RARE EARTHS EXTRACTED FROM EMA ISR FIELD TRIAL

ISR leaching confirms commercial scale viability using low concentration $MgS0_4$

Brazilian Critical Minerals Limited (**ASX: BCM**) ("**BCM**" or the "**Company**") is pleased to announce that it has now successfully leached, extracted and precipitated rare earths from its in-situ recovery (ISR) pilot field trial at the Ema project.

Highlights

- **First REEs successfully recovered under real-world conditions:** Rare earth elements have been leached, extracted, and precipitated directly from the Ema deposit using in-situ recovery (ISR) methods
- **Technical viability confirmed:** This successful field-based extraction validates the ISR process at Ema and marks a significant step forward for the project's development
- **Environmentally friendly leaching solution used:** The REEs were recovered using a low-concentration (0.5M) magnesium sulfate ($MgSO_4$) solution, supporting BCM's commitment to environmentally responsible and sustainable mining practices

This achievement strengthens BCM's position as a leader in low-impact, next-generation rare earths production and demonstrates the potential for ISR to offer a scalable, low-cost, and environmentally superior alternative to conventional mining methods.

To watch the video of the rare earths precipitate from solution, click on the link below

https://braziliancriticalminerals.com/link/0y58QP

Figure 1. Precipitated solids directly in the field after in-situ leaching. Small amounts of reagent added to rare earth rich solution causing the rare earths and impurities to precipitate (cloudy material) in a beaker directly adjacent to extraction wells.

Andrew Reid, Managing Director, commented:

"Our field trials have now conclusively demonstrated that rare earth elements can be successfully leached, recovered, and precipitated from solution via in-situ recovery (ISR) at Ema, exceeding our expectations on all fronts. This represents a major technical and operational milestone and a critical step in de-risking the project.

It confirms that ISR can reliably mobilize and extract rare earths under real-world field conditions, positioning the Ema Project as a transformative development in the global rare earth supply chain—delivering high ESG performance and sustainable extraction practices."

"We now look ahead to completing the current field trial program, initiating the feasibility study, and progressing key workstreams including permitting, financing, and offtake negotiations.

Ema remains uniquely positioned outside Southeast Asia as the only known rare earth project capable of operating via ISR with exceptionally low capital and operating costs. The February 2025 Scoping Study highlighted Capex of just **US$55M** and Opex of just **US$6.15/kg** TREO whilst able to produce **4,800tpa** of TREO or **1,800tpa** of key magnet elements in a mixed rare earth carbonate product."

Field Trials Hugely Successful

Since the commencement of the field trials, the Company has successfully;

- Injected a low strength (0.5M) $MgSO_4$ solution;
- Very fast decrease the pH of the clay zone to the target zone required to leach rare earths over short distances of leaching;
- Fast reactivity of the reagent to the leaching of the rare earths into solution; and
- High PLS grade from leaching only a small test area;
- Maintained a constant flow of solution through the clays, indicating strong permeability;
- Has seen a steady and elevated rise in solution levels indicative that a solid impermeable basement exists;
- Extracted and precipitated the rare earths from solution.

