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# ASX RELEASE

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## JEQUIE RARE EARTH PROJECT – FURTHER NIOBIUM/ REE OUTCROP TARGETS IDENTIFIED

**Australian Mines Limited**[1] (ASX: AUZ) ("AUZ" or the "Company") is pleased to report that the Company has identified a second[2] exploration target prospective for Niobium and Rare Earths at the Jequie Rare Earth Project[3] located within the state of Bahia (Brazil).

**Highlights**

The target comprises:

- An airborne radiometric thorium anomaly, contained within the licences, of approximately **12km in length** and with a width of up to **2.5km** (see Figure 1)
- Identified **soils and clays within close proximity to outcropping Leucogranites,** which have the potential to either host primary Rare Earth Elements ("REE") in hard rock or be the source of secondary REE oxides contained within weathered saprolite, soils and clays. (See Figure 2)
- Field testing with a portable scintillometer returned positive readings for the presence of potential REE-bearing minerals in outcrop.

**AUZ's CEO, Andrew Nesbitt commented** *"Really happy to have identified a second target prospective for Rare Earths. The target has the geological setting to potentially host significant Rare Earth Element mineralisation, and we are looking forward to the next phase of exploration.*

[1] To be renamed EcoMetal Resources Limited
[2] Please refer to ASX Announcement 24 January 2024
[3] The Jequie Rare Earth Project is subject to acquisition terms as per ASX Announcement, 6 December 2023

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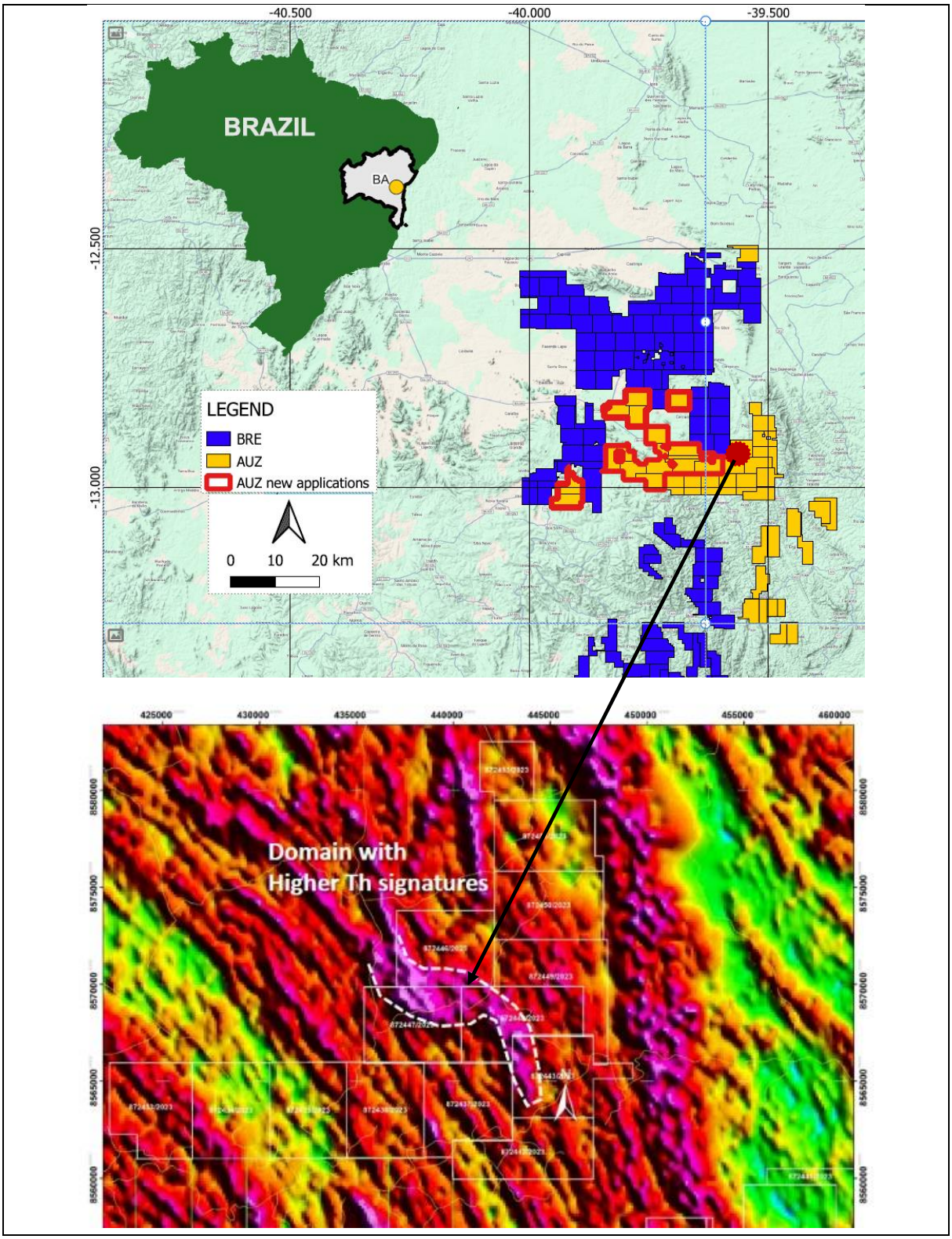


