BRAZILIAN CRITICAL MINERALS

EXCELLENT COLUMN LEACH RESULTS - POTENTIAL FOR LOWER COST MINERAL PROCESSING OPTIONS AND SCALABILITY AT EMA PROJECT

Highlights

- 63% recovery from column tests (heap leaching) of MREO (Nd/Pr/Dy/Tb) after only 18 days of leaching followed by washing to recover residual material using magnesium sulfate
- Recovery was calculated as the average of two extraction methodologies with the column leaching results indicating the Company could be able to construct a rare earth process flow sheet from mine to final product with considerably less steps and lower risk than traditional processing routes
- The column test results point towards the option of a low capex rare earth heap leach operation at Ema
- Australia's Nuclear Science and Technology Organisation (ANSTO) completed column leaching test work from the Ema master composite, 50 kg of collected from 12 holes and 62 samples to determine a heap leach processing pathway which is now potentially transformational for the company
- The Company now intends to fully explore the possibilities of In-Situ leaching the Ema mineralisation which would involve even fewer processing steps from mine to final product than is involved in heap leaching.

Heap Leach Amenability

- Column leach liquor results using magnesium sulfate returned recovery values*of;

Time Period	Nd (%)	Pr (%)	Dy (%)	Tb (%)
4 days	42	41	30	34
6 days	52	51	36	41
11 days	57	55	40	45

*Calculated based on head assay and leach liquor analysis

Final recovery based on head assay and residue analysis after 18 days of leaching followed by washing recorded;

Combined Recovery	**63%**	**MREO (Nd/Pr/Dy/Tb)**

- The ore agglomerated readily in the test liquor (no additional acid was required) and the agglomerated ore remained competent in the column test
- Permeability of the column bed was good, with minimal bed slump of 1% calculated
- Test conditions involved REE desorption utilising 0.5 M magnesium sulfate ($MgSO_4$) or 0.3 M ammonium sulfate $(NH_4)_2SO_4$, ambient temperature at pH of 4.5
- Acid consumption was calculated to be < 1 kg/t

Andrew Reid, Managing Director, commented:

"These results are quite stunning in their simplicity, to be able to desorb the rare earths so quickly at a high rate of recovery is quite remarkable. The physical and chemical characteristics of the mineralisation at Ema have now been thoroughly tested giving similar results for both slurry (tank leaching) and now heap leaching.

These heap leach results have now validated a much lower CAPEX path to production when compared to tank leaching. The Company now intends to extend its testing regime towards in-situ leaching where we are confident of high recoveries being achieved, with the only unknown element of clay permeability to be determined. Field and lab work to demonstrate the permeability of the Ema mineralisation to in-situ leaching is now being planned.

Not only is the company heading towards a low CAPEX and low OPEX project setup, but the ability to get high recoveries utilising magnesium sulfate as opposed to ammonium sulfate means the Ema project could be one of the greenest and environmentally friendliest mines ever constructed."

Brazilian Critical Minerals Limited (**ASX: BCM**) ("**BCM**" or the "**Company**") is pleased to provide an update on work programs from Australia's Nuclear Science and Technology Organisation (ANSTO) with respect to the Ema Rare Earths Project which hosts an Inferred Mineral Resource[1] of **1.02Bt @ 793ppm** TREO.

Work is being undertaken by ANSTO to test different process flow sheet options with the column testing (heap leaching) results achieving 63% recoveries of the key magnet rare earths MREO (Nd/Pr/Dy/Tb). The results are in line with previously announced slurry leach (tank leach) results which achieved 68%[2] MREO recovery.

These excellent results now highlight the deposit's amenability to simple low-cost mineral processing methods, such as heap leach, which can remove significant portions of a potential process flow sheet and reduce CAPEX costs.

The Company believes there is clear potential to drive CAPEX and OPEX even lower and is now evaluating the possibility of in-situ leaching, which if successful will demonstrate that it's possible to achieve even lower processing costs through simpler and scalable treatment options. Lower unit operating costs can in turn lead to lower cut off grades which allow for the processing of additional mineralised material from the Ema **1.02Bt** Inferred mineral resource.

