QUARTERLY ACTIVITIES REPORT

For the period ending 30th June 2024

Highlights

- **1.02Bt @ 793ppm TREO** Inferred JORC compliant Mineral Resource Estimate (MRE) at a 500ppm TREO cut-off, including a higher-grade portion of **331Mt @ 977ppm TREO,** placing Ema as one of the largest[1] fully ionic clay rare earth deposits in the world
- World class metallurgical recoveries of MREO averaging **69% NdPr** and **48% DyTb** from phase 2 metallurgical testwork at ANSTO
- Recoveries achieved using standard weak ammonium sulphate leaching solution, **pH 4**, at ambient temperatures over low leach times
- Leachability response now confirms majority portion of the defined **82km²** of rare earth mineralisation contains ionic clays
- The Company has received the final report with respect to the social engagement analysis completed within the Apuí region.
    - The public authorities and local social and community organizations strongly support and welcome the presence of BCM in the municipality of Apuí and have committed to working together to ensure a smooth development pathway
- Strong TREO results starting from surface at the Apui ENE REE project exceeding **1,200ppm** with up to **663ppm NdPr**[5]. Apui ENE is the second major REE discovery made by BCM during 2023, with less than 10% of the 173 km2 tenement drill tested to date.
    - **5 metres @ 2,257ppm TREO** from 13m, including 3m @ 3,357ppm TREO ending in 1,470ppm TREO (APTR-020)
    - **15 metres @ 1,195ppm TREO** from surface, including 3m @ 1,979ppm TREO ending in 1,131ppm TREO (APTR-032)
    - **8 metres @ 1,067ppm TREO** from surface, including 3m @ 1,217ppm TREO ending in 691ppm TREO (APTR-035)
- BCM completed a strategic placement to sophisticated and institutional investors of $2 million (before costs) to advance the Ema project
- Cash position of $2.07m as of June 30th 2024.

Brazilian Critical Minerals Limited (ASX: BCM) ("BCM" or the "Company") is pleased to provide details of its activities during the quarter ended 30 June 2024 in the Apuí region of Brazil (Figure 1).

Figure 1. BCM project's location in the Apui region of Brazil.

Safety

There were no recordable injuries reported during the quarter.

Ema REE Project

The EMA REE project is unique amongst Brazilian REE projects in that it shares almost identical characteristics with the REE deposits developed over felsic volcanic rocks in the southwest of China, the world´s largest known ionic clay rare earth region.

Ema Mineral Resource Estimate

A set of Inferred Mineral Resources was estimated for the contained rare earth elements in the Ema project, constrained by different cut-off grades, by the consultancy group GE21 Consultoria Mineral Ltda (GE21) and reported in accordance with the JORC Code (2012)[1].

Table 1. 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**	**1017**	**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

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.

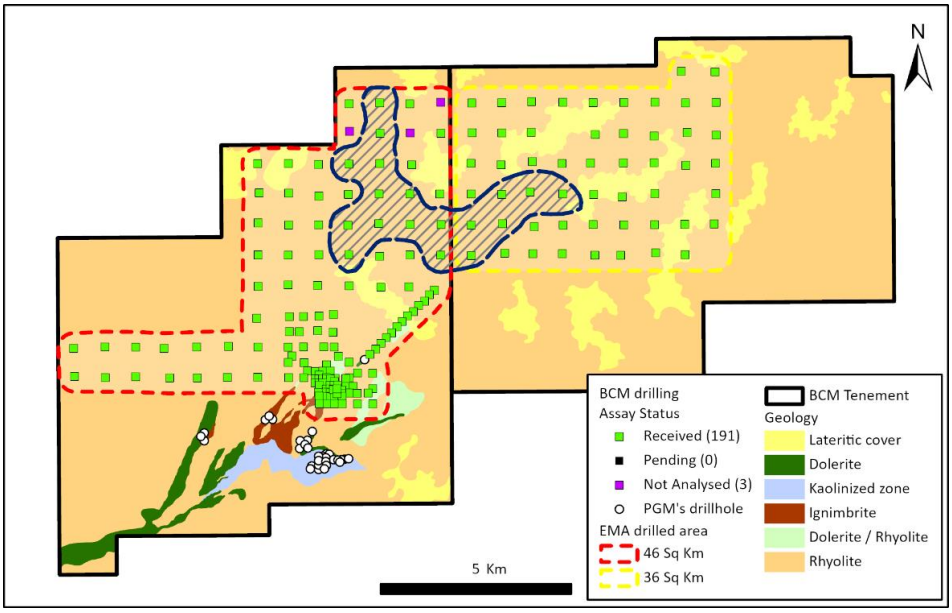

Figure 2. Ema-Ema East REE project – auger holes drill collars included in the maiden MRE over 82 sq km, including blue outlining high-grade 12km² zone.