Figure 1: Airborne radiometric thorium anomaly.

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Figure 2: Leucogranites, outcrop, subcrops and soils, clays in close proximity

Figure 2 represents images of the prospective fresh Leucogranites (100%), and its weathering product, a clayish soil. 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.

REE mineralisation, within the region, can generally be described by the following mineralisation models, which are:

- REE-enriched phases within hard rocks, such as charnockites, leucogranites and related lithologies.
- REE concentration by the physical degradation of REE-enriched source rocks by weathering to form soils and sands (e.g. monazite sands).
- REE concentration by the advanced weathering of source rocks to form saprolite and saprolite clay horizons in which REE are enriched by adsorption (Ionic Clay Mineralisation).

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All of these ingredients have been confirmed on neighbouring properties and will form the basis for planning ongoing exploration on the Jequie Rare Earth Project. Such exploration will include tracing and mapping more highly radioactive rock sequences in the field by gamma aerial geophysics (Th and U products) and by portable scintillometers. Rock-chip and soil samples taken from different outcrops and areas located on the project area will be analysed with a Laser Induced Breakdown Spectroscopy ("LIBS") device. The samples which have above-background results for REE will be sent to a commercial laboratory for assaying. Results are expected in about 40 to 60 days.

Given the highly encouraging results from this initial reconnaissance program, AUZ will rapidly progress surface soil and outcrop rock-chip sampling to prioritize this target to a drill ready status.

**About Australian Mines in Brazil**

**Resende Lithium Project (Lithium Valley, Minas Gerais)[4]**

Minas Gerais is a global leading mining jurisdiction. The government is well known for supporting productive and sustainable operations in the state. Recently the government is focused on encouraging the development of the lithium minerals sector within the province. The Lithium Valley is home to 3 notable lithium producers and several ASX explorers. The notable producers include the Mina da Cachoeira underground mine with a production capacity of 45,000t per annum of 5.5% $Li_2O$ spodumene concentrate[5], AMG Lithium GmbH's Mibra lithium-tantalum-niobium-tin mine, which is expected to produce 130,000t lithium concentrate per annum[6] and Sigma Lithium Corporation's (NASDAQ: SGML) Grota do Cirio operation, which is ramping up to 270,000t per annum of lithium concentrate[7] . There is no guarantee that the Resende Lithium Project will have the same or similar levels of results, or that it will become a producing project.

The Resende Lithium Project comprises 8 mineral right claims with total aggregate land holding of **13,314 HA** or ~**133km²** (Figure 3). The Jequie Rare Earth Project is subject to acquisition terms as per ASX Announcement, 6 December 2023 and subject to transfer as per ASX Announcement 19 February 2024. The licences are in the Sao Joao del Rey

[4] The Resende Lithium Project has no current or historical minerals resources
[5] Mina da Cachoeira underground mine, https://www.cblitio.com.br/nossas-opera%C3%A7%C3%B5es, production rates and grades are not compliant with JORC 2012 reporting guidelines.
[6] https://amglithium.com/solutions/resources
[7] Sigma Lithium, NI 43-101 TECHNICAL REPORT GROTA DO CIRILO LITHIUM PROJECT, 31 October 2022, https://sigmalithiumresources.com/wp-content/uploads/2023/05/2023-01-SGML-Updated-Technical-Report-1.pdf

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Pegmatite Province, which is widely known for the presence of various mineralised bodies and is located~17km west of the AMG Mibra Spodumene producing Mine.

