HIGH-VALUE MIXED RARE EARTH CARBONATE PRODUCT SUCCESSFULLY PRODUCED FOR EMA PROJECT

EMA POSITIONED TO BECOME AN INDUSTRY LEADING IONIC CLAY REE PRODUCER

Highlights

- ANSTO test work demonstrates the ability to produce a high value bulk mixed rare earth carbonate (MREC) product from Ema ionic clay rare earth material
- Magnet rare earth elements (MREE's) **comprised a very high 38% of final REO basket composition**
- **High TREO content in final MREC calculated at 55.3%,** now setting an industry benchmark for a basket price to be developed utilising magnesium sulfate (Figure 3)
- MREC production utilised an environmentally friendly **magnesium-based** reagent stream, eliminating use of ammonium
- **High purity (98%) low impurity (~2.0%)** MREC, after only 30 minutes at target pH using magnesium oxide
- **High MREE recoveries >99%** in the MREC precipitation stage after 2 hours of mixing with at target pH using magnesium bicarbonate
- High TREO inside the final MREC delivers **superior value basket prices** for an ionic clay project (Figure 3)
- Results to be used to calculate CAPEX and OPEX pricing in the Scoping Study due for completion by year's end.

Andrew Reid, Managing Director, commented:

"BCM has a vision to create one of the most environmentally friendly and lowest cost rare earth mines globally. The results from ANSTO confirm that BCM remains on track to achieve this goal by producing a high value final product utilising environmentally responsible magnesium-based reagents. This is a significant milestone for the Company.

The Company is now increasingly confident in its ability to build a low-cost in-situ recovery rare earth project, having exceeded all expectations over the last 6 months since the Mineral Resource Estimate was released.

In-situ recovery of rare earths, which currently produces some 30% of the world's production, significantly simplifies and removes at least 60% of the typical process flowsheet and much of the complexity when compared to traditional methods of rare earth clay extraction. Not only is the complexity and capital cost hurdle far lower for development of an ISR project, but the operating cost are also typically in the lowest quartile, which bodes well for our Ema Project.

For the balance of this calendar year we will complete a large infill drilling campaign, finalise the scoping study, complete some additional metallurgical testwork and continue with the environmental baseline assessment of the project."

Brazilian Critical Minerals Limited (**ASX: BCM**) ("**BCM**" or the "**Company**") is pleased to announce the results from metallurgical testwork on a bulk sample from the Ema Rare Earth Project in the Apuí region of Brazil (Figure 1).

Figure 1. Location of the Ema Project, Brazil.

Test Work Program

The test program conducted by Australia's Nuclear Science Organisation (**ANSTO**) focused on achieving a viable, low-cost flowsheet utilising magnesium sulfate, magnesium oxide and magnesium bicarbonate as the foundation chemicals through only 3 surface processing steps (Figure 2).

The objective was to develop a flowsheet using environmentally friendly reagents which would allow for the development of low cost in-situ recovery of rare earths, avoiding all the potential harm and degradation that comes with using ammonium-based reagents.

The goal was to ensure that the developed flowsheet could deliver high recovery rates, low impurities, and a product quality that could be economically feasible, even in times of low prices of rare earth elements (REEs).

Producing a high-value mixed rare earth carbonate confirms that the project has successfully refined and concentrated several REEs into a form that can be further processed into pure, individual rare earth oxides and metals. This is a significant milestone in the supply chain for industries that rely on these materials, such as the green tech sector.

The successful outcome of this program underscores the potential for scalable and economically viable operations at Ema with a focus on low cost and efficiency.

Final Product (MREC)

The Mixed Rare Earth Carbonate (MREC) produced from the test work contained 55.3% rare earth oxides (REO) and only ~2.0% impurities based on test work conducted using a 41kg sample from the Ema 2 master composite sample. Through the impurity removal and carbonate precipitation process steps, approximately 33.2 grams of high-quality MREC was generated, Figure 2.

Figure 2. Simple 4 step process flow sheet for ionic clay MREC production at Ema Project

This result highlights the efficiency of the magnesium sulfate process on the Ema material in producing a high-grade, low-impurity MREC product, which is critical for meeting industry standards and optimizing the economic viability of the project at the same time as generating outstanding revenue potential through the basket price calculation (Figure 3). The purity level of the MREC positions this product as highly competitive in the market, further validating the potential path taken to process the Ema material.

