsidiaries directly or are to be acquired through legally binding agreements with third parties.</p> <p>All mining permits in Brazil are subject to state and landowner royalties, pursuant to article 20, § 1, of the Constitution and article 11, "b", of the Mining Code. In Brazil, the Financial Compensation for the Exploration of Mineral Resources (Compensação Financeira por Exploração Mineral - CFEM) is a royalty to be paid to the Federal Government at rates that can vary from 1% up to 3.5%, depending on the substance. CFEM rates for mining rare earth elements are 2%. CFEM shall be paid (i) on the first sale of the mineral product; or (ii) when there is mineralogical mischaracterization or in the industrialization of the substance, which is which is considered "consume" of the product by the holder of the mining tenement; or (iii) when the products are exported, whichever occurs first. The basis for calculating the CFEM will vary depending on the event that causes the payment of the royalty. The landowners royalties could be subject of a transaction, however, if there's no agreement to access the land or the contract does not specify the royalties, article 11, §1, of the Mining Code sets forth that the royalties will correspond to half of the amounts paid as CFEM.</p> <p>The exploration permits in the BRE Tenements section of Table 3 (but excluding exploration permit 871.929/2022 and 871.931/2022, and also excluding the application for exploration permit 871.928/2022) are subject to an additional 2.5% royalty agreement in favour of Brazil Royalty Corp. Participações e Investimentos Ltda (BRRCP).</p>

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		<p>Outside of the ESEC, a further 35 tenements contain approximately 165 km that falls within a State Nature Reserve (APA Caminhos Ecológicos da Boa Esperança), in which mining activities are allowed if authorized by the local environmental agency.</p> <p>In the Brazilian legal framework, mining activities within sustainable use areas are not explicitly prohibited at federal, state, or municipal levels, despite that, the zone's management authority may prohibit mining, if it deems necessary, in the zone's management plan. Activities in these areas must reconcile economic development with environmental preservation. Mining operations impacting these areas require licensing approval from the respective zone's management authority. This authorization is contingent upon conducting thorough Environmental Impact Assessment (EIA) studies. These prescribed areas do not limit mining elsewhere on the Property. The tenements are secure and in good standing with no known impediments to obtaining a licence to operate in the area.</p>
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<p>On the BRE Property, no previous exploration programs conducted by other parties for REEs. Between 2007 and 2011 other parties conducted exploration that is detailed in the company's prospectus and included exploratory drilling amounting to 56,919m in 4,257 drill holes.</p> <p>On the Sulista Property, between 2013 and 2019 the project Vendors conducted exploration on the Licences that included drilling of approximately 5,000m of across 499 auger holes and approximately 1,000m of core holes.</p> <p>As of the effective date of this report, BRE is appraising the exploration data collected by other parties.</p>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<p>The Company's tenements contain REE deposits interpreted as analogies to Ion Adsorption Clay ("IAC") deposits, and regolith hosted deposits of monazite mineral grains, and primary in-situ REE-Nb-Sc-Ta-U mineralisation.</p> <p>The Project is hosted by the Jequié Complex, a terrain of the north-eastern São Francisco Craton, that includes the Volta do Rio Plutonic Suite of high-K ferroan ("A-type") granitoids, subordinate mafic to intermediate rocks; and thorium rich monazitic leucogranites with associated REE.</p> <p>Bedrock REE-Nb-Sc-Ta-U mineralisation is characterized by shallow to steeply dipping mega-enclaves of chevkinite and apatite-britholite cumulate mineralisation. At Monte Alto cumulate horizons are interpreted to occupy the core of a west facing anticline. The company has initiated mapping of the limited bedrock exposures at property and proposes to undertake further infill drilling to develop a model of the local geological setting.</p>