Heap Leach Test Work Summary

ANSTO investigated a heap leaching option through column testing (Table 1 and Figure 2). Two 50mm diameter columns were operated with a bed height of 1.14m, with the following specifications to test two reagents:

Table 1. Column testing setup specifications

	0.3M Ammonium Sulfate	0.5M Magnesium Sulfate
Bed Height	1.14 m	1.14 m
Column Diameter	50 mm	50 mm
Ore mass	2,970 g	2,970 g
Reagent	$(NH_4)_2SO_4$	$MgSO_4$
Concentration	0.3 M	0.5 M
pH	4.5	4.5
Binding Addition	300 g/t	300 g/t
Irrigation Rate	5 $L/m^2/hr$	5 $L/m^2/hr$

This heap leach test work is a key part of the Company's ongoing strategy to grow and progress the Ema Inferred Mineral Resource towards development, which currently sits at **1.02Bt @ 793ppm[2]**. The final calculated leach liquor and residue recovery of **63%** was materially in line with previously announced slurry recovery results (Figure 1.)

The results have given the Company confidence that there is an increased likelihood that in-situ leaching of the rare earths is now possible. This is largely feasible due to the mineralogy of the Ema mineralisation which is almost 50% quartz and hence this sandy clay material allows for good percolation and fluid flow at rates which could be economic.

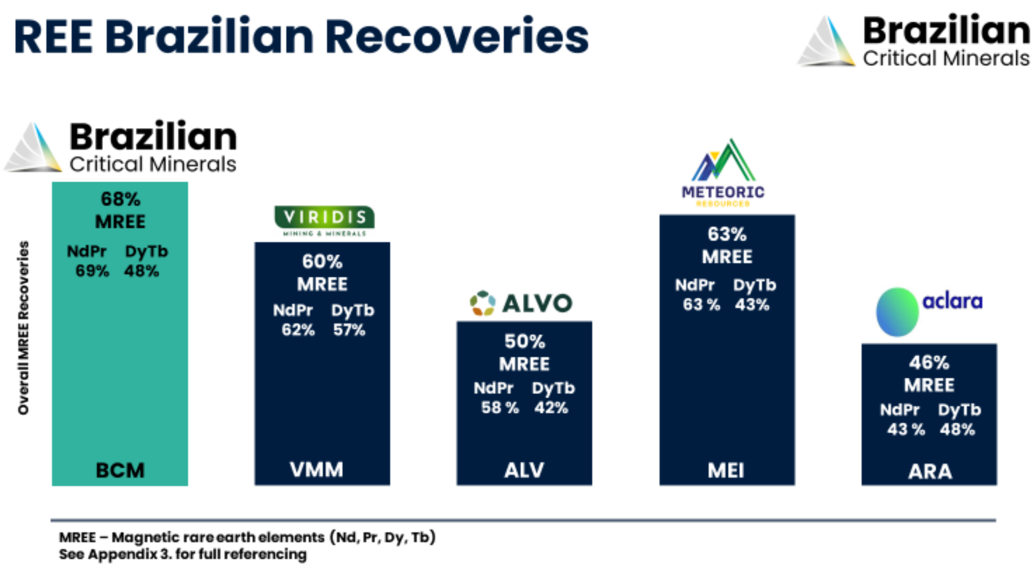

Figure 1. Overall Project recoveries various clay hosted rare earth projects in Brazil.

Column Leaching

Agglomeration of clay ores does not produce typical agglomerates, rather it is required to wet the ore and bind the fines together. A small amount of binding solution was added followed by the test lixiviant solution (at pH 4.5) to a target moisture content of ~23 wt% (Figure 2).

The two column tests were run in transparent PVC columns of 1.2 m x 50 mm (ID). A bed height of just over 1 m was obtained by loading agglomerated ore (~3 kg dry) into the column and curing for 24 hours. Both columns were run concurrently and were operated at room temperature.

The lixiviant solution was fed to the top of the column by peristaltic pump, with an initial target irrigation rate of ~5 L/h/m2.

Irrigation was stopped on day 18 and draining commenced, this was followed by 2 days of washing using tap water.

Figure 2. Column setup and agglomeration of ore at the ANSTO facility in Sydney.