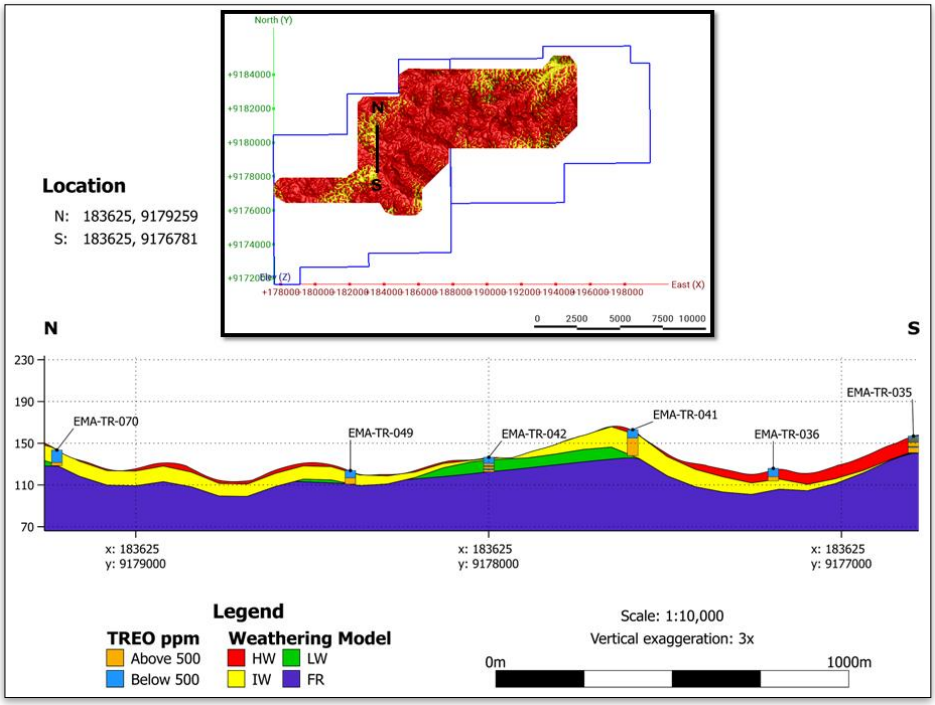

Figure 3. Schematic section of the Ema weathering Model.

