ASX Announcement

4 April 2024

Pioneer Secures 73,061ha of Strategic Rare Earth Tenement Applications in Brazil

Pioneers Verde Valor project lies within a major coincident thorium-uranium radiometric anomaly located in the Rare Earth-rich state of Bahia, Brazil.

Highlights

- ~730 km² of tenements applied for in Bahia State in Brazil, with compelling potential for clay-hosted rare earth deposits.
- Pioneer tenements lie within radiometric thorium-uranium anomaly, which may coincide with REE-rich mineralised zones.
- A site visit was completed which confirmed the presence of highly weathered saprolite clays presenting a favourable geological setting for critical mineral discoveries.

Pioneer Lithium Limited (ASX Code: **PLN**) (**'Pioneer Lithium'** or **'the Company'**) is pleased to announce that it has applied for 37 tenements for a total of 73,061ha in Bahia state in Brazil, prospective for Rare Earths. The newly defined 'Verde Valor' Project will complement Pioneer Lithium's other critical minerals projects.

The Company considers the Verde Valor Project a valuable addition to its highly prospective Lithium tenements in Ontario, Canada. Pioneer Lithium remains focussed on its flagship Root Lake lithium project and will continue to undertake the activities set out in its IPO prospectus dated 3 August 2023 ('Prospectus'). The Company considers the cost of staking the Verde Valor Project tenement applications immaterial and has been paid from the Company's working capital. As such, this will not otherwise affect the proposed use of funds in the Prospectus *(see ASX announcement dated 26 September 2023).*

The project site is located near Morro do Chapéu and Tapiramutá City in Bahia, Brazil, and is close to abundant local infrastructure, with well-maintained state highways and access to power and water.

Project Geology

The formation's geology is marked by a combination of residual and transported soil from volcanic sources, forming clay-sandy and clay-silty soil layers. These soil's colours, which range from beige to dark brown, have abundant clay minerals and in some cases a speckled texture. The cover layer is enriched with iron oxides due to extensive laterization, indicating a high degree of weathering. Residual soil outcrops in various regions are the main target for prospecting for rare earths; above it, various sedimentary origin soils occur. The local geology exhibits promising indicators for rare earth mineralisation within this geological setting. With elevated thorium anomalies in this formation (refer to Figure 5 below), there is optimism regarding the possibility of discovering a significant rare earth deposit in the area. The combination of volcanic activity and weathering processes are some of the specific geological conditions conducive to IAC formation, suggesting a favourable environment for the concentration of rare earth minerals. This presents a promising opportunity for further exploration and assessment.

Commenting on the Verde Valor tenements, Pioneer Lithium Executive Chairman Robert Martin said:

"The Verde Valor Project presents an excellent opportunity for Pioneer to enter the fast-growing Brazilian critical minerals market. The staking of these highly strategic tenements in no way takes our eyes off our flagship Root Lake lithium tenements in Ontario, but simply adds additional value for our shareholders whilst we finalise preparations for our maiden Root Lake drilling campaign.

We believe Verde Valor represents an excellent opportunity to enter a world class jurisdiction for highly sort after clay-hosted rare earths which are paramount in the green energy transition, and will fully complement our other strategic critical minerals assets.

We look forward to updating the market on our progress on all our projects in the near term."

Figure 1- Outcrop of saprolitic soil rich in clay minerals from the Verde Valor tenements.

Figure 2- (A) Clay soil with beige and pinkish hues; (B) Silty soil with quartz fragments and clay minerals; (C) Outcrop approximately 5 meters tall with slightly weathered saprolite in the lower portion, more weathered clayey saprolite in the middle portion, and soil with organic matter in the upper portion; and (D) Residual saprolitic soil rich in clay minerals with a speckled texture from the Verde Valor tenements.