The licences are believed to contain the eastern extensions of the geological structures and intrusive rocks, responsible for the forming the mineralised pegmatites that are currently being mined at AMG's Mibra lithium-tantalum-niobium-tin mine. The district is characterised by numerous pegmatite bodies of varying mineralogical composition dominated by spodumene but including beryl, tantalite-columbite and monazite. **Several historically mapped pegmatite and tantalum occurrences have been mapped within the boundaries of the exploration licences[8] and have not been previously tested/explored for lithium.**

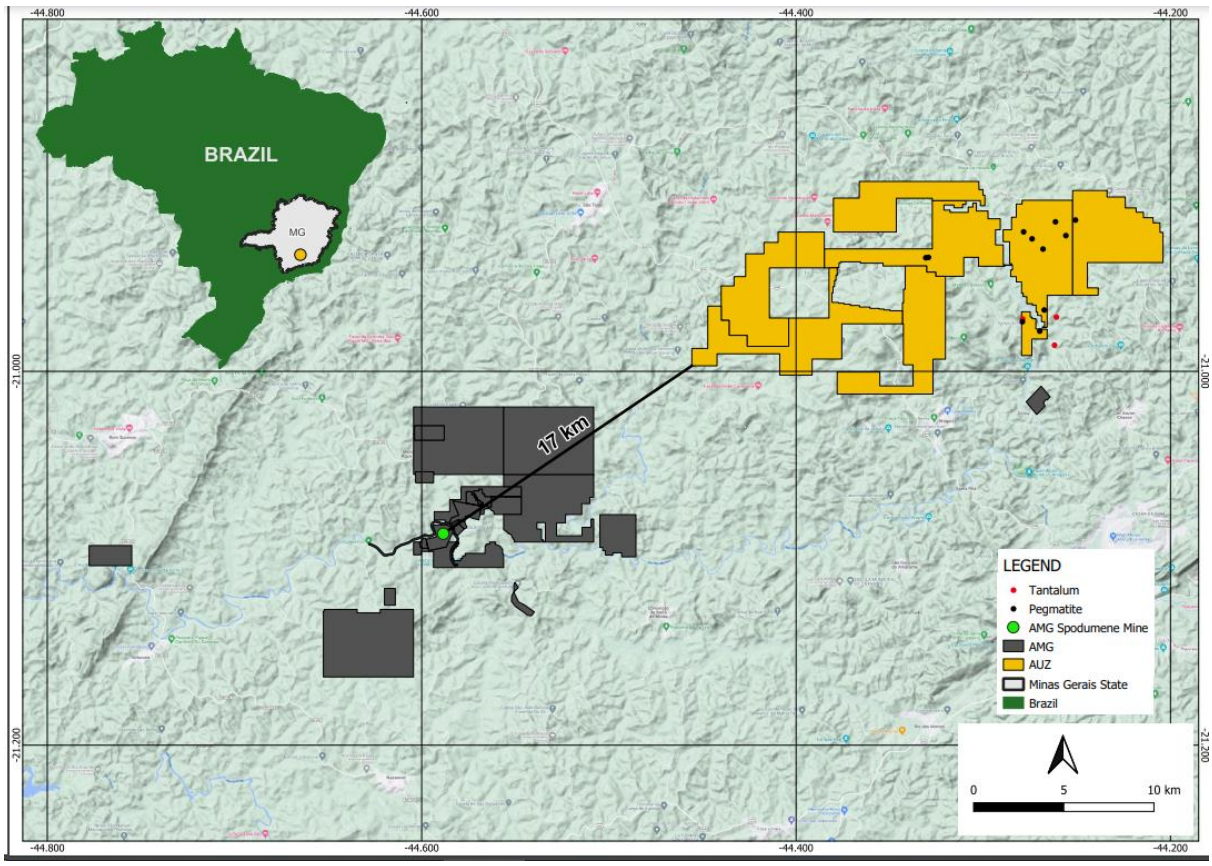


Figure 3: Location of Resende Lithium Project

**Jequie Rare Earth Project (Bahia State)[9]**

[8] Based on Geological Survey of Brazil, https://geoportal.sgb.gov.br/geosgb/
[9] The Jequie Rare Earth Project has no current or historical mineral resources

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The project is located within the state of Bahia (Northeast Brazil). This renowned geological and government friendly jurisdiction has resulted in the establishment of several large-scale mining operations in the vicinity of the Jequie Rare Earth Project. The Jequie Rare Earth Project is expected to benefit from the associated complementary infrastructure of sealed roads and access to clean hydropower and a major deep-water port less than 200km distant.