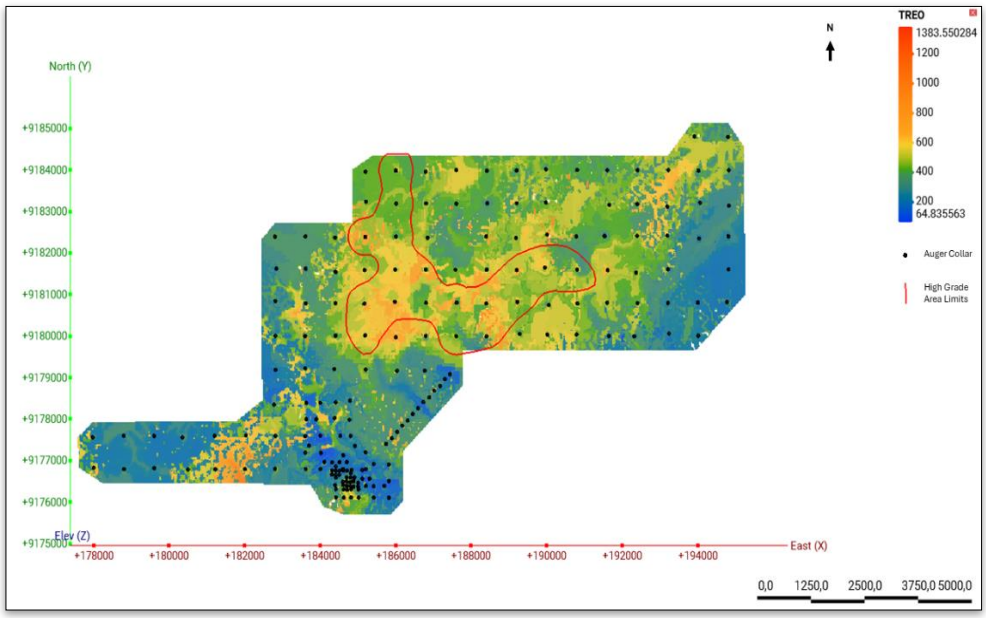

Figure 4. Map for the Resource Area with grade distribution plan (block model) of Ema showing a high-grade zone where infill drilling is planned.

Geology and mineralisation

The REE mineralisation at Ema is contained within the tropical lateritic weathering profile developed on top of felsic volcanic and volcaniclastic rocks (rhyolites and ignimbrites).

The REE mineralisation is concentrated in the weathered portion of the profile where it has dissolved from primary rare earth minerals such as monazite and xenotime, migrating downwards through the regolith profile where it is adsorbed on to the fine particles of aluminosilicate clays (e.g. kaolinite, illite, smectite). This adsorbed REE is the target for extraction and production of the rare earth oxides.

SGS Brazil Metallurgical Test Work

Results of phase 2 ammonium sulphate extraction tests conducted at SGS in Brazil continued to confirm high recoveries of up to 83% for the key permanent magnet rare earth elements, praseodymium, neodymium, dysprosium and terbium (MREO) equal to any ionic clay hosted deposit in the world. The outcome of the phase 1 and 2 tests shows that the Ema mineralisation could be processed through any conventional ionic rare earth element solvent extraction processing facility, supporting the further development of the project and a pathway to production.

The established industry standard set of recovery conditions was applied to the Ema phase 2 testwork, being the utilisation of a very weak acid, ammonium sulphate for leaching, pH 4, at ambient temperatures with a 30-minute leach duration[2]. These ammonium sulphate leach results show a clear relationship of high recovery to the highest-grade portions of each mineralised intercept.

ANSTO Metallurgical Test Work

World leading recoveries have resulted from the work recently completed by ANSTO (Australian Nuclear Science and Technology Organisation). The Ema project has some of the best, if not the best, recoveries for any ionic clay rare earth project inside of Brazil and perhaps anywhere in the world[3] (figure 5).