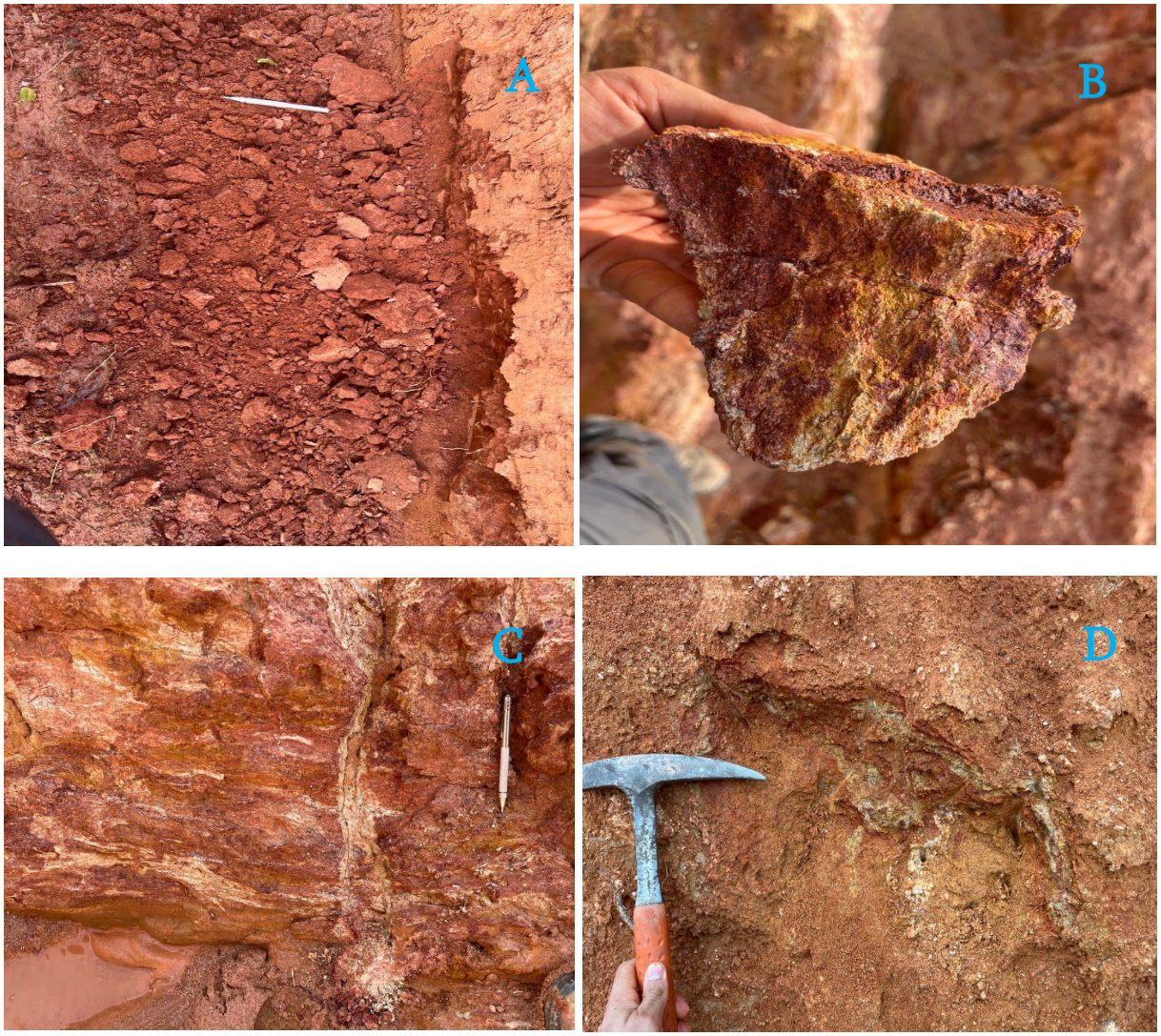

Figure 3- (A) Red clay soil cover. (B) Clay soil with initial lateritization process. (C) Sedimentary clay soil. (D) Sedimentary silty sandy soil from the Verde Valor tenements