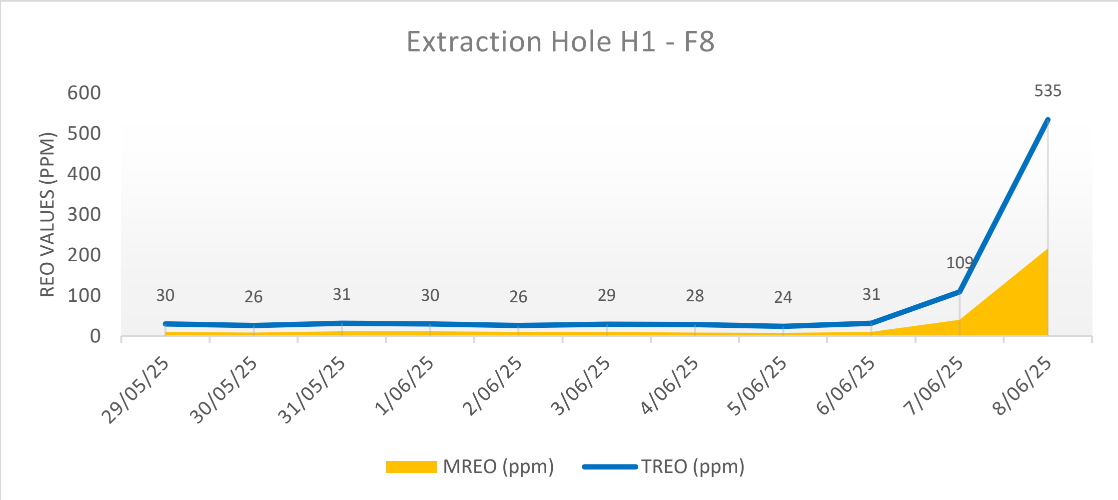
Magnesium sulfate has successfully leached rare earth elements into solution via ionic exchange during the ongoing in-situ recovery field trials at the Ema Project. This marks a critical technical milestone and validates the transition from laboratory to field conditions.

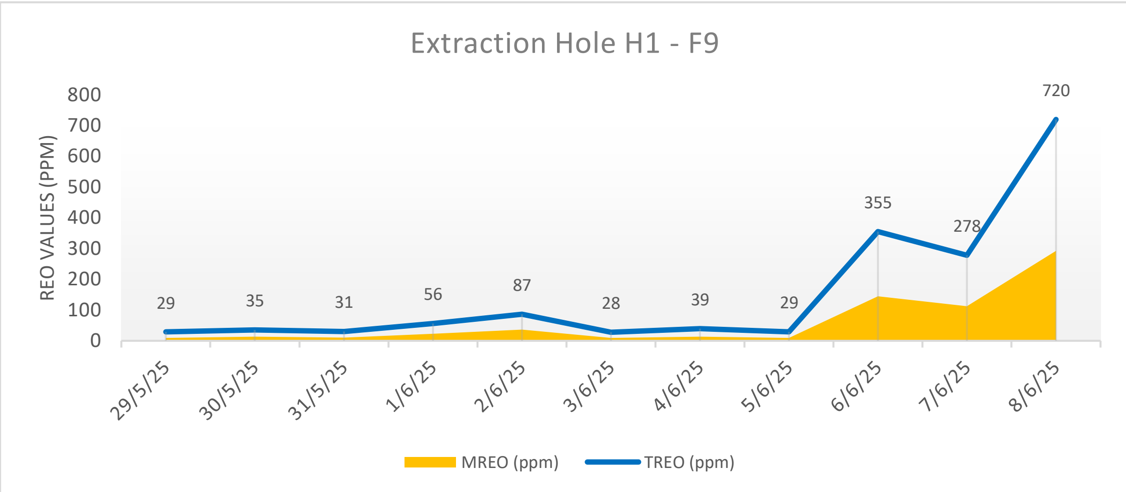
Rare earth-bearing solution has now been extracted from monitoring wells positioned downslope of the injection points, closely simulating the layout and flow dynamics anticipated in future operational phases. The extracted PLS underwent initial on-site analysis (see attached video), with subsequent laboratory confirmation of initial results (Figure 2).

The results announced today represent only the first few days of extraction. As observed in lab-scale tests, there is an expected initial lag phase during which $MgSO_4$ saturates the clay-rich horizon and progressively lowers the in-situ pH to below the target threshold of 4. Only after this pH transition do REEs begin to mobilize and enter solution in measurable concentrations.

The PLS solution extracted was assayed for total rare earth oxides (TREO), as well as the key individual magnet elements Nd,Pr,Dy,Tb which represent some 90% of potential revenues[1]. The PLS will be sent to ANSTO to remove impurities and precipitate the rare earths as a MREC over the coming weeks.

These early-stage results continue to build confidence in the Ema Project's technical viability and the potential for ISR to offer a low-impact, low-cost pathway for rare earth extraction.