The composition of the magnet elements in the final MREC and recoveries achieved through the processing steps in testwork result in an exceptionally high basket price despite the significantly lower head grade of the tested samples relative to our peers, and when combined with a potentially low-cost mining and processing flow sheet, has the potential to place the project in a good position to tap into the rapidly growing demand from industries (Figure 3). The table below compares the final MREC products of BCM, with our key Brazilian peers, Viridis Mining and Minerals Ltd (VMM), and Meteoric Resources NL (MEI).

FINAL MREC		BCM			VMM[1]			MEI[1]		
	Head Grade (ppm)	965			4,472			4,439		
	Agent	Magnesium Sulfate			Ammonium Sulfate			Ammonium Sulfate		
	Time	30 Minutes			30 Minutes			30 Minutes		
	pH	4.5			4.5			4.5		
	Molar	0.3			0.3			0.5		
Oxide	Price (01.11.24) USD/kg	%	Basket $		%	Basket $		%	Basket $	
La2O3	$ 0.56	34.7	$	0.19	44.5	$	0.25	57.6	$	0.32
CeO2	$ 1.01	8.9	$	0.09	2.4	$	0.02	1.4	$	0.01
Pr6O11	$ 60.45	7.1	$	4.31	8.3	$	5.04	8.6	$	5.17
Nd2O3	$ 60.45	29.1	$	17.61	29.2	$	17.62	22.0	$	13.30
Sm2O3	$ 2.10	4.6	$	0.10	3.2	$	0.07	2.4	$	0.05
Eu2O3	$ 27.35	0.5	$	0.15	0.8	$	0.23	0.6	$	0.16
Gd2O3	$ 24.68	2.9	$	0.71	2.1	$	0.52	1.5	$	0.37
Tb4O7	$ 839.95	0.3	$	2.28	0.3	$	2.18	0.2	$	1.68
Dy2O3	$ 247.42	1.4	$	3.39	1.2	$	2.92	0.8	$	1.98
Ho2O3	$ 72.54	0.2	$	0.18	0.2	$	0.15	0.1	$	0.07
Er2O3	$ 42.60	0.7	$	0.30	0.5	$	0.20	0.3	$	0.13
Tm2O3	$ 113.31	0.1	$	0.11	0.1	$	0.06	0.0	$	0.01
Yb2O3	$ 14.06	0.6	$	0.08	0.3	$	0.04	0.1	$	0.01
Lu2O3	$ 759.12	0.1	$	0.64	0.0	$	0.30	0.0	$	0.08
Y2O3	$ 5.90	8.7	$	0.51	6.9	$	0.41	4.5	$	0.27
Basket Price (TREO)		**$**	**30.66**		$	30.01			$	23.61
Basket Price (NdPrDyTb)		**$**	**27.59**		$	27.76		$		22.12
MREO %		37.9			38.9			31.6		
TREO %		100.0			100.0			100.0		

Figure 3. Basket Price calculation and comparison showing high value MREC product relative to Brazilian peers. Spot price assumptions https://giti.sg/markets/markets_files. [1] Viridis Mining and Minerals (ASX:VMM) ASX Announcement "Colossus Maiden Mixed Rare Earth Carbonate (MREC) Product 24.09.24

Figure 4. Final Mixed rare earth carbonate product, 33.2 grams, produced at the ANSTO facilities in Sydney.

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Impurity Removal (MREC)

The presence of impurities in REE-containing solutions has an enormous impact on not only the final REE products (MREC), but also on the efficiency of processing. Removal of impurities like aluminium and iron are vital as they can be detrimental to further downstream solvent extraction separation circuits.

Figure 5. Step 2 of impurity removal in the simple 4 step process flow sheet to produce an MREC.

A target pH was determined based on results of the Process Development Program, with freshly prepared ~20 wt% magnesium oxide slurry added to achieve the impurity removal target pH. A total residence time of 30 minutes at the target pH was maintained.

The testwork revealed that pH played a significant role in the selective removal of Fe impurities and resulted in the production of high-purity, industry-grade REEs. Through this method the precipitated solid primarily contained residual aluminium, silica, and magnesium, with minimal loss of REEs. The method achieved a high purity level of ~98% with the remaining ~2.0% containing elements listed below (Figure 5).