References

[1] Brazilian Critical Minerals (ASX:BCM) ASX Announcement "Massive Maiden Mineral Resource Estimate for Ema Project" 22.04.24

[2] Brazilian Critical Minerals (ASX:BCM) ASX Announcement "World Leading Recoveries Confirmed at Ema Project" 07.05.24

Appendix 3. Company data in relation to MREE recoveries and conditions for leaching

Code	Company	Project	Head Grade (ppm)	MREO:TREO (%)	MREE recovery (%)	NdPr recovery (%)	DyTb recovery (%)	Leaching Agent	pH	Temperature	No. of Samples	Lab	Reference
BCM.ASX	BCM	Ema	965	31	68	69	48	$(NH_4)_2SO_4$	4.5	ambient	62	ANSTO	this announcement
ARA.TSX	Aclara	Carina	1,510	23	46	43	48	$(NH_4)_2SO_4$	3	ambient	1418	SGS	Aclara (TSX:ARA) Aclara announces discovery of 168Mt ionic clay mineral resource at its Carina Module in Goias, Brazil 12.12.24
ALV.ASX	Alvo Minerals	Blue Brush	1,014	24	50	58	42	$(NH_4)_2SO_4$	4	ambient	13	SGS	Alvo (ASX:ALV) Metallurgical Tests Confirm Bluebush as Ionic Adsorption Clay REE Project 02.11.23
VMM.ASX	Viridis	Colossus	4,665	31	60	62	57	$(NH_4)_2SO_4$	4	ambient	91	SGS	Viridis (ASX:VMM) Colossus Acheives Highest Overall Bulk Ionic Recoveries Globally 18.04.24
MEI.ASX	Meteoric	Caldeira	3,642	23	63	63	43	$(NH_4)_2SO_4$	4	ambient	101	ANSTO	Meteoric Resources (ASX:MEI) Metallurgical Testwork Confirms Outstanding Ionic Clay Recoveries for Caldeira REE Project 07.12.23

Competent Person Statement

The information in this report that relates to exploration results released by the Company to the ASX on 2 April, 22 April, 3 May and 7 May 2024 is based on information compiled by Mr. Antonio de Castro, BSc (Hons), MAusIMM, CREA, who acts as BCM´s Senior Consulting Geologist through the consultancy firm, ADC Geologia Ltda. Mr. de Castro has sufficient experience which is relevant to the type of deposit under consideration and to the reporting of exploration results and analytical and metallurgical test work 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". Mr. Castro consents to the report being issued in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement and, in the case of mineral resource estimate, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. Refer to ASX announcement dated 22 April 2024.

About Brazilian Critical Minerals Ltd

Brazilian Critical Minerals Limited (BCM) is a mineral exploration company listed on the Australian Securities Exchange.

Its major exploration focus is Brazil, in the Apuí region, where BCM has discovered a world class Ionic Adsorbed Clay (IAC) Rare Earth Elements deposit. The Ema IAC project is contained within the 781 km² of exploration tenements within the Colider Group.

BCM has defined an inferred MRE of **1.02Bt** of REE's with metallurgical recoveries averaging **68%** MREO some of the highest for these types of deposits anywhere in the world.

The Company is currently converting this MRE from Inferred into the Indicated category with an extensive drill program which will inform the scoping study and economic analysis due for completion in late 2024.

Appendix 4

The following Table and Sections are provided to ensure compliance with JORC Code (2012 Edition).

JORC (2012) Table 1 – Section 1: Sampling Techniques and Data for auger hole drilling

Item	JORC code explanation	Comments
Sampling Techniques	• 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. • Include reference to measures taken to ensure sample representativity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report. • In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g 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	• Metallurgical results are for a 49.6 kg composite sample of 12 auger holes, from the drilling conducted by BCM´s exploration team during 2023, conducted at ANSTO, Sydney, Australia. • 0.8 kg of the homogenized sample from each interval, was used to make the composite. • The preparation of the composite was supervised by a BCM geologist. • Holes were sampled using a powered auger drill (open hole) conducted by BCM´s exploration team. • Sampling was supervised by a BCM geologist or field assistants. • Every 1-metre sample was collected in a raffia bag in the field and transported to the exploration shed to be dried in the sun, prior to homogenisation. • Samples were homogenised and subsequently riffle split with about 1 kg sent to SGS for preparation and analysis and a similar amount stored on site. • 1 certified blank sample. 1 certified reference material (standard) samples and 1 field duplicate sample were inserted into the sample sequence for each 25 samples.