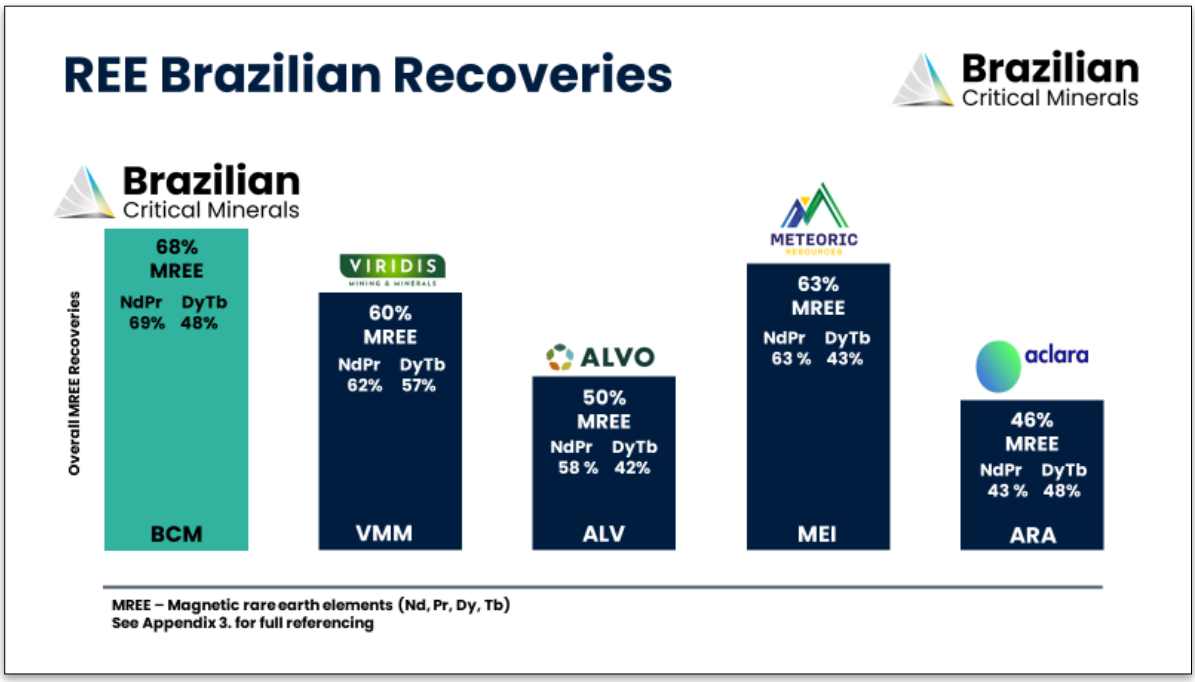

Figure 5. Rare earth recovery comparison of ionic clay hosted deposits currently defined within Brazil. See Appendix 1 for full list of details.

The Company has now completed the first phase of metallurgical testwork at ANSTO on an Ema composite drill sample. This testwork utilised a 49.6kg composite sample collected from 12 auger holes over 62 samples drilled at Ema.

The scope of work was designed to provide a deeper understanding of the mineralogy and leachability of the mineralised clays and establish optimal recovery conditions for the high value magnet REE´s.

This testwork applied the same parameters and standard analysis methods as utilised by SGS in Brazil[2]. The ANSTO results confirm the very high recovery results obtained from SGS analysis and more importantly confirm the rare earths are able to be leached over low duration times, at pH 4-4.5, with a 0.15-0.5M ammonium sulphate solution, checking all the critical boxes needed for a fully ionic clay rare earth deposit.

ANSTO also conducted solution leaching tests on duration times of 1 and 0.5 hours, with the overall MREE recovery results showing only a slight decrease at 0.5 hours (Figure 7).

Auger holes used in the bulk sample (Figure 8) were distributed within a higher-grade portion of the mineral resource. Cerium recovery results were very low at only 12% which is always viewed as a positive for ionic rare earth deposits as cerium generally contributes a significant portion of final product volumes but generates only US$1-2/kg in revenue.

Table 2. Optimal sample conditions which maximised MREE recoveries at pH 4.5

TREY* Head grade (ppm)	Reagent	Target pH	Temp °C	Leach Duration (h)	MREE (%)	Nd/Pr Recovery (%)	Dy/Tb Recovery (%)
965	0.5M $(NH_4)_2SO_4$	4	ambient	2	67	68	47
965	**0.5M $(NH_4)_2SO_4$**	**4.5**	**ambient**	**2**	**68**	**69**	**48**