BCM (Impurities in MREC)		
Impurity	**Oxide**	**Value %**
Alumium	Al2O3	0.52
Calcium	CaO	0.05
Cobalt	CoO	<0.001
Copper	CuO	<0.001
Iron	Fe2O3	0.06
Potassium	K2O	0.05
Magnesium	MgO	0.52
Manganese	MnO	0.03
Sodium	Na2O	0.08
Nickel	NiO	0.24
Lead	PbO	0.01
Silica	SiO2	<0.2
Zinc	ZnO	0.07
Thorium	Th	<0.001
Uranium	U	0.01

Figure 5. Percentage of impurities carried through to final mixed rare earth carbonate. Impurities totalled ~2.0%.

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Composite Bulk Sample

The Bulk Composite sample used to generate the final MREC was formed using ~41kg of ionic clay from the Ema Project producing 33.2 grams of dry MREC.

This testwork utilised a 41Kg composite sample collected from 12 auger holes over 62 samples drilled at Ema (Table 1).

Table 1. Hole and sample information which was sent to ANSTO for analysis. See appendix 1 for details.

No. of Holes	No. of Samples	Sample Quantity (kgs)
12	62	41

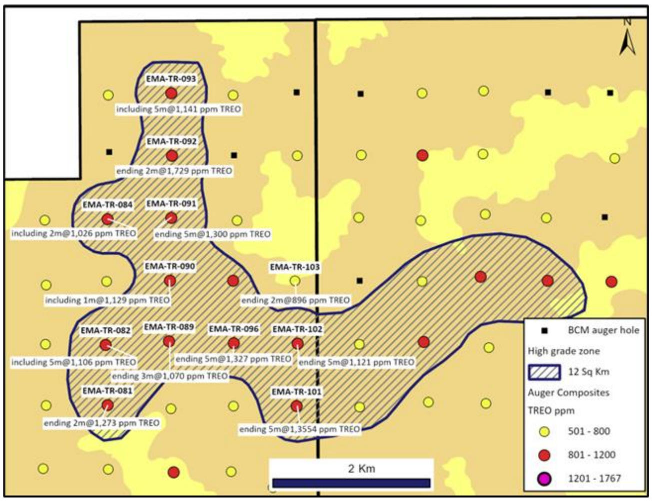

Figure 6. Ema detailed location map showing location of auger holes used to make the composite sample sent to ANSTO.

Current Work Program at Ema till December 2024

The Ema project is currently focused on enhancing our understanding of the Mineral Resource Estimate (see About section below) through an extensive infill drilling program (currently >90% complete) and ongoing metallurgical assessment. The key work fronts ongoing until the end of December 2024 include;

1. Mineral Resource Infill Drilling

- Complete 270-hole infill drilling program, currently >90% complete
- Collection of additional density data from deeper horizons to improve the accuracy of the MRE, now completed
- Drill program targeting strategic locations that are likely to yield significant insights into the mineralization, supporting initial ISR assessment, now completed

2. Processing and Metallurgical Testing

- Initial ANSTO metallurgical testing and assessment through steps of impurity removal, rare earths precipitation and MREC final product production to validate process flow sheet, now complete
- Complete magnesium sulfate leaching assays to extract additional data from all infill drilling holes which will under pin and support both the MRE update and scoping study is complete
- Conduct a comprehensive suite of metallurgical tests on a representative master sample to determine processing characteristics from the current infill program

3. Mineral Resource Estimate update

- Prepare for the updated Mineral Resource Estimate based on the newly acquired density and assay data is about to commence

4. Completion of Scoping Study

- Complete Scoping Study utilising metallurgical testing and mineral resource estimation to inform the economic viability of the project

This announcement has been authorised for release by the Board of Directors.

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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.

Ema REE Project 2024 Mineral Resource Estimate – by cut-off grade

JORC Category	cut-off (ppm) TREO	Tonnes (Mt)	TREO (ppm)	NdPr (ppm)	DyTb (ppm)	MREO (ppm)	MREO:TREO (%)
Inferred	0	1,340	694	163	15	178	26
Inferred	500	1,017	793	199	17	216	27
Inferred	600	863	836	218	18	236	28
Inferred	700	685	885	237	20	257	29
Inferred	800	494	936	259	21	280	30
Inferred	900	331	977	278	22	300	31

Competent Person Statement

The information in this announcement relates to previously reported exploration results for the Ema/Ema East Project released by the Company to ASX on 22 May 2023, 17 July 2023, 19 July 2023, 31 July 2023, 13 Sep 2023, 19 Oct 2023, 06 Dec 2023, 06 Feb 2024, 22 Feb 2024, 13 Mar 2024 and 02 Apr 2024. The Company confirms that is not aware of any new information or data that materially affects the information included in the above-mentioned releases.