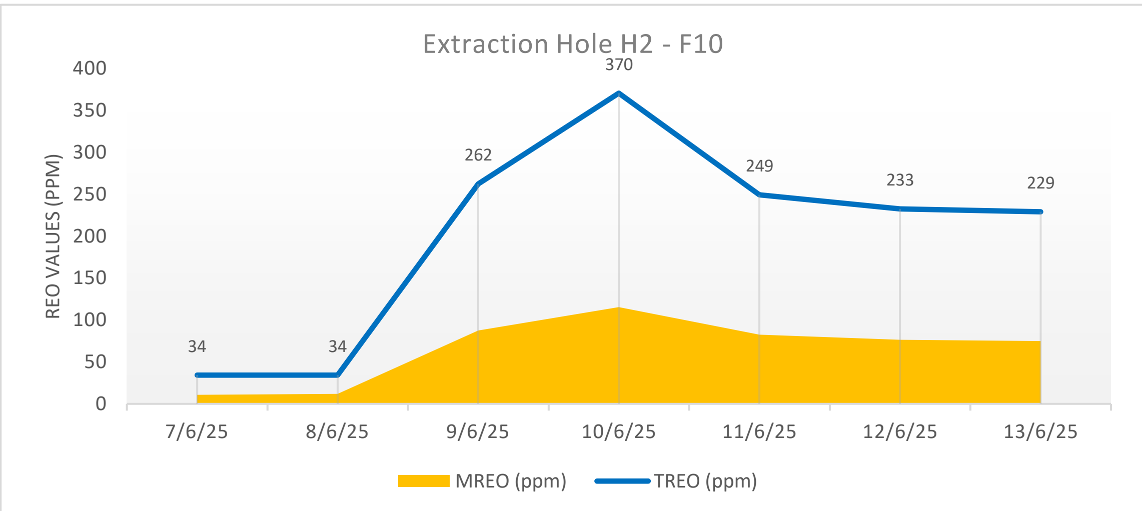


Figure 2. Three holes covering the two trial locations currently used for extracting the PLS from the field.

Two field locations are currently undergoing $MgSO_4$ injection. The primary objective of this stage of the trial is not to complete a full leaching cycle, but rather to gather permeability and hydrological performance data critical to ISR system design and collect sufficient REE-enriched PLS to produce a representative mixed rare earth carbonate (MREC) sample for downstream processing assessment.

First days of extraction have resulted in strong concentrations of REE's and volumes of PLS. All of the wells display a very high concentration of the key magnet elements of Nd,Pr,Dy,Tb (MREO's) within the overall TREO grades;

- H1-F8 contains 41% MREO elements
- H1-F9 contains 41% MREO elements
- H1-F10 contains 33% MREO elements

The above concentrations of key magnet elements within the PLS places the Ema project as one of the highest magnet composition rare earth projects. The Company will continue to extract solution containing REE's and then commence the water washing process in order to reduce the levels of Mg and sulfate levels to their original background levels.