*total rare earth elements (not oxides) plus Y

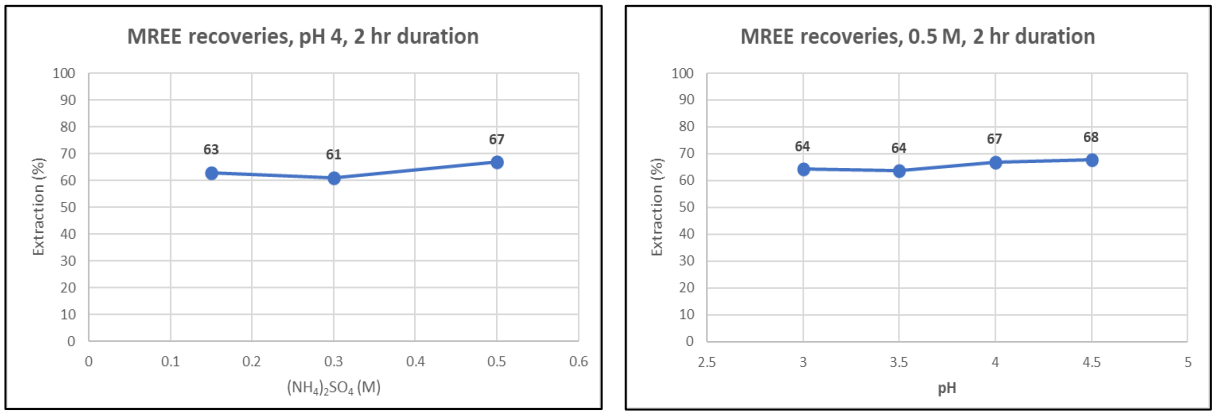

Figure 6. Chart on left showing MREE recoveries with differing ammonium sulphate concentration rates with chart on right displaying MREE recoveries over varying pH conditions.

Apuí REE Project

Assay results were received for follow up drill hole APTR-13[5] at Apui ENE (Figure 9), include;

- 5 metres @ **2,257ppm TREO**[1] from 13m, including 3m @ **3,357ppm** TREO ending in **1,470ppm** TREO (APTR-020)
- 15 metres @ **1,195ppm TREO** from surface, including 3m @ **1,979ppm** TREO ending in **1,131ppm** TREO (APTR-032)
- 8 metres @ **1,067ppm TREO** from surface, including 3m @ **1,217ppm** TREO ending in **691ppm** TREO (APTR-035)

The Apui REE project is the second major REE discovery made by BCM during the 2023 drill campaign with discovery holes announced in November 2023[4]. The results from the follow up programme show the presence of high REE grades of >3m in thickness exceeding 1,200ppm TREO, with accompanying

[1] TREO (Total Rare Earth Oxide) = La2O3 + CeO2 + Pr6O11 + Nd2O3 + Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Y2O3 + Lu2O3

elevated values of NdPr (Table 4) within the widespread REE rich sediments. Mineralisation at this stage remains open in all directions (Figure 10).

High TREO values start from surface persisting to end of down hole. Future deeper drilling is planned to test the deeper, more enriched zone.

Table 3. Auger hole APTR-032 assay results (10-15m) >200ppm NdPr

From (m)	To (m)	TREO ppm	HREO %	MREO %	NdPr ppm	DyTb ppm
10	11	**1,299**	27	22	257	35
11	12	**1,734**	24	26	414	40
12	13	**2,444**	25	28	613	60
13	14	**1,760**	21	26	428	36
14	15	**1,131**	28	23	227	34

This follow-up drill programme consisted of 19 auger holes totalling 216 metres drilled around APTR-13.