The information in this announcement that relates to exploration results 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 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 information in this announcement that relates to the metallurgical results were compiled by Andrew Reid who is a permanent employee of Brazilian Critical Minerals Limited and is a Fellow of the Australian Institute of Mining and Metallurgy (AusIMM). Mr. Reid 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. Reid consents to the inclusion in this announcement of the matters based on the information in the form and context in which it appears.

Appendix 5

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 submarine nodules) may warrant disclosure of detailed information.	• Exploration results are based on auger drilling conducted by BCM´s exploration team. • The data presented is based on the assay of soils and saprolite by auger drilling at 1m sample intervals. • Sampling was supervised by a GE21 geologist or a GE21 field assistant. • Every 1-metre sample was collected in a big plastic bag in the field and transported to the exploration shed to be dried in the muffle. prior to homogenisation. • Samples were homogenised and subsequently riffle split with about 1 kg sent to SGS for analysis and a similar amount stored. • 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.
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.
Drill Sample Recovery	• Method of recording and assessing core and chip sample recoveries and results assessed.	• No recoveries are recorded. • The operator observes the volume of each metre and notes any discrepancy.

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Item	JORC code explanation	Comments
	• 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 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 GE21 geologist. 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.
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.	• Auger sampling procedure is completed in the exploration shed in Apui. • The entire one metre sample is bagged on site. in a big plastic bag which is transported to the exploration shed. where it is dried at 70-90C prior to homogenisation. then quartered to about 1kg to go to SGS and another 1kg to store on site. • Sample preparation for the auger samples was conducted at SGS Vespasiano (greater Belo Horizonte) comprising oven drying at 100C. crushing of entire sample to 75% < 3mm followed by rotary splitting and pulverisation of 250 to 300 grams at 95% minus 150# • The <3mm rejects and the 250-300 grams pulverised sample were returned to BCM for storage. • Only the last 10 metres of each hole were sent to assay. the samples above will be send if required. ANSTO • A Bulk composite of approximately 41kgs was dried at 50°C and crushed to <1 mm to ensure sample representativity in subsequent sub-sampling. • A small portion (250g) was split out and pulverised to produce samples for head grade assaying after drying at 105 ºC and analysis using XRF for major gangue elements (Al, Ca, Cu, Fe, K, Mg, Mn, Na, Ni, P, Si, Sr, Zn). • A 600g sample was split to conduct a slurry leach test. • The final liquor was assayed were assayed in triplicate by tetraborate fusion digest/ICP-MS (lithium, tetraborate method) for rare earth elements ('REEs') , U, Th and Sc by ALS Brisbane.
Quality of Assay Data and	• The nature. quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	ANSTO completed the assay data and laboratory tests for the Ema Project, with the aim to produce a Mixed Rare Earth Carbonate (MREC). The primary objective of the work was to develop a product utilising magnesium based reagents allowing for a final demonstration and marketing product to be developed.

<table>
<tr><th>Item</th><th>JORC code explanation</th><th>Comments</th></tr>
<tr>
<td>Laboratory Tests</td>
<td>

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

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Specific tasks included;

Carrying out a large scale slurry leach test on the EMA composite;
Carrying out a large scale impurity removal test on liquor generated from the large scale slurry leach test;
Carry out a large scale rare earth carbonate precipitation test on the IR liquor;
Analyse the MREC product for a full suite of elements, including radionuclides;

Flowsheet for MREC Production: The process included the following key steps:
1. Desorption: Leaching was performed using magnesium sulfate sulphate (0.3M) at pH 4.5, room temperature, and a 30-minute residence time.
2. Impurity Removal: Using magnesium oxide, a two-stage precipitation process increased the pH from 4.5 to 7.5 under ambient conditions.
3. MREC Precipitation: Magnesium bicarbonate was used as a precipitating agent to produce the final MREC product.
Final Product: MREC with 48.1% recovery of TREY containing 55.3% TREO and 37.9% of MREO (100% basis) and impurity levels ~<2.0%. Residual liquids from the desorption and precipitation stages were analysed to assess impurity removal efficiency. Laboratories and Analytical Techniques: - ANSTO: Conducted most of the process tests and analyses using the following techniques: - XRF for major elements, including Al, Ca, Fe, K, Mg, Mn, Na, Si, and others. - ICP-OES for in-house analysis of gangue minerals. ICP-MS for rare earth elements, including Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sc, Sm, Tb, Th, Tm, U, Y, and Yb. At the ALS Geochemistry Laboratory: Performed external analysis of rare earths and radionuclides using lithium tetraborate fusion digest followed by ICPMS. These tests confirmed the quality of the MREC product, has low impurity levels, and complies with market specifications.
Field Samples:

1 blank sample. 1 certified reference material (standard) sample and 1 field duplicate sample were inserted by BBX 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 used for REE was Lithium Metaborate Fusion ICP-MS (SGS code ICP95A and IMS95A). This is a recognised industry standard analysis technique for REE suite and associated elements. Elements analysed at ppm levels:

<table>
<tr><td>Ba</td><td>Ce</td><td>Cr</td><td>Cs</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>Nb</td><td>Nd</td><td>Pr</td></tr>
<tr><td>Rb</td><td>Sm</td><td>Sn</td><td>Sr</td><td>Ta</td><td>Tb</td><td>Th</td><td>Tm</td></tr>
<tr><td>U</td><td>V</td><td>W</td><td>Y</td><td>Yb</td><td>Zr</td><td>Zn</td><td>Co</td></tr>
<tr><td>Cu</td><td>Ni</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
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Item	JORC code explanation	Comments
		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 included: 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-713 and 714 were used as CRM material in the batches sent to SGS. • 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.	• Apart from the routine QA/QC procedures by the Company and the laboratory. there was no other independent or alternative verification of sampling and assaying procedures. • Analytical results for REE were supplied digitally. directly from the SGS laboratory in Vespasiano to the BCMs 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).

Al2O3	CaO	Cr2O3	F2O3
K2O	MgO	MnO	Na2O
P2O5	SiO2	TiO2	

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>
<tr><td></td><td></td><td>
<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>
<tr><td>La</td><td>1.1728</td><td>La2O3</td></tr>
<tr><td>Lu</td><td>1.1371</td><td>Lu2O3</td></tr>
<tr><td>Nd</td><td>1.1664</td><td>Nd2O3</td></tr>
<tr><td>Pr</td><td>1.2082</td><td>Pr6O11</td></tr>
<tr><td>Sm</td><td>1.1596</td><td>Sm2O3</td></tr>
<tr><td>Tb</td><td>1.1762</td><td>Tb4O7</td></tr>
<tr><td>Tm</td><td>1.1421</td><td>Tm2O3</td></tr>
<tr><td>Y</td><td>1.2699</td><td>Y2O3</td></tr>
<tr><td>Yb</td><td>1.1387</td><td>Yb2O3</td></tr>
</table>
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 surveys). trenches. mine workings and other locations used in Mineral Resource estimation.
• Specification of the grid system used.
• Quality and adequacy of topographic control.</td><td>• The UTM WGS84 zone 21S grid datum is used for current reporting. The drill holes collar coordinates for the holes reported are currently controlled by hand-held GPS.</td></tr>
<tr><td>Data Spacing and Distribution</td><td>• 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</td><td>• Auger holes were over 200m to 400m apart. designed for testing iREE mineralization 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.</td></tr>
</table>

Item	JORC code explanation	Comments
	Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied.	• 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.
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 Results

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.	• No exploration by other parties has been conducted in the region.
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
	    • 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.
		• Auger locations and diagrams are presented in this announcement.
		• Details are tabulated in the announcement.

Criteria	JORC code explanation	Commentary
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. • 500ppm TREO cut-off grade was applied to define the relevant intersections. • No metal equivalent values reported.
Relationship between mineralization 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 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.
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 soil auger holes 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 with confirmation of IAC (Ionic Adsorbed Clay) type mineralisation obtained in almost all the auger holes from phase 1. in this same geological setting.
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;	• No other significant exploration data has been acquired by the Company.

Criteria	JORC code explanation	Commentary
	potential deleterious or contaminating substances.	
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 interpretations and future drilling areas. provided this information is not commercially sensitive.	• Specific Densities collection at Intermediate and Low weathered horizons for the upcoming MRE. • Additional metallurgical test work with magnesium sulphate leach. • Permeability test works under WSP co-ordination • SS in progress under Ausenco coordination