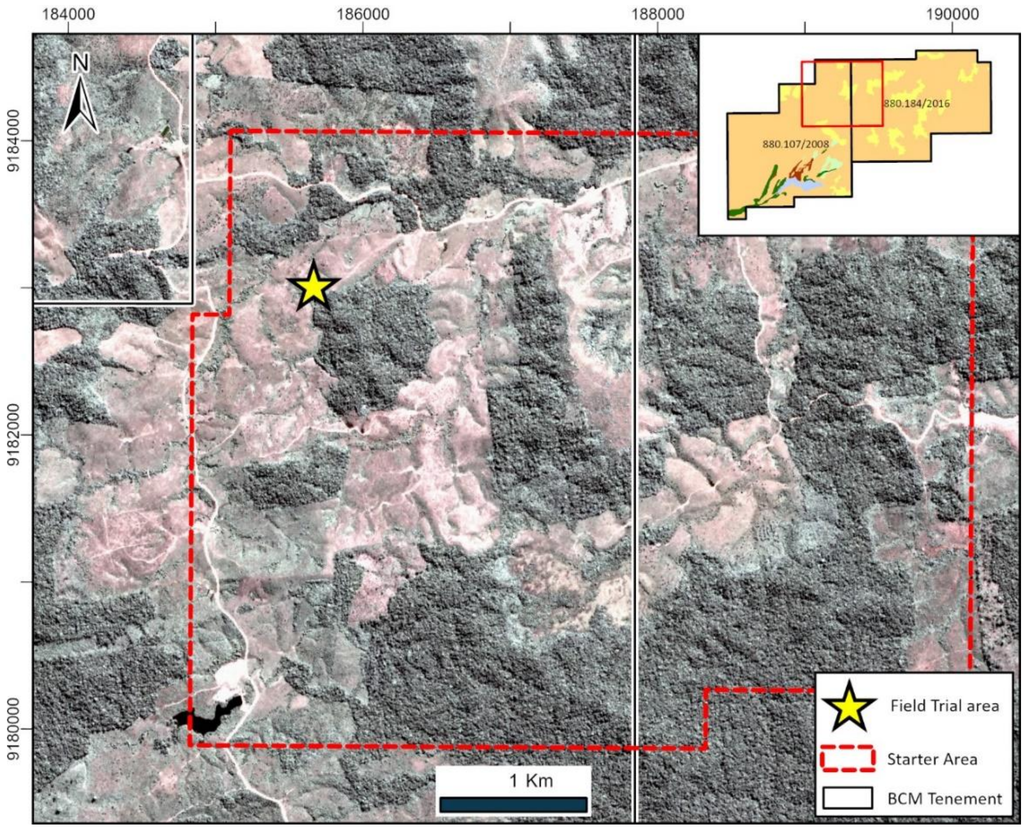


Figure 3. Location map of the Ema starter zone and field trial location.

To verify the presence of rare earth elements in solution, a standard reagent-based field analysis was conducted on-site. After the rare earth-bearing solution was pumped to surface, a reagent was added to a sample beaker containing the solution. This triggered the precipitation of rare earth elements, along with associated impurities, as a visible solid.

This field test is commonly used in ISR rare earth operations to provide immediate confirmation that rare earths have been successfully leached into solution. While qualitative in nature, it is a reliable early-stage indicator that ion exchange and metal mobilisation have occurred.

Figure 4. View of the field trial injection and extraction wells, water storage and solution preparation tanks and distribution system where solutions samples were sourced.

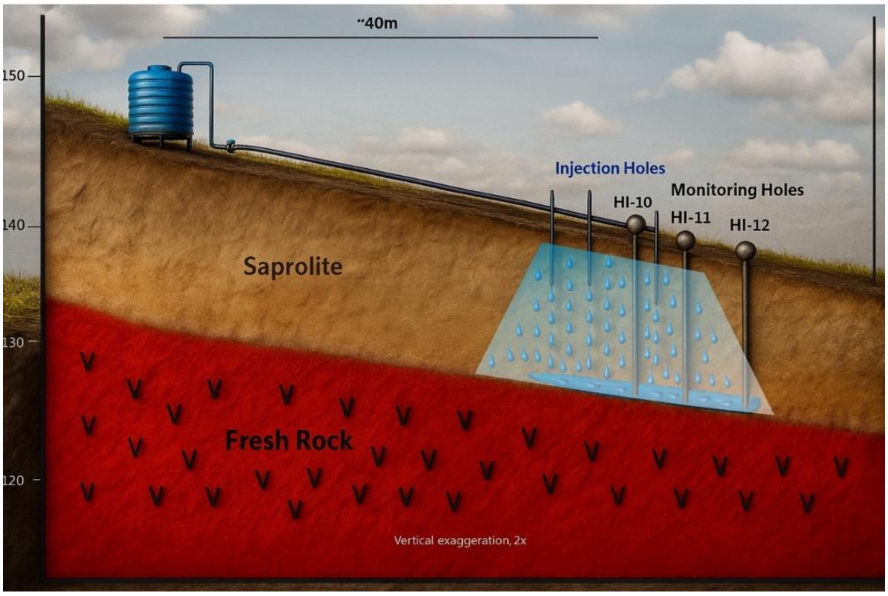


Figure 5. Schematic cross section of the field trial from tanks to injection and extraction wells (H1-10, H1-11, H1-12) in configuration at test site 2.