Item	JORC code explanation	Comments
	submarine nodules) may warrant disclosure of detailed information.	
Drilling Techniques	• 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).	• Auger drilling was completed by a hand-held mechanical auger with a 3" auger bit. The drilling is an open hole, meaning there is a significant chance of contamination from surface and other parts of the auger hole. Holes are vertical and not oriented. • The maximum depth achieved with the powered auger was 31m, and this was only achievable if the hole did not encounter fragments of rocks/boulders etc. sitting within the weathered profile, and/or the water table. Final depths were recorded accordingly to the length of the rods in the hole.
Drill Sample Recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • 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.	• No recoveries are recorded. • The operator observes the volume of each metre and notes any discrepancy. • When recovery is below 75% in two sequential one metre interval, the field crew stops the drill hole. • No relationship is believed to exist between recovery and grade.
Logging	• 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. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. • The total length and percentage of the relevant intersections logged.	• All holes were logged by BCM geologists or field technicians, detailing the colour, weathering, alteration, texture and any geological observations. Care is taken to identify transported cover from in-situ saprolite/clay zones and the moisture content. Logging was done to a level that would support a Mineral Resource Estimate. • Qualitative logging with systematic photography of the stored box. • The entire auger hole is logged.

Item	JORC code explanation	Comments
Sub-Sampling Techniques and Sampling Procedures	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representativity of samples. • 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. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• The composite sample was prepared in the Apui exploration facility with 0.8 kg of each mineralized interval previously homogenized from 12 auger holes, then homogenised and split in three plastic bags which were then sealed prior to shipment to Catalão and then to ANSTO by regular mail. • The 0.8 kg sample size is adequate to represent each individual samples in the composite. • At ANSTO the homogenised sample was screened/crushed to 100% passing 1 mm and rotary split into representative portions for head assay, screening and desorption testing. Samples for head assay and desorption testing were pulverised. • 6 aliquots used for the first diagnostic ammonium sulfate leaching, under different parameters for the ammonium sulfate concentration and pH, all for 2 hours in ambient temperature and pressure. • 2 aliquots of 1.5kg were used for the 2 column leach tests, one with ammonium sulfate and the other with magnesium sulfate, in ambient temperature and pressure with Ph 4.5, completed in 14 days. • Auger sampling procedure is completed in the exploration shed in Apui. • The entire one metre sample is bagged on site, in a raffia bag which is transported to the exploration shed, where it is naturally dried prior to homogenisation, then quartered to about 1kg to go to SGS and another 1kg to store on site. • The composite sample was from the 1 kg sample stored on site. • Sample preparation for the composite, such as pulverization and homogenization of the 49.6 kg was conducted at ANSTO. • Sample preparation for assay the auger samples was conducted at SGS Vespasiano (greater Belo Horizonte) comprising oven drying, crushing of entire sample to 75% < 3 mm followed by rotary splitting and pulverisation of 250 to 300 g at 95% minus 150# • The <3 mm rejects and the 250-300 g pulverised sample were returned to BCM for storage, after all assays were reported.
Quality of Assay Data and	• The nature, quality and appropriateness of the assaying and laboratory procedures used and	• The assays for REE in the ammonium solution from the 6 leaching tests and the column leach tests for the head grade were conducted by ANSTO.

Item	JORC code explanation	Comments
Laboratory Tests	whether the technique is considered partial or total. • 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. • Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established	• All data reported from ANSTO were in elemental form including the TREY and presented in this announcement as received. • ALS introduced its own QA/QC controls, incorporating standards, blanks and duplicates. • The ALS method for analysis of REEs in solution was ME-MS02 (ICP-MS) and for head assay was ME-MS81 (lithium tetraborate fusion digest/ICP-MS finish). Gangue elements in solution were assayed by ICP-OES at ANSTO and gangue elements in the head sample by XRF at ANSTO. • 1 blank sample. 1 certified reference material (standard) sample and 1 field duplicate sample were inserted by BCM into each 25-sample sequence. • Standard laboratory QA/QC procedures were followed. including inclusion of standard. duplicate and blank samples. • The assay results of the standards fall within acceptable tolerance limits and no material bias is evident. • The assay technique at SGS used for REE's was lithium tetaborate fusion / ICP-MS finish (SGS code ICP95A and IMS95A). This is a recognised industry standard analysis technique for REE suite and associated elements. Elements analysed at ppm levels: Ba, Ce, Co, Cs, Dy, Er, Eu, Ga Gd, Hf, Ho, La, Lu, Nb, Nd, Pr Rb, Sm, Sn, Sr, Ta, Tb, Th, Tm U, V, W, Y, Yb, Zr, Zn, Co Cu, Ni The sample preparation and assay techniques used are industry standard and provide total analysis. The ICP95A reports the major elements oxides used to calculate the Chemical Index of Alteration (CIA) at % levels: Al2O3, CaO, Cr2O3, F2O3 K2O, MgO, MnO, Na2O P2O5, SiO2, TiO2 • The SGS laboratory used for the RRE assays is ISO 9001 and 14001 and 17025 accredited. • Analytical standard for REE ITAK-705 was used as CRM material in the batches sent to SGS.