Figure 4- (A) Leucogranite rich in feldspar. (B) Fine-textured leucogranite. (C) Fine-textured leucogranite rich in feldspar from the Verde Valor tenements

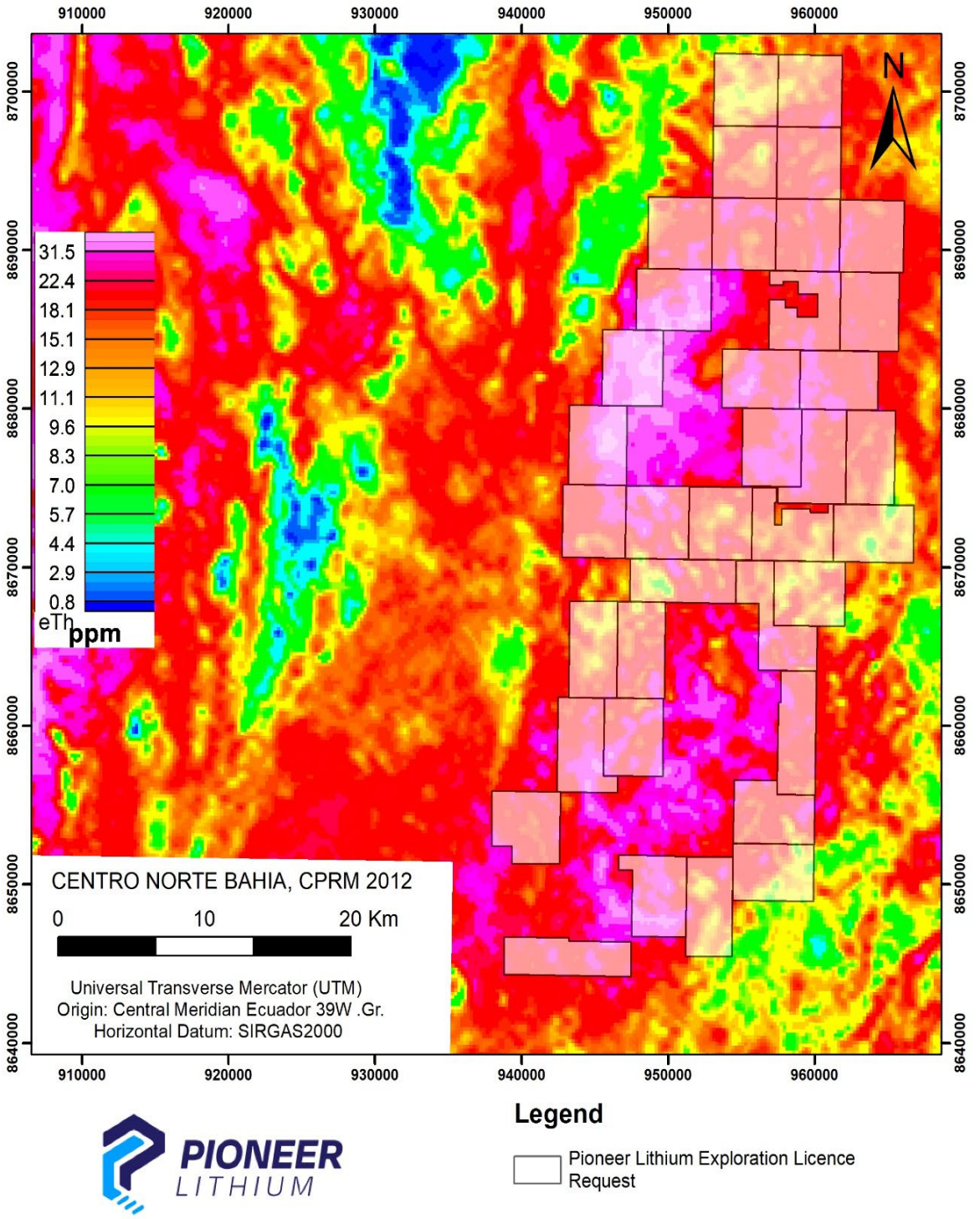

Figure 5 - Radiometric map of Thorium equivalent (eTh) in ppm with the of Verde Valor tenements (CBPM, 2012 and 2006).