Next Steps

- Continue Field trials to collect as much rare earth PLS as possible
- Water washing to reduce Mg and Sulfate levels to original background levels
- Production of a Mixed Rare Earth Carbonate suitable for offtake analysis
- Commence Bankable Feasibility Study within the next few weeks
- Continue Offtake Discussions
- Progress Environmental and Mining permits with State regulators

References

[1]Brazilian Critical Minerals (ASX:BCM) – Ema Rare Earths Scoping Study confirms low CAPEX and OPEX 26th February 2025

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

Enquiries

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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 and adjacent sediments.

BCM has defined an indicated and inferred MRE of 943Mt of REE's with metallurgical recoveries averaging 68% MREO, representing some of the highest for these types of deposits anywhere in the world.

The Company has converted the MRE central portion from Inferred into the Indicated category with an extensive drill program during 2024 which has underpinned the scoping study and economic analysis released in February 2025.

Ema REE Global Mineral Resource Estimate @COG 500ppm TREO

JORC Category	cut-off ppm TREO	Tonnes Mt	TREO ppm	NdPr ppm	DyTb ppm	MREO ppm	MREO: TREO %
Indicated	500	248	759	176	16	192	25
Inferred	500	695	701	165	16	181	26
Total	**500**	**943**	**716**	**168**	**16**	**184**	**26**

The information in this announcement relates to previously reported exploration results and mineral resource estimates for the Ema 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, 02 Apr 2024, 08 Oct 2024 19 Nov 2024, 21 Jan 2025, 17th Feb 2025, 26th Feb 2025, 10th March 2025, 13th March 2025, 28th April 2025 and 27th May 2025. The Company confirms that is not aware of any new information or data that materially affects the information included in the above-mentioned releases.

Competent Person Statement

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 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.

Appendix 1: Table 1 Ema project – JORC Code (2012 Edition) metallurgical sampling techniques and data.

Item	JORC code explanation	Comments
Sampling Techniques	• Nature and quality 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.	• Exploration results are based on solution samples extracted during ISR field trials conducted by WSP with support of BCM´s exploration team. • The data presented is based on solution collected from the monitoring holes after percolation through soils and saprolite, mined by in-situ techniques. • Sampling and measurements were supervised by the Chief Metallurgist and WSP´s hydrogeologist. • Sample was extracted from deep wells drilled down to bedrock basement whereby solution was pumped to the surface for collection and further analysis • Solution samples were tested for pH with a probe called Incoterm brand pen-type digital pH meter, after calibration. • Rare Earths + impurities were precipitated by the addition of sodium carbonate. • These results are specific for the tracer test area.
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).	• All auger holes in the test area were drilled with 6" bit. • The deep injection holes in H1 area were the only ones cased with 2" sliced PVC pipes, all others were cased with sliced 4" PVC pipes. • Coarse gravel sand was inserted between the pipes and the edges of the holes to create the filter zone. • Cement around the collars were built to prevent running waters from rain to contaminate the underground water. • Holes drilled are not included in any Mineral Resource Estimation.
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.	• n/a.

Item	JORC code explanation	Comments
	• 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.	
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.	• n/a
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.	• n/a
Quality of Assay Data and Laboratory Tests	• The nature. quality and appropriateness of the assaying and laboratory procedures used and 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	• The filtered solution samples were assayed using a Varian ICP-OES instrument (model Vista MPX710), calibrated using Specsol certified standards for each of the rare earth elements. Quality control is conducted using a standard reference sample previously prepared from Ema mineralisation and assayed by SGS in Vaspasiano, Brazil. The reference sample is read for each element before and after running each assay batch. Any batches in which the standard sample result plots outside two standard deviations from the established value are re-run. • The assaying methodology is in line with industry standard and is considered appropriate for rare earth solutions. The technique is considered to be total.