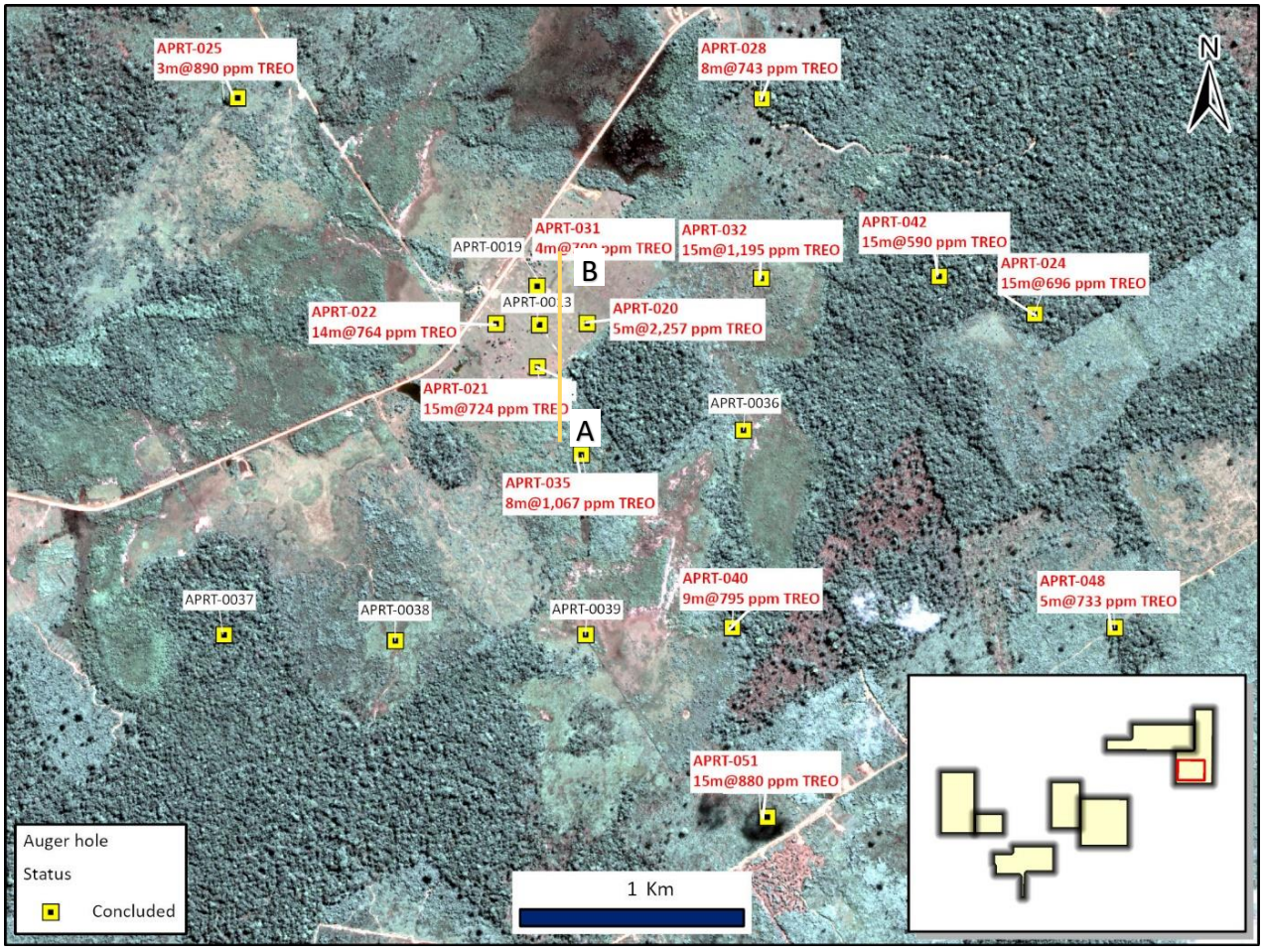

Figure 7. Apui ENE drilling. Auger hole locations on satellite image

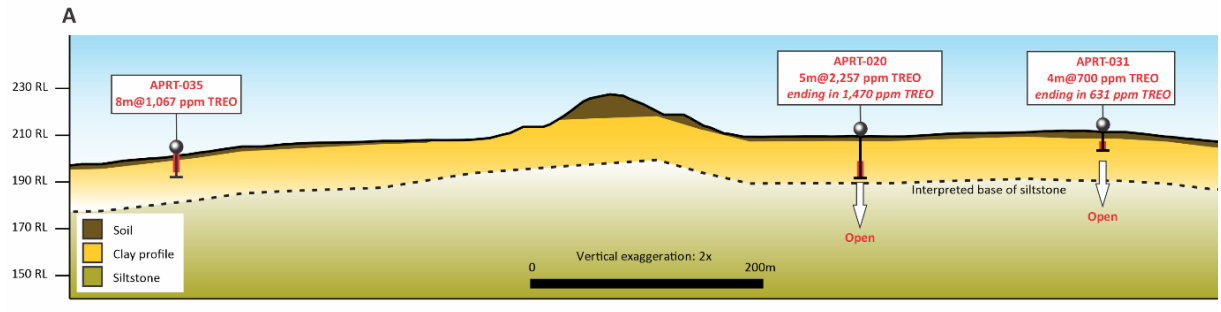

Figure 8. Representative cross-section showing high-grade REE results

Três Estados Project

Throughout the quarter, the Company finalised establishment and commissioned a laboratory in Catalão, Goiás, Brazil for the treatment of platinum, palladium and gold (PGM) samples from the Tres Estados deposit.

The Company was utilising EcoBiome´s proprietary technology of bacterial leaching which demonstrated the suitability for unlocking refractory palladium and gold during testing at the Ecobiome facilities in Houston, Texas in 2023[4].

At quarter's end, a number of tests had been completed in Brazil which were benchmarked against results received from initial testing in Houston utilising similar setup parameters.