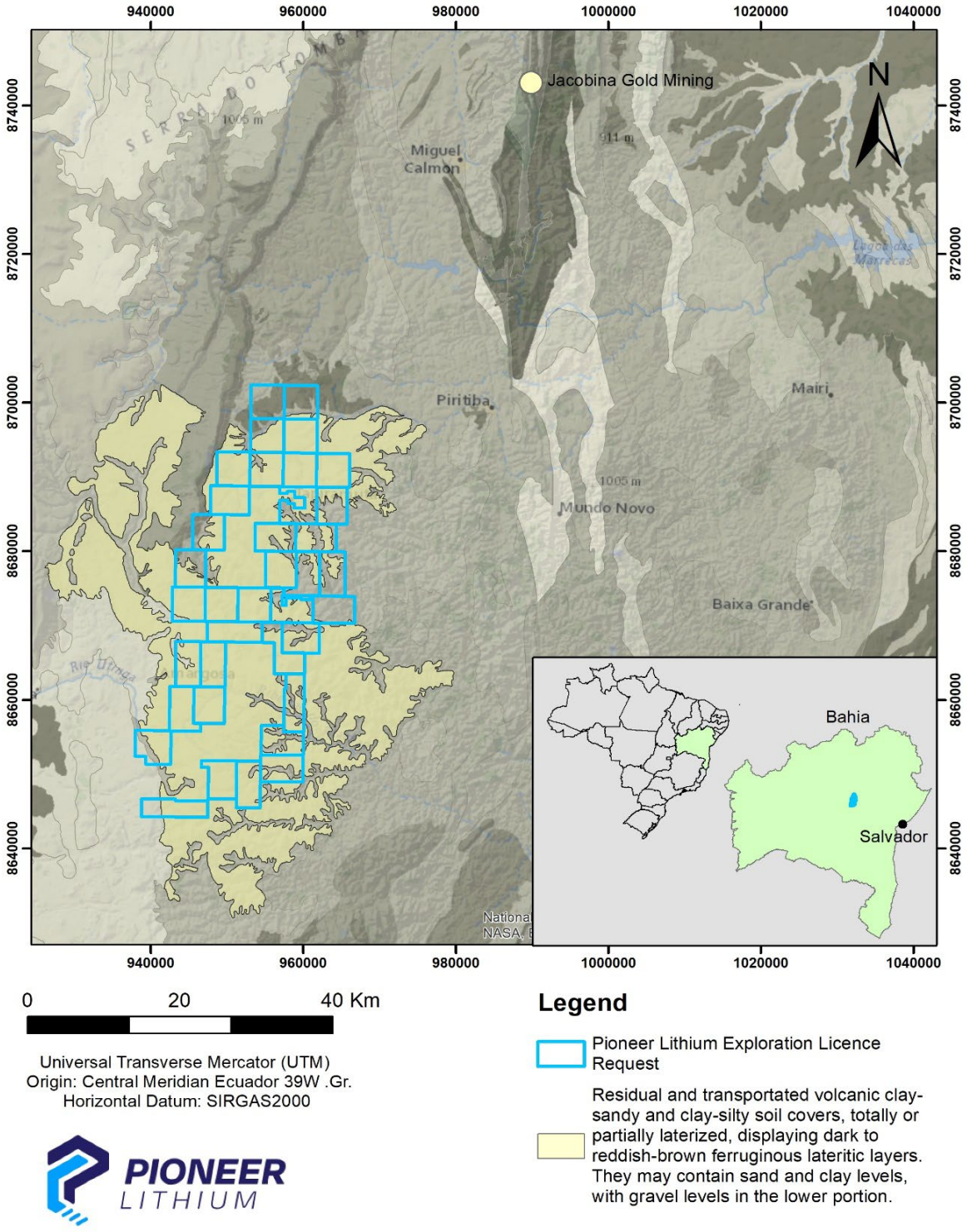

Figure 6 – Adapted Geological Map of the Verde Valor Tenements, based on CPRM data (1:1,000,000 scale).