Item	JORC code explanation	Comments
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.	• n/a
Location of Data Points	• 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.	• The UTM WGS84 zone 21S grid datum is used for current reporting. The drill holes collar locations were picked up by a licensed surveyor using a Trimble total station (+/-5cm), referenced to a government survey point.
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.	• n/a
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.	• n/a
Sample security	• The measures taken to ensure sample security.	• The solution samples sealed in plastic bags were sent directly to Catalão by airfreight and courier to the laboratory. 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.	• REE grades reported refer to solution collected to monitor the ISR process. • No metal equivalent values are 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').	• REE grades reported refer to solution collected to monitor the ISR process. • Mineralisation orientation is assumed to be flat.
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's 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.	• REE grades reported refer to solution collected to monitor the ISR process.
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.

Criteria	JORC code explanation	Commentary
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.	• Additional metallurgical test work with magnesium sulphate leach. • Extraction of PLS for stream line precipitation and impurity removals at ANSTO. • Detail topography survey with LIDAR for mine planning • Geophysics survey, Electro resistivity to define the saprolite/fresh rock boundary and faults in the rock.

Appendix 2 – List of Drill Hole Collars

Hole ID	East	North	RL (m)	Depth (m)	Azimuth	Dip
TANKS	185682,99	9183028,31	146,27	na		
HI01-F1	185670,65	9183034,56	144,36	10.0	0	-90
HI01-F2	185673,64	9183034,40	144,25	9.7	0	-90
HI01-F3	185676,63	9183034,13	144,40	9.3	0	-90
HI01-F4	185679,64	9183033,91	144,36	11.2	0	-90
HI01-F5	185682,60	9183033,81	144,55	11.5	0	-90
HI01-F6	185672,24	9183037,43	143,99	11.6	0	-90
HI01-F7	185675,16	9183037,22	143,81	11.4	0	-90
HI01-F8	185678,26	9183036,92	143,90	10.7	0	-90
HI01-F9	185681,29	9183036,74	143,67	10.0	0	-90
HI02-F1	185658,77	9183055,00	141,37	5.7	0	-90
HI02-F2	185660,73	9183054,87	141,58	5.7	0	-90
HI02-F3	185662,73	9183054,95	141,38	5.7	0	-90
HI02-F4	185658,75	9183057,06	141,16	5.7	0	-90
HI02-F5	185660,59	9183056,71	141,08	5.7	0	-90
HI02-F6	185662,62	9183056,84	141,21	5.7	0	-90
HI02-F7	185658,54	9183059,01	140,83	5.7	0	-90
HI02-F8	185660,56	9183058,92	140,69	5.7	0	-90
HI02-F9	185662,53	9183058,74	140,80	5.7	0	-90
HI02-F10	185659,77	9183057,94	140,82	12.0	0	-90
HI02-F11	185659,62	9183060,83	140,37	12.0	0	-90
HI02-F12	185659,51	9183062,82	140,09	12.0	0	-90

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Appendix 3 – List of Well Extraction Data

WELL ID	DATE	MREO (ppm)	TREO (ppm)
H2-F10	7/06/25	10.6	34.3
	8/06/25	11.8	34.3
	9/06/25	87.4	262.4
	10/06/25	115.4	370.4
	11/06/25	82.4	249.2
	12/06/25	76.2	232.6
	13/06/25	74.9	229.0

WELL ID	DATE	MREO (ppm)	TREO (ppm)
H1-F9	29/05/25	9.7	28.6
	30/05/25	13.6	35.2
	31/05/25	10.3	30.6
	1/06/25	22.7	56.5
	2/06/25	36.2	86.8
	3/06/25	9.4	27.8
	4/06/25	13.2	39.1
	5/06/25	9.2	28.9
	6/06/25	144.9	354.8
	7/06/25	112.5	278.1
	8/06/25	292.5	719.7

WELL ID	DATE	MREO (ppm)	TREO (ppm)
H1-F8	29/05/25	9.9	29.5
	30/05/25	8.7	25.9
	31/05/25	11.9	31.2
	1/06/25	11.5	29.5
	2/06/25	10.4	25.9
	3/06/25	10.3	29.1
	4/06/25	8.6	28.0
	5/06/25	7.6	23.9
	6/06/25	10.3	31.1
	7/06/25	40.5	109.2
	8/06/25	216.6	534.7