Item	JORC code explanation	Comments
		• The assay results for the standards were consistent with the certified levels of accuracy and precision and no bias is evident. • The blanks used contain some REE. with critical elements Ce. Nd. Dy and Y present in small quantities. • Duplicate samples were allocated separate sample numbers and submitted with the same analytical batch as the primary sample. Variability between duplicate results is considered acceptable and no sampling bias is evident. • Laboratory inserted standards. blanks and duplicates were analysed as per industry standard practice. There is no evidence of bias from these results.
Verification of Sampling and Assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• No independent or alternative verification of sampling and assaying procedures was carried out. • The metallurgical report was sent directly to BCM´s MD in Australia. • Analytical results for REE were supplied digitally, directly from the SGS laboratory in Vespasiano to BCM's Exploration Manager in Rio de Janeiro. • No twinned holes were used. • Geological data was logged onto paper and transferred to Excel spreadsheets at end of the day and then transferred into the drill hole database. Microsoft Access is used for database storage and management and incorporates numerous data validation and data integrity checks. All assay data is imported directly into the Microsoft Access database. • No adjustments were made to the data. • All REE assay data received from the laboratory in element form is unadjusted for data entry. • Conversion of elements analysis (REE) to stoichiometric oxide (REO) was undertaken by spreadsheet using defined conversion factors. (Source:https://www.jcu.edu.au/advanced-analytical-centre/resources/element-to-stoichiometric-oxide-conversion-factors). Element ppm / Conversion Factor / Oxide Form: Ce / 1.2284 / CeO2 Dy / 1.1477 / Dy2O3 Er / 1.1435 / Er2O3 Eu / 1.1579 / Eu2O3

<table>
<tr><th>Item</th><th>JORC code explanation</th><th>Comments</th></tr>
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<table>
<tr><td>Gd</td><td>1.1526</td><td>Gd2O3</td></tr>
<tr><td>Ho</td><td>1.1455</td><td>Ho2O3</td></tr>
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<tr><td>Yb</td><td>1.1387</td><td>Yb2O3</td></tr>
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Rare earth oxide is the industry accepted form for reporting rare earths. The following calculations are used for compiling REO into their reporting and evaluation groups:
TREO (Total Rare Earth Oxide) = La2O3 + CeO2 + Pr6O11 + Nd2O3 + Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Y2O3 + Lu2O3
LREO (Light Rare Earth Oxide) = La2O3 + CeO2 + Pr6O11 + Nd2O3
HREO (Heavy Rare Earth Oxide) = Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Y2O3 + Lu2O3
CREO (Critical Rare Earth Oxide) = Nd2O3 + Eu2O3 + Tb4O7 + Dy2O3 + Y2O3
(From U.S. Department of Energy, Critical Material Strategy, December 2011)
MREO (Magnetic Rare Earth Oxide) = Nd2O3 + Pr6O11 + Tb4O7 + Dy2O3
NdPr = Nd2O3 + Pr6O11
DyTb = Dy2O3 + Tb4O7
In elemental from the classifications are:
TREE: La+Ce+Pr+Nd+Sm+Eu+Gd+Tb+Dy+Ho+Er+Tm+Tb+Lu+Y
HREE: Sm+Eu+Gd+Tb+Dy+Ho+Er+Tm+Tb+Lu+Y
CREE: Nd+Eu+Tb+Dy+Y
LREE: La+Ce+Pr+Nd
</td></tr>
<tr><td>Location of Data Points</td><td>Accuracy and quality of surveys used to locate drill holes (collar and down-hole</td><td>Auger collar locations were surveyed initially by GPS, at an estimated accuracy of 2m.</td></tr>
</table>