To date, palladium and gold has been liberated into solution, but not in the same time frames and grades that were achieved in the initial test phase conducted in Houston.

At this stage there is no certainty that further test work utilising EcoBiome's proprietary technology will result in a material uplift in grades sufficient to justify continued investment in this new technology.

Additionally, a review of the PGM market shows current tepid prices and demand with an uncertain outlook to 2030.

As a result, the company has therefore decided to concentrate all its cash resources and technical efforts to progress the Ema rare earths project, which with its unique mineralisation and very high rates of recovery, is likely to be a near term development project as we enter into the scoping phase of the project.

As such, the Company's Brazilian subsidiary has notified EcoBiome of its intent to terminate its contract with EcoBiome.

Corporate

On the 6th May the Company announced the retirement of its non-executive director Ken Klusdahl[6].

On the 20th May the Company announced the results of binding commitments from existing sophisticated investors to raise $2.0 million (before costs) through the issue of 86,956,522 fully paid ordinary shares ("Shares") at an issue price of $0.023 per Share ("Placement").

Participants received 1 free attaching listed BMCO option for every 2 shares issued with an exercise price of $0.05 (being a 117% premium to the issue price of Shares under the Placement) on or before 11 January 2026 which will see 43,478,261 listed options ("Options").

Drake Special Situations LLC subscribed for 17,700,000 Shares ($407,000) under the Placement. Drake is the single largest shareholder in the company. Pamplona Capital Pty Ltd acted as the Manager, co-ordinator and bookrunner to the Placement and received a fee equal to 6% of the Placement proceeds.

During the period, the Company spent $534,000 on exploration activities in Brazil, with expenditure representing direct costs associated with sample assaying, Mineral Resource Estimation and costs associated with establishing and commissioning the bioleaching test facility.

For the purpose of Section 6 of the Appendix 5B, all payments made to related parties have been paid in relation to director fees.

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 Class REE Recoveries at Ema project" 13.03.24

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

[4] Brazilian Critical Minerals (ASX:BCM) ASX Announcement "New Discovery at Apui ENE REE project with exceptional REE" 27.11.23

[5] Brazilian Critical Minerals (ASX:BCM) ASX Announcement "Strong Apui ENE Drilling Results" 03.05.24

[6] Brazilian Critical Minerals (ASX:BCM) ASX Announcement "Director Retirement" 06.05.24

Additional Information required under Listing Rule 5.3.3

Tenements held at the end of the quarter	Area (Ha)	Percentage ownership
ANM Permit Number 880.107/08 Location Brazil (Ema)	9,839.91	100% Exploration Licence
ANM Permit 880.184/16 Location Brazil (Ema East)	9,034.00	100% Exploration Licence
ANM Permit Number 880.090.08 Location Brazil (Três Estados)	8,172.25	100% Exploration Licence
ANM Permit Number 880.025/2023 Location Brazil (Apuí iREE)	2,417.00	100% Exploration Licence
ANM Permit Number 880.026/2023 Location Brazil (Apuí iREE)	6,591.90	100% Exploration Licence
ANM Permit Number 880.027/2023 Location Brazil (Apuí iREE)	5,856.00	100% Exploration Licence
ANM Permit Number 880.259/2020 Location Brazil (Apuí iREE)	9,092.01	100% Exploration Licence
ANM Permit Number 880.149/2017 Location Brazil (Apuí iREE)	9,815.15	100% Exploration License
ANM Permit Number 880.076/2023 Location Brazil (Apuí ENE iREE)	8,475.30	100% Exploration application
ANM Permit Number 880.077/2023 Location Brazil (Apuí ENE iREE)	8,856.84	100% Exploration application

The Activity Report for the June quarter 2024 has been authorised for release by the Board of Directors.

Appendix 3.

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 is not aware of any new information or data that materially affects the information included in the above-mentioned releases.

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.

Corporate Directory

Managing Director	Mr Andrew Reid
Non-Executive Chairman	Mr Jeremy Robinson
Non-Executive Director	Ms Abby Smith
Company Secretary	Mr Ben Donovan
Financial Controller	Ms Kelly Migro
Counrtry Manager (Brazil)	Mr Mike Schmulian

Contact

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