The Jequie Rare Earth project comprises 72 mineral right claims covering a total aggregate land holding of approx. **131,000 HA** or **~1,310km²** (Figure 4). The licences are located in the Jequié Block, a tectono-structural block of the northeastern Sao Francisco craton. The Jequié Block comprises granulite facies-metamorphosed intrusive rocks with demonstrated rare earth element ("REE") anomalism, with Ionic clay and hard rock REE occurrences in the district. The Jequie project which is targeting Rare Earths/ Niobium is located adjacent to Brazilian Rare Earth Limited (BRE.AX), with their Inferred Mineral Resource Estimate of 510Mt at 1,513ppm Total Rare Earth Oxide[10]. This has resulted in large scale pegging activity within the area. These results do not guarantee the same or similar levels of results at the Jequie Rare Earth Project.

[10] Brazilian Rare Earth Prospectus of 13 November 2023,Pg 164. Rocha da Rocha Inferred mineral resource statement as of 23 May 2023 (reported in accordance with the JORC Code (2012)). These results do not guarantee the same or similar levels of results at the Jequie Rare Earth Project.

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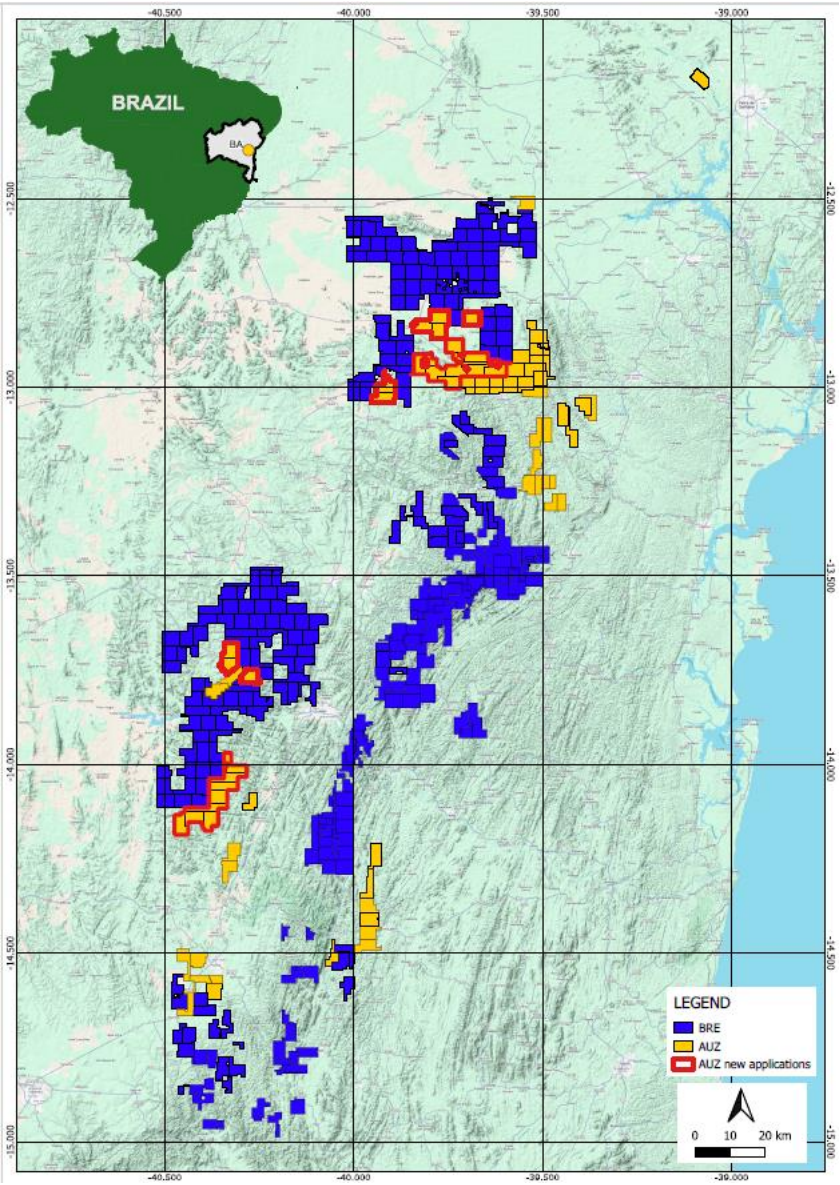


Figure 4: Location of Jequie Rare Earth Project (Orange)

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*Authorised for release by the Board of Directors of Australian Mines Limited*

Australian Mines Limited supports the vision of a world where the mining industry respects the human rights and aspirations of affected communities, provides safe, healthy, and supportive workplaces, minimises harm to the environment, and leaves positive legacies.