Figures 1 to 4 represent images of the prospective leucogranite rich in feldspar, residual clayey saprolites and the cover of sedimentary soils. No REE mineralisation, which can only be recognised by assay, was visually identified. This geological setting is a known host for potential REE mineralisation within the area.

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

For more information on Pioneer Lithium, refer to the Company's website at: www.pioneerlithium.com.au.

ENDS

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Competent Person Statement

The exploration results contained in this release are based on, and fairly represent, technical information and supporting documentation compiled and evaluated by Dr. José Marques Braga Júnior PhD., a consulting geologist who is a member of the Australian Institute of Geoscientists (AIG) (MAusIMM: 336416). Dr Braga has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australian Code for Reporting of Regulation, Exploration Results, Mineral Resources, and Ore Reserves'. Dr Braga consents to including this information in the form and context in which it appears.

Forward-looking statements

This announcement may contain certain forward-looking statements and projections. Such forward looking statements/projections are estimates for discussion purposes only and should not be relied upon. Forward looking statements/projections are inherently uncertain and may therefore differ materially from results ultimately achieved. Pioneer Lithium Limited does not make any representations and provides no warranties concerning the accuracy of the projections and disclaims any obligation to update or revise any forward-looking statements/projects based on new information, future events or otherwise except to the extent required by applicable laws. While the information contained in this report has been prepared in good faith, neither Pioneer Lithium Limited or any of its directors, officers, agents, employees or advisors give any representation or warranty, express or implied, as to the fairness, accuracy, completeness or correctness of the information, opinions and conclusions contained in this announcement.

Tenements

A list of the 37 tenements applications, including a summary of their status, is provided below:

Tenement No.	Status	Project	Size (ha)	Commodity	County	State
870440/2024	Exploration Licence Request	Verde Valor	1973.82	Rare Earth	Tapiramutá	BA
870439/2024	Exploration Licence Request	Verde Valor	1976.67	Rare Earth	Piritiba	BA
870437/2024	Exploration Licence Request	Verde Valor	1973.46	Rare Earth	Morro Do Chapéu	BA
870436/2024	Exploration Licence Request	Verde Valor	1976.23	Rare Earth	Morro Do Chapéu	BA
870435/2024	Exploration Licence Request	Verde Valor	1979.45	Rare Earth	Morro Do Chapéu	BA
870434/2024	Exploration Licence Request	Verde Valor	1976.04	Rare Earth	Tapiramutá	BA
870433/2024	Exploration Licence Request	Verde Valor	1968.43	Rare Earth	Tapiramutá	BA
870432/2024	Exploration Licence Request	Verde Valor	1983.74	Rare Earth	Tapiramutá	BA
870431/2024	Exploration Licence Request	Verde Valor	1975.03	Rare Earth	Mundo Novo	BA
870429/2024	Exploration Licence Request	Verde Valor	1984	Rare Earth	Utinga	BA
870427/2024	Exploration Licence Request	Verde Valor	1966.09	Rare Earth	Utinga	BA
870426/2024	Exploration Licence Request	Verde Valor	1977.38	Rare Earth	Ruy Barbosa	BA
870425/2024	Exploration Licence Request	Verde Valor	1972.51	Rare Earth	Ruy Barbosa	BA
870424/2024	Exploration Licence Request	Verde Valor	1971.07	Rare Earth	Ruy Barbosa	BA
870423/2024	Exploration Licence Request	Verde Valor	1976.21	Rare Earth	Ruy Barbosa	BA
870422/2024	Exploration Licence Request	Verde Valor	1970.28	Rare Earth	Ruy Barbosa	BA
870421/2024	Exploration Licence Request	Verde Valor	1973.65	Rare Earth	Mundo Novo	BA
870420/2024	Exploration Licence Request	Verde Valor	1986.72	Rare Earth	Utinga	BA
870419/2024	Exploration Licence Request	Verde Valor	1978.09	Rare Earth	Utinga	BA
870418/2024	Exploration Licence Request	Verde Valor	1972.26	Rare Earth	Utinga	BA
870417/2024	Exploration Licence Request	Verde Valor	1972.21	Rare Earth	Mundo Novo	BA
870415/2024	Exploration Licence Request	Verde Valor	1973.53	Rare Earth	Mundo Novo	BA
870414/2024	Exploration Licence Request	Verde Valor	1972.82	Rare Earth	Tapiramutá	BA
870413/2024	Exploration Licence Request	Verde Valor	1971.7	Rare Earth	Tapiramutá	BA
870412/2024	Exploration Licence Request	Verde Valor	1970.38	Rare Earth	Tapiramutá	BA
870411/2024	Exploration Licence Request	Verde Valor	1972.76	Rare Earth	Morro Do Chapéu	BA
870410/2024	Exploration Licence Request	Verde Valor	1971.79	Rare Earth	Tapiramutá	BA
870408/2024	Exploration Licence Request	Verde Valor	1971.56	Rare Earth	Tapiramutá	BA
870407/2024	Exploration Licence Request	Verde Valor	1975.55	Rare Earth	Tapiramutá	BA
870406/2024	Exploration Licence Request	Verde Valor	1973.78	Rare Earth	Tapiramutá	BA
870405/2024	Exploration Licence Request	Verde Valor	1973.97	Rare Earth	Tapiramutá	BA
870404/2024	Exploration Licence Request	Verde Valor	1975.73	Rare Earth	Tapiramutá	BA
870403/2024	Exploration Licence Request	Verde Valor	1972.52	Rare Earth	Tapiramutá	BA
870402/2024	Exploration Licence Request	Verde Valor	1971.58	Rare Earth	Tapiramutá	BA
870401/2024	Exploration Licence Request	Verde Valor	1976.37	Rare Earth	Tapiramutá	BA
870400/2024	Exploration Licence Request	Verde Valor	1976.79	Rare Earth	Tapiramutá	BA
870399/2024	Exploration Licence Request	Verde Valor	1977.42	Rare Earth	Morro Do Chapéu	BA

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
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 representivity 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.*	• NA • The sampling techniques for the aerogeophysical survey in the Centro Norte Bahia area were conducted under a contract by the Bahia Mining Research Company (CBPM) with the LASA and PROSPECTORS consortium, using fixed-wing aircraft equipped with advanced geophysical data acquisition systems. This included a high-precision aeromagnetic system with a SCINTREX/GEOMETRICS cesium vapor sensor, achieving a resolution of 0.001 nT and a noise level of 0.1 nT at a 10 Hz sampling rate. Additionally, a 256-channel spectral gamma spectrometry system, the EXPLORANIUM GR-820/RADIATION SOLUTIONS Picodas model, was used for precise detection of potassium, uranium, and thorium photon peaks, sampling every second. The survey covered 56,823 km², with 119,750 km of high-resolution aeromagnetic and gamma spectrometric flight lines, spaced at 500 meters for production lines and 10,000 meters for control lines, flown at a constant height of 100 meters above ground. GPS ensured data positioning with 1-meter accuracy, and processing was performed using Geosoft's Oasis Montaj Version 7.3 software, facilitating detailed geophysical analysis.