Criteria	JORC Code explanation	Commentary
		The regolith surrounding the REE-Nb-Sc-Ta-U mineralization is enriched in residual monazite sand and REE bearing Th-Nb-Fe-Ti-Oxides arising from weathered cumulate mineralization. More broadly, the regolith IAC mineralisation is characterised by a REE enriched lateritic zone at surface underlain by a depleted mottled zone grading into a zone of REE-accumulation in the saprolite part of the profile.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> <li>• <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></li> </ul>	The details related to all the diamond core drill holes presented in this Report are detailed in Appendix C and D.
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>• <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg. cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li>• <i>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<p>Downhole length, or mass weighted averaging is used to aggregate assay data from multiple samples.</p> <p>No maximum or minimum cut-off grades or metal equivalents values are used in this announcement.</p>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg. 'down hole length, true width not known').</i></li> </ul>	<p>Sampled intercepts detailed in this release are reported in down hole lengths. For the Mineralisation that is the subject of this report, the true thickness of previously reported intercepts are detailed in the Original ASX Announcements.</p> <p>Significant diamond drill hole intercepts in the fresh rock are reported in down hole lengths and true thickness. The distribution of mineralisation in fresh rock at Monte Alto is controlled by shallow to steeply dipping mega-enclaves of chevkinite and apatite-britholite cumulate mineralisation that dip to the northwest. The angled drill holes have inclinations ranging from -50 to -80 degrees and will tend to intersect mineralisation at moderate angle. For these holes true thickness will typically be 60%-99% of down hole thickness. In the northern and central parts of Monte Alto vertical DMT series holes tend to intersect</p>

Criteria	JORC Code explanation	Commentary
		steep to moderately dipping mineralisation at an oblique angle, for these holes true thickness will typically be 50% of down hole thickness.
<i>Diagrams</i>	<ul style="list-style-type: none"> <li><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	Diagrams, tables, and any graphic visualisation are presented in the report appendices.
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.</i></li> </ul>	<p>The report presents a summary of CDTN acid-curing test results that pertain to the fresh hard rock REE-Nb-Sc-Ta mineralisation that is the subject of this report.</p> <p>These samples disclosed are representative of the material that is the subject of this report. The report is unbiased with respect to Mineralisation grades and/or width and is consistent with the JORC guidelines.</p>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li><i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<p>The acid-curing process involves contacting mineralised material and concentrated sulfuric acid, at the prescribed mass ratio, in a suitable vessel with heating provided by an external heat source.</p> <p>Small scale tests were conducted in covered borosilicate glass beakers in a sand bath. First, the mineral sample is added to the beaker, the sample is heated to the operating temperature, concentrated acid is slowly added to produce a paste, the sample is manually mixed with a glass rod to ensure uniform sample wetting, acid-curing is maintained for a specified hold period. At the conclusion of the curing process the cure residue is allowed to cool to below 80 °C. Water is added and agitated applied, to dissolve the metal sulfate salts formed during the curing process. After the prescribed hold time, the pulp is vacuum filtered to recover the primary filtrate. The filter cake is then washed by repulping the cake in hot water, for the prescribed hold time, before it is filtered on a vacuum filter. Optional cake washing, in situ, is then undertaken, if needed.</p> <p>The larger scale tests were conducted in a stainless-steel stirred reactor with an electrical resistance heating element. Procedurally identical to the smaller scale tests except for the scale of the vessels employed.</p>
<i>Further work</i>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<p>To further develop the Monte Alto target and develop a hard-rock REE-Nb-Sc-Ta-U Mineral Resource, the Company will complete additional step-out and infill diamond core drilling to establish geological and grade continuity aiming for a drill spacing of 25m x 25m at the Monte Alto deposit.</p> <p>Elsewhere on the project BRE intends to test the Regolith Exploration Target (effective date of July 1, 2023) which is based on the results of BRE's previous drill programs and will be tested by ongoing infill and step out auger drilling in high priority areas.</p> <p>Upcoming works aim to assess whether the project may become economically feasible including metallurgical recovery, process flowsheet and optimisation. Further resource</p>

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		definition through additional drilling and sampling, geological mapping, and regional exploration through additional land acquisition are also planned. No forecast is made of such matters.