COMPETENT PERSONS STATEMENT

"The information in this report is based on and fairly represents information and supporting documentation reviewed by Rodrigo Mello, who is a consultant to Australian Mines Ltd. Mr. Mello is a Fellow of the Australasian Institute of Mining and Metallurgy and has sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration 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. Mello consents to the inclusion in this report of the matters based on his information in the form and context in which they appear."

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## Appendix 1 – JORC Code, 2012 Edition – Table 1

The purpose of Table 1 below is to comply with Question 36 of the ASX "Mining Reporting Rules for Mining Entities: Frequently Asked Questions".

### Section 1: Sampling Techniques and Data

| Criteria | 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.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *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.* | • No assay results are reported. However, the company carried out rock-chip sampling and soil sampling, which were analysed using a handheld XRF. Also, a radioactivity detector was used to investigate the possible association of radioactivity and REE mineralization. Samples, with above background results will be sent to a commercial laboratory for analysis.<br>• Airborne geophysics used was obtained from public sources from the state and federal government. The Brazilian Geological Survey in association with the Geological Survey of Bahia (CPRM/CBPM) executed the survey for the areas at the Jequié project. |
| **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).* | • Not applicable as no drilling is reported nor has known drilling taken place on the project |
| **Drill sample recovery** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *Whether a relationship exists between sample recovery and grade and* | • Not applicable as no drilling is reported nor has known drilling taken place on the project |

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| | *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.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | • Not applicable as no drilling is reported nor has known drilling taken place on the project Not applicable as no drilling was performed at the project |
| **Sub-sampling techniques and sample preparation** | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *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.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | • Not applicable as no assay results are reported. When the assay results are reported the sampling techniques and sample preparation methodology will be described |
| **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.*<br>• *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.*<br>• *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.* | • Not applicable as no assay results are reported. When the assay results are reported the Quality of the assay data and laboratory tests will be described, if applicable<br>• For the radiation detection, a GC-01 by FNIRSI was used. It was used only as a support in the search for prospective rocks. |

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| **Verification of sampling and assaying** | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • Not applicable, as no drilling or known drilling nor assay results are reported. |
| **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.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | • Not applicable, as no drilling or known drilling nor assay results are reported. A handheld GPS was used for sample location |
| **Data spacing and distribution** | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | • Not applicable as no mineral resource estimation is reported |
| **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.*<br>• *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.* | • Not applicable as only rock-chip and soil sampling for exploratory purposes was performed |
| **Sample security** | • *The measures taken to ensure sample security.* | • The samples were securely bagged and remained in the possession of the exploration geologist |
| **Audits or reviews** | • *The results of any audits or reviews of sampling techniques and data.* | • No previous reviews following the JORC code are known to this CP |

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**Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

| Criteria | 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.*<br>• *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 details concerning the mineral tenement are described in the ASX announcement by Australian Mines Ltd of December 6th, 2023 ASX Announcement 6 December 2023<br>• The surface area belongs to third parties (usually, small farmers) and have no interference with any known protected area<br>• A small portion of licence 872455/2023 (<5%) has interference with two protected areas which allows mining under a more restrictive regime. |
| **Exploration done by other parties** | • *Acknowledgment and appraisal of exploration by other parties.* | • Nothing to report, the company is not aware of any previous reported exploration |
| **Geology** | • *Deposit type, geological setting and style of mineralisation.* | • Refer to the information presented in the text above and in this announcement. |
| **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:*<br>  • *easting and northing of the drill hole collar*<br>  • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>  • *dip and azimuth of the hole*<br>  • *down hole length and interception depth*<br>  • *hole length.*<br>• *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.* | • Not applicable as no drilling was reported, nor has any known drilling taken place on the project in the past |
| **Data aggregation methods** | • *In reporting Exploration Results, weighting averaging techniques,* | • Not applicable as no assay results are reported nor |

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| | *maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.*<br>• *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.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | available at this stage. |
| **Relationship between mineralisation widths and intercept lengths** | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *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').* | • Not applicable as no assay results are reported nor available 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.* | • Not applicable as no assay results are reported nor available at this stage. |
| **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.* | • Not applicable as no drilling nor assay results are reported nor available at this stage. |
| **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.* | • All relevant information regarding geophysical and geological interpretation is presented in this announcement. |
| **Further work** | • *The nature and scale of planned further work (eg tests for lateral* | • A stream sediment geochemical program, |

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| | *extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | associated with soil sampling lines over mapped prospective units, is planned for the next phase of work. |

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