Criteria	JORC Code explanation	Commentary
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).*	• No geological drilling occurred at this is stage of Exploration
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 geological sample occurred at this is stage of Exploration
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.*	• No geological logging occurred at this is of Exploration.
Sub-sampling techniques and sample preparation	• *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 representivity 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.*	No sub-sampling techniques and sample preparation occurred at this stage of the Exploration.
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 quality of assay data from the Centro Norte Bahia aerogeophysical survey was upheld through strict calibration against international standards, precise spectral analysis for potassium, uranium, and thorium detection, and rigorous quality control measures. Data accuracy was ensured by cross-checks, validation against known standards, and processing with Geosoft's Oasis Montaj software. Independent audits validated the methodology and data integrity, affirming the

Criteria	JORC Code explanation	Commentary
		high-quality standards met for geological assessments and exploration planning.
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.*	• Verification of sampling and assaying for eTh radiometric data in Morro do Chapéu and Tapiramutá involves stringent calibration of gamma-ray spectrometry against international standards, ensuring precise thorium detection. Data validation includes geostandard comparisons and inter-survey cross-calibrations for consistency. Independent audits review methodology, QA/QC adherence, and equipment calibration. Statistical analyses with control samples assure data reliability.
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.*	• Data points for the Centro Norte Bahia aerogeophysical survey were accurately located using GPS technology, achieving a precision of within 1 meter. The survey area spanned 56,823 km², with flight lines meticulously planned at 500 meters apart for production and 10,000 meters for control lines, oriented E-W and N-S, respectively. This strategic spacing and orientation, combined with high-precision GPS location data, ensured a comprehensive and precise mapping of geological features across the surveyed region.
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.*	• The surveys were designed with line spacings of 500 meters apart for detailed production mapping and 10,000 meters for broader control sweeps.
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.*	• Flight lines were oriented east-west (E-W) for production and north-south (N-S) for control, strategically designed to intersect with key geological formations and structural trends.

Criteria	JORC Code explanation	Commentary
Sample security	• *The measures taken to ensure sample security.*	• Data was downloaded from CPRM website and uploaded to the central office. Multiple copies of the dataset were generated to minimise the potential for data loss.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No extra audits or reviews of sampling techniques or data were undertaken.

Section 2 Reporting of Exploration Results

(Criteria in this section apply to all succeeding sections.)

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.*	• 37 tenements in the Exploration request phase.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Bahia Mining Research Company (CBPM). (2012). Centro Norte Bahia Aerogeophysical Survey: Technical Report. Conducted by the LASA and PROSPECTORS consortium under Contract No. 043/2011. Downloaded from the Geological Survey of Brazil (CPRM) website.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The formation's geology is marked by a combination of residual and transported volcanic materials, forming clay-sandy and clay-silty soil layers. These soils, which range from dark to reddish-brown, are enriched with iron oxides due to extensive laterization, indicating a high degree of weathering. The presence of sand, clay, and gravel layers in the lower sections suggests a complex depositional history influenced by volcanic activity and environmental processes.

Criteria	JORC Code explanation	Commentary
		• The local geology exhibits promising indicators for rare earth mineralization within this geological setting. With the presence of elevated thorium anomalies in this formation, there is optimism regarding the possibility of discovering a significant rare earth deposit in the area. The combination of volcanic activity and weathering processes are some of the specific geological conditions conducive to AIC formation, suggesting a favourable environment for the concentration of rare earth minerals. This presents a promising opportunity for further exploration and assessment, potentially leading to the discovery of valuable rare earth resources.
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.*	• No drilling occurred in this area of Exploration.
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.*	• No data aggregation methods were used as this is a geophysical survey
Relationship between mineralisation widths and	• *These relationships are particularly important in the reporting of Exploration Results.*	• No mineralisation has been reported as this is a geophysical survey

Criteria	JORC Code explanation	Commentary
intercept lengths	• *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').*	
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.*	• A tenement location map with a regional geological map, and a geophysics map are presented in the main body.
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.*	• All survey results are reported.
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.*	• Geological databases available on the CPRM website and the Jazida system, along with geophysical data, were utilized. In this announcement, the equivalent Th (ppm) contour map, obtained from the CPRM database, was included to highlight the Th anomaly in the region of tenements requested.
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.*	• Given the encouraging geological and radiometric data, more surveys will be planned including extending this survey across targes generated from potential work programs.