Item	JORC code explanation	Comments
	surveys), trenches, mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system used. • Quality and adequacy of topographic control.	• Posterior to the end of the drilling campaign, the collar locations were picked up by a licensed surveyor using a Trimble total station (+/- 5cm), referenced to a government survey point. All drill holes have been checked spatially in 3D. • The grid system used for all data types in a UTM projection is SIRGAS Zone 21 Southern Hemisphere. No local grids are used. • The auger holes collar coordinates for the holes used in the resource estimation were surveyed to sub-decimetre accuracy by a licenced surveyor.
Data Spacing and Distribution	• Data spacing for reporting of Exploration Results. • 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. • Whether sample compositing has been applied.	• Auger holes were over 200m to 800m apart, designed for testing iREE mineralisation over the mapped felsic volcanics. • The data spacing and distribution is sufficient to establish the level of REE elements present in the target area and its continuity along the regolith profile appropriate for a Mineral Resource. • No sample composition was applied.
Orientation of Data in relation to Geological Structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • 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.	• The location and depth of the sampling is appropriate for the deposit type. • Relevant REE values are compatible with the exploration model for ionic REEs. • No relationship between mineralisation and drilling orientation is known at this stage.
Sample security	• The measures taken to ensure sample security.	• The auger samples in sealed plastic bags were sent directly to SGS by bus and then airfreight. The Company has no reason to believe that sample security poses a material risk to the integrity of the assay data.

Item	JORC code explanation	Comments
Audit or Reviews	• The results of any audits or reviews of sampling techniques and data.	• The sampling techniques and data have been reviewed by the Competent Person and are found to be of industry standard.

JORC (2012) Table 1 - Section 2: Reporting of Exploration Result

Criteria	JORC code explanation	Commentary
Mineral Tenement and Land Tenure Status	• 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. • 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.	• The Ema and Ema East leases are 100% owned by BCM with no issues in respect to native title interests, historical sites, wilderness or national park and environmental settings. • The Company is not aware of any impediment to obtain a licence to operate in the area.
Exploration done by Other Parties	• Acknowledgment and appraisal of exploration by other parties.	• Some non-listed entities have conducted limited exploration in the region. No results are publicly available.
Geology	• Deposit type, geological setting and style of mineralisation.	• The REE mineralisation at Ema is contained within the tropical lateritic weathering profile developed on top of felsic rocks (rhyolites), as per the Chinese deposits. • The REE mineralisation is concentrated in the weathered profile where it has dissolved from the primary mineral, such as monazite and xenotime, then adsorbed on to the neo-forming fine particles of aluminosilicate clays (e.g. kaolinite, illite, smectite). • This adsorbed iREE is the target for extraction and production of REO.

Drill Hole Information	• 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:
	  ◦ easting and northing of the drill hole collar
	  ◦ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar
		• Auger hole locations and diagrams were presented in previous announcements.
		• Details were tabulated in the announcements.

Criteria	JORC code explanation	Commentary
	◦ dip and azimuth of the hole ◦ down hole length and interception depth ◦ hole length. • 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.	
Data aggregation methods	• 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. • 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. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• Weighted averages were calculated for all intercepts and announced. • No metal equivalent values reported.
Relationship between mineralisation widths and intercepted lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • 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').	• Significant values of desorbed REE were reported for the auger samples. • Mineralisation orientation is not known at this stage, although assumed to be flat. • The downhole depths are reported, true widths are not known at this stage.

Criteria	JORC code explanation	Commentary
Diagrams	• 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.	• Maps and tables of the auger hole location and target location are inserted.
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• Relevant REE mineralisation with grades higher than 500ppm TREO in auger holes was reported and previously announced. • All mineralized intercepts used in the composite were previously reported. • Only the relevant metallurgical recoveries are published in table 1 in body of report.
Other substantive exploration data	• 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.	• No other significant exploration data has been acquired by the Company. • A maiden Inferred resource was published to the ASX on 22nd April 2024.
Further Work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological	• Infill drilling to upgrade the MRE. • Additional metallurgical test work is planned at ANSTO – Sydney.

Criteria	JORC code explanation	Commentary
	interpretations and future drilling areas, provided this information is not commercially